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13th NEU-KKU INTERNATIONAL CONFERENCE

SOCIO-ECONOMIC AND ENVIRONMENTAL ISSUES IN DEVELOPMENT

2021

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SESSION 1:

ECONOMIC DEVELOPMENT AND INTEGRATION

EFFECTS OF TREND INFLATION ON MONETARY POLICY AND FISCAL POLICY SHOCKS IN VIETNAM

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Abstract

This paper analyzes variations in effects of monetary and fiscal shocks on responses of macroeconomic variables, determinacy region, and welfare costs due to changes in trend inflation by expanding the New-Keynesian model of Ha et al. (2020). We consider that while the central banks can employ either nominal interest rate (IR rule) or money supply (MS rule) to conduct monetary policies, they also use their budgets for capital and recurrent spending to conduct fiscal policies. By using Simulated Method of Moment for parameter estimation, we characterize Vietnam's economy during 1996Q1-2015Q1. The results report that consequences of monetary policy and fiscal policy shocks become more serious if there is a rise in trend inflation. Furthermore, the money supply might not be an effective instrument and using the government budget for recurrent spending produces severe consequences in the high-trend-inflation economy.

Keywords: *Trend inflation, determinacy region, capital and recurrent spending, Vietnam.*

1. Introduction

Lessons from previous crises have shown three weaknesses in policy implementations of the State Bank of Vietnam (SBV). First, SBV has always pursued the objective of stabilizing currency value, curbing inflation, and contributing to the economic development, which was too widely-targeted and lack of specification. Second, the policy implementation in Vietnam, which was a combination of the monetary and fiscal policies has still been inappropriate in the sense that it was used excessively, thus it reacted and became policy shocks. Third, the SBV lacked a commitment to consistently pursue a fixed inflation target. Table 1 reports these facts. Following Ha et al. (2020a), we also document the evidence of time-varying trend inflation in Vietnam during 1996-2015 period as in Figure 1. Therefore, the Vietnamese economy was simultaneously buffeted by inefficient implementations of monetary and fiscal policies as well as time-varying trend inflation.

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Table 1: Objectives and Performances of Monetary Policy in Vietnam (2000-2015)

		2000	2001	2002	2003	2004	2005	2006	2007
Inflation	Target	6	<5	3-4	< 5	< 5	< 6.5	< 8	< 8
	Performance	-1.7	-0.04	3.8	3.2	7.8	8.3	7.4	8.3
Output	Target	5.5-6	7.5-8	7-7.3	7-7.5	7.5-8	8.5	8	8.2-8.5
	Performance	6.8	6.89	7.08	7.34	7.79	8.44	8.23	8.46
		2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Inflation	Target	<10	<15	7-8	<7	<10	8	7	5
	Performance	23.1	7.1	8.9	28.7	9.1	6.59	4.09	0.63
Output	Target	8.5-9	5	6.5					
	Performance	6.31	5.32	6.78					

Source: SBV and Ha et al. (2020a)

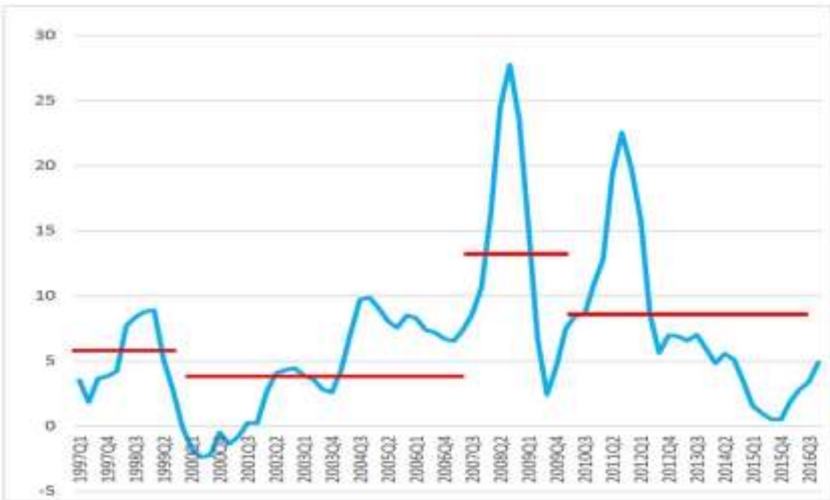

Figure 1: Vietnam CPI Inflation: 1996Q1-2015Q4 (annualized quarter-to-quarter percent changes)

Source: General Statistics Office of Vietnam and Ha et al. (2020a)

Previous papers have exploited various aspects of trend inflation. For example, changes in transmission mechanism of monetary policy and the dynamics of the economy in response to the shocks due to trend inflation are examined by Ascari and Sbordone (2014).

Moreover, Kiley (2007), Ascari and Ropele (2009) and Coibion and Gorodnichenko (2011) have examined the relationship between trend inflation and the model's determinacy. Welfare analysis of trend inflation has also attracted attentions of many scholars such as Nakata (2014), Ascari et al. (2018) and Ha et al. (2019, 2020a, 2020b). These studies have emphasized the importance and necessity of research pertaining trend inflation.

Although previous works have investigated various aspects of trend inflation, there still exist gaps in the literature. First, the papers examining effects of trend inflation on the dynamics of the economy to the policy shocks, especially fiscal policies are very scarce. Regarding monetary policy shocks, the prior scholars mostly concentrate on the case that the central banks employ the nominal interest rate as an important instrument, while they have abstracted a comparison the efficiency in using the different tools in the economy with time-varying trend inflation. This analysis can provide the central bank with a guideline to improve the efficiency if there is a rise in trend inflation. Second, the impacts of trend inflation on consequences of ineffectively using the national budget for different purposes such as capital investment or recurrent spending have not been exploited. Furthermore, there has been a paucity of evidence about an association between trend inflation and policy shocks in developing countries.

In this paper, we expect that trend inflation causes consequences of monetary and fiscal policy shocks to be more severe. The reasons are as follows. First, the relationship between trend inflation and structural shocks has been investigated thus far. For example, the transmission mechanism of monetary policy and the dynamics of the economy in response to the monetary shocks are altered by trend inflation (Ascari and Sbordone, 2014). Variations in the parameters of the log-linearized model explain for these alternations. Ascari and Sbordone (2014) demonstrate that responses of macroeconomy to monetary policy shocks are affected by trend inflation since it reduces the slope of New Keynesian Phillip curve. The similar evidence on effects of trend inflation on marginal efficiency of investment (MEI) shocks or monetary policy uncertainty shocks are also provided by Ascari et al. (2018) and Ha et al. (2020b), respectively. Second, Ascari and Sbordone (2014) and Ha et al. (2020a) provide empirical evidence that changes in trend inflation are associated with the ability of the monetary authority to guarantee a determinacy region and macroeconomic stability. However, this paper only concentrates on the interest rate rule while the change in determinacy regions when the monetary authority uses the money supply instrument have not been argued so far. In this paper, we follow Woodford (2003) to prove that the determinacy region that is derived from the Taylor principle when the central banks adopt the money supply rule narrow when trend inflation is higher[2]. Third, the literature has also provided empirical evidence that trend inflation influences welfare costs of shocks (Nakata,

[2] Let see the details in Section 5.2.

2014; Ha et al., 2019, 2020a) and volatility shocks (Ha et al., 2020b). However, the previous scholars have not paid enough attention to the effects of trend inflation on welfare costs of policy shocks.

We, therefore, attempt to fill these gaps in the literature by expanding the model of Ha et al. (2020a) in two dimensions. First, we consider that monetary authorities conduct the monetary policies by using two instruments: the nominal interest rate (IR rule, henceforth) and money supply (MS rule, henceforth). Second, we assume that the SBV uses its budget for capital and recurrent spending. This study employs Simulated Method of Moment (SMM) for the quarterly data in Vietnam during the 1996Q1-2015Q4 period to characterizes Vietnamese economy. This paper aims at investigating influences of trend inflation on policy implementations in Vietnam. To obtain this goal, we concentrate on analysing how trend inflation causes variations in impacts of monetary and fiscal shocks in term of responses of macroeconomic variables, determinacy region, and welfare costs. This study, therefore, provide a multi-dimension analysis on this issue.

With these expansions, we provide empirical evidence to support the view that trend inflation is associated with consequences of policy shocks in Vietnam. In particular, impacts of monetary and fiscal shocks on responses of macroeconomic variables, determinacy region, and welfare costs are signified if there is a proposal to raise trend inflation. In other words, consequences of ineffectively implementing policies are more serious if there is a rise in trend inflation. We also document the fact that the money supply might not be an effective instrument and using government budget for recurrent spending produces severe consequences if trend inflation is higher.

The rest of this paper is organized as follows. The discussion over related papers is presented in Section 2. The extended model will be discussed in Section 3 while Section 4 explains how to measure welfare costs. Section 5 shows the estimated parameters and main results and some conclusions are provided in Section 6.

2. Method

We develop the model that consists of four classes of agents: the household indexed by $j \in [0,1]$, the final-goods producing firms, a continuum of intermediate-goods producing firms indexed by $i \in [0,1]$, and the authority.

2.1. The Household

In the model, we assume that given a budget constraint, households determine the level of consumption (C_t) and working hours (H_t) to maximize their expected discounted present value of future period utility. Their period utility function can be expressed as follows:

$$\sum_{t=0}^{\infty} \beta^t (\ln(C_t - \gamma C_{t-1}) - \frac{\omega}{1+\upsilon} H_t^{1+\upsilon}), \tag{1}$$

where β and γ denotes the discount factor and the habit formation parameter, which are restricted as $0 < \beta < 1, 0 \leq \gamma < 1$. υ is the inverse Frisch elasticity of labor supply. The flow budget constraint is given as:

$$P_t C_t + \frac{B_t}{R_t} + \mathrm{M}_t = B_{t-1} + M_{t-1} - P_t T_t + W_t H_t + D_t. \tag{2}$$

Equation (2) illustrate distinct sources of income of households. Households can supply $h_t(i)$ units of labor to each intermediate-goods producing firm $i \in [0,1]$ to earn $W_t h_t(i)$ at the beginning of each period. By owning the intermediate goods, they also receive a nominal profit, D_t, and receive lump-sum government transfer, T_t. And then they decide to distribute their income in diverse ways. During each period t, households purchase consumption goods, C_t, from the final-goods producing firms at the nominal price, P_t. They also purchase the one-period bond, B_t, from the intermediate-goods producers at the price $1/R_t$ as saving. Suppose that the households carry M_{t-1} units of money. Therefore, households choose labor supply, h_t, bond holding, B_t, money holding M_t, and consumption, C_t, to maximize the lifetime utility subject to the budget constraint.

2.2. The Final-Goods Producing Firm

Final-goods producing firms employ the constant-return-to-scale technology to maximize profits. They use $Y_t(i)$ units of intermediate goods sold at a nominal price $P_t(i)$ in order to manufacture Y_t units of final products, as follows:

$$[\int_0^1 Y_t(i)^{\frac{\theta_p - 1}{\theta_p}} di]^{\frac{\theta_p}{\theta_p - 1}} = Y_t, \tag{3}$$

where θ_p denotes the price elasticity of demand for intermediate goods. The profit maximization problem of the final goods-producing firms is demonstrated as follows:

$$P_t[\int_0^1 Y_t(i)^{\frac{\theta_p - 1}{\theta_p}} di]^{\frac{\theta_p}{\theta_p - 1}} - \int_0^1 P_t(i) Y_t(i) di. \tag{4}$$

We derive the first order condition for the problem of final-goods producing firms that is represented as:

$$Y_t(i) = [\frac{P_t(i)}{P_t}]^{-\theta_p} Y_t. \tag{5}$$

Due to the zero profit in the equilibrium of the competitive final-goods firms, we can represent the final good price as follows:

$$P_t = [\int_0^1 P_t(i)^{1-\theta_p} di]^{\frac{1}{1-\theta_p}}. \tag{6}$$

2.3. The Intermediate-Goods Producing Firm

During the period t, a continuum of intermediate-goods producing firms indexed by i ∈ [0 1] hire $h_t(i)$ units of labor supplied by households to produce Y_t units of intermediate goods (i). Their constant-returns-to-scale technology is expressed as follows:

$$Z_t h_t(i) = Y_t(i). \tag{7}$$

The logarithm of aggregate technology shock, Z_t, follows a stationary stochastic process

$$\ln(Z_t) = \rho_Z \ln(Z_{t-1}) + \epsilon_{Z_t}, \tag{8}$$

where ϵ_{Z_t} denotes the serially uncorrelated innovation, which is characterized by a normal distribution with mean zero and standard deviation σ_Z. The intermediate-goods producers are presumed to follow staggered Calvo price fashion to set nominal. Specifically, a fixed fraction, η_p, of firms, which cannot re-optimize its nominal prices, still set their prices according to the indexation rule (Calvo, 1983). We can represent the way that those firms reset their prices as follows:

$$P_t(i) = (\pi_{t-1}^{\mu_p} \overline{\pi}_t^{1-\mu_p})^{\chi_p} P_{t-1}(i), \tag{9}$$

where χ_p and μ_p expressess a degree of price indexation and the relative weight on lagged inflation, respectively. The inflation, π_t, is computed as $\frac{P_t}{P_{t-1}}$ and we interprete $\overline{\pi}_t$ as the central bank's inflation target. By contrast, there is a fraction $(1 - \eta_p)$ of firms, which have ability to set their price. They select the price P_t^* to maximize the present value of future profits:

$$E_t \sum_{t=0}^{\infty} \beta^s \frac{\lambda_{t+s}}{\lambda_t} \eta_p^s [P_t^*(i)(\overline{\pi}_t^{\chi_p s})^{(1-\mu_p)} (\pi_{t-1,t+s-1}^{\chi_p})^{\mu_p} - \frac{W_{t+s}}{Z_{t+s}}] Y_{t+s}(i), \tag{10}$$

such that

$$Y_{t+s}(i) = [\frac{P_t^*(i)(\overline{\pi}_t^{\chi_p s})^{(1-\mu_p)} (\pi_{t-1,t+s-1}^{\chi_p})^{\mu_p}}{P_{t+s}}]^{-\theta_p} Y_{t+s}, \tag{11}$$

where $\pi_{t+s-1} = (\frac{P_{t+2}}{P_{t+1}}) \ldots (\frac{P_{t+s}}{P_{t+s-1}})$ if s = 1,2,3,..., λ_t is the same as the Lagrangian multiplier on the household's budget constraints, and W_t denotes the nominal wage.

2.4. Authority's policy

2.4.1. Monetary Policy

Regarding IR rule, the authority sets the short-term nominal interest rates (R_t) to deviations of inflation (π_t) from the central bank's inflation target $(\overline{\pi})$ and deviations of output (y_t) from the steady state $(\overline{y})$ as follows:

$$\frac{R_t}{\overline{R}} = (\frac{R_{t-1}}{\overline{R}})^{\rho_R} [(\frac{\pi_t}{\overline{\pi}})^{\phi_\pi} (\frac{y_t}{\overline{y}})^{\phi_y}]^{1-\rho_R} exp(\epsilon_{R_t}). \tag{12}$$

The parameter ρ_R illustrates the degree of interest rate smoothing. ϵ_{R_t} is an i.i.d monetary policy shock.

Regarding MS rule, we follow Zhang (2009) to represent the central bank's money supply (M_t^s) mechanism as follow:

$$M_t^s = (g_{m,t})M_{t-1}^s, \quad (13)$$

$$\frac{M_t^s}{P_t} = \left(g_{m,t}\right)\frac{M_{t-1}^s P_{t-1}}{P_t P_{t-1}}. \quad (14)$$

Money growth rule can be expressed as

$$\frac{gm_t}{gm} = \left(\frac{gm_{t-1}}{gm}\right)^{p_{gm}} \left(\frac{\pi_{t+1}}{\overline{\pi}_t}\right)^{-s1} \left(\frac{y_t}{y}\right)^{-s2} \delta_r e^{mt}, \quad (15)$$

$$e_{mt} = p_{em}e_{mt-1} + \epsilon_{mt}. \quad (16)$$

This rule bases on the idea that the central bank implements monetary policies by using the money supply. In the equation (4), gm_t is the growth rate of money, p_{gm} illustrates the persistence of the money growth, and s_1, s_2 are responses of money growth to deviation of inflation from the target and output from the steady state, respectively.

The evolution of trend inflation is described as a persistent AR(1) process as

$$\ln(\overline{\pi_t}) = (1-\rho_{\overline{\pi}})\ln(\overline{\pi}^*) + \rho_{\overline{\pi}}\ln(\overline{\pi}_{t-1}) + \epsilon_{\overline{\pi}_t}, \quad (17)$$

where $\rho_{\overline{\pi}}$ denotes the degree of shock persistence and $\epsilon_{\overline{\pi}_t}$ is a standard normally distributed shock which is independent of time.

2.4.2 Fiscal Policy

The public spending is written as

$$G_t = (1-\frac{1}{g_t})Y_t, \quad (18)$$

where g_t is an exogenous disturbance following the stochastic process

$$\ln(g_{t+1}) = (1-\rho_g)\ln(\overline{g}) + \rho_g\ln(g_t) + \epsilon_{g_t}, \quad (19)$$

where $(1-\frac{1}{\overline{g}})$ represents the steady-state value of government spending relative to output. In this paper, we consider that the government uses the budget for different pusposes: capital and recurrent spending, and then measure their impacts.

2.5. Market Clearing Condition

The market clearing condition in the labor market, the goods market and the bond can be expressed in turn as

$$H_t = \int H_t(i)di, \quad (20)$$

$$Y_t = C_t + G_t, \quad (21)$$

$$B_t = 0. \quad (22)$$

2.6. Method for Quantifying Welfare Costs

The present article follows Ha et al. (2019, 2020a, 2020b) to use the perturbation method to compute the approximation to the policy functions around the deterministic steady-state. We then use those to quantify the welfare. The welfare can be decomposed into three diverse component as follows:

$$E[\sum_{t=0}^{\infty} \beta^t u(x_t)] \approx \sum_{t=0}^{\infty} \beta^t u(\overline{x}) + \sum_{t=0}^{\infty} \beta^t Mu(\overline{x}) E[x_t - \overline{x}] + \sum_{t=0}^{\infty} \beta^t Nu(\overline{x}) E[(x_t - \overline{x}) \otimes (x_t - \overline{x})] = U_d + U_l + U_v,$$

where $x_t = [C_t, C_{t-1}, H_t]$; and $Mu(\overline{x})$ and $Nu(\overline{x})$ denote vectors which expressess the first and second derivative of u(.) evaluated at the deterministic steady state of x_t $(\overline{x})$. Three components are respectively the deterministic component, $U_d = \sum_{t=0}^{\infty} \beta^t u(\overline{x})$, the level component, $U_l = \sum_{t=0}^{\infty} \beta^t Mu(\overline{x}) E[x_t - \overline{x}]$, and the volatility component , $U_v = \sum_{t=0}^{\infty} \beta^t Nu(\overline{x}) E[(x_t - \overline{x}) \otimes (x_t - \overline{x})]$.

Then we can quantify the welfare cost as follows

$$E[\sum_{t=0}^{\infty} \beta^t u((1 + \tfrac{wc}{100}) C_{A,t}, (1 + \tfrac{wc}{100}) C_{A,t-1}, H_{A,t})] = E[\sum_{t=0}^{\infty} \beta^t u(C_{B,t}, C_{B,t-1}, H_{B,t})],$$

where $C_{A,t}, H_{A,t}$ are consumption and labor supply in the economy with $\sigma_{\overline{\pi}} > 0$ and $C_{B,t}, H_{B,t}$, are in economy with $\sigma_{\overline{\pi}} = 0$.

2.7. Data

The system consists of five observable variables, including output growth (g_t^y), inflation (π_t), short-term nominal interest rate (r_t), money supply growth (g_t^M), and government spending growth (g_t) that is either capital or recurrent spending. This study uses quarterly Vietnam data collected from 1996Q1 to 2015Q4. We collect the raw data from the database available at General Statistics Office of Vietnam (GSO) and International

Financial Statistics (IFS). The data for government spending growth are available at the website of State Bank of Vietnam. We also divide seasonally-adjusted figures for real GDP by the total population, which is to GDP per capital. This indicator then serves as a measure of output growth. We also obtaint measures of inflation and nominal interest rate, respectively by making quarterly changes in seasonally-adjusted figures for Consumer Price Index and quarterly lending rate. All data are de-trended prior to the estimation of the model.

3. Results

In this analysis, we examine the effects of trend inflation on welfare costs of policy shocks. These policy shocks include monetary and fiscal policy that may distort the economic welfare to produce welfare costs. A high level of trend inflation then magnifies these costs and lead to more severe consequences. Previous scholars such as Nakata (2014), Ha et al. (2019, 2020a) concentrate on measuring welfare costs of trend inflation. Ascari et al. (2014) and Ascari et al. (2018) pay attention to cyclical effects of trend inflation. Ha et al. (2020) investigate interactions between trend inflation and policy risk shocks in term of welfare costs and dynamic responses of variables to policy risk shocks. To our best knowledge, however, there is no paper that studies effects of trend inflation on welfare costs of policy shocks. Therefore, this article serves to fill this gap in the literature.

We firstly quantify welfare costs of monetary shocks in Vietnam and report the results in Table 4. With an assumption that the central bank sets inflation target at 2%, welfare costs of monetary shocks is modest (0.015%). An increase in trend inflation level produces higher welfare costs. Furthermore, we compare welfare changes due to trend inflation when the central bank uses distinct instruments. Figure 4 indicates trends of output and welfare when using the IR (Figure 4a) and MS (Figure 4b) rule. Both rules show that welfare decline nonlinearly. However, adopting MS rule causes welfare to decline more considerably but this negative effect seems to diminish when trend inflation is higher, as indicated on the convex downward curve. On the other hand, the welfare follows the concave downward curve under IR rule implying that welfare fall more substantially when trend inflation rises.

Table 4: Welfare Costs of Monetary Shocks

		$\bar{\pi}^* = 1.02^{0.25}$		$\bar{\pi}^* = 1.06^{0.25}$	
Welfare Cost			0.015%		0.069%
Welfare		-213.03	-213.05	-219.08	-219.22
	U_d	-211.15	-211.15	-212.11	-212.11
	U_l	-0.43	-0.45	-4.81	-4.95
	U_v	-1.44	-1.45	-2.16	-2.16

C_{SS}	0.82	0.82	0.81	0.81
H_{SS}	1.05	1.05	1.05	1.05
E(C)*	-0.34	-0.36	-0.01	0.04
E(H)*	0.01	0.01	0.06	0.17
$100\sigma_C$	1.66	1.66	1.33	2.01
$100\sigma_H$	1.63	1.63	1.95	1.95

Note: (*) expressed as percentage deviation from the deterministic steady-state. U_d, U_l and U_v are the deterministic steady-state, level and volatility component, respectively.

Source: Author's calculation.

a) IR rule **b) MS rule**

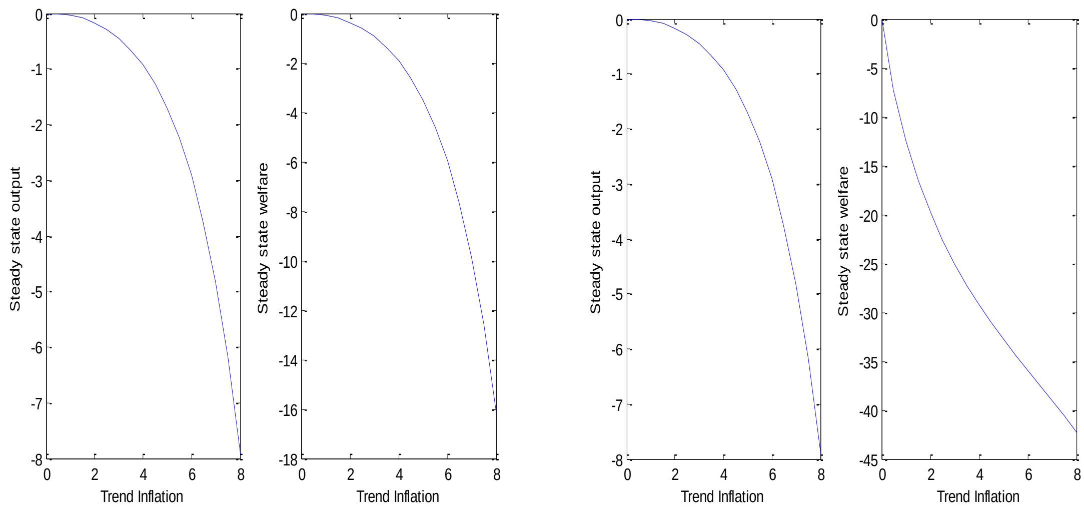

Figure 4: Trend Inflation and Welfare

Source: Author's calculation.

Welfare Costs of Fiscal Shocks

This section concentrates of welfare costs of fiscal shocks. We consider that the government uses the budget for various purposes: capital and recurrent spending. By using the actual data in Vietnam taken from SBV, we estimate respective values of fiscal shocks, including $\bar{g};\ \rho_g;\ and\ \sigma_g$. We report the results in Table 5 and 6.

Regarding capital spending, we obtain the estimated parameters: $\bar{g} = 1.07;\ \rho_g = 0.85;\ \sigma_g = 0.007$. Table 5 reports welfare costs of government capital spending shocks on the economy. We show that welfare costs of government's capital spending is very small

(0.08%). The variation in inflation target levels does not cause any change in these costs. Table 5 reports no significant change in the business cycle properties. Thus, the increase in capital spending does not cause severe issues to the economy and the signifying effects of trend inflation are also not recognized.

Table 5: Welfare Costs of Fiscal Shocks (Capital Spending)

		$\bar{\pi}^* = 1.02^{0.25}$		$\bar{\pi}^* = 1.06^{0.25}$	
Welfare Cost			0.08%		0,08%
Welfare		-193.43	-193.61	-199.61	-199.78
	U_d	-192.79	-192.79	-193.66	-193.66
	U_l	-0.44	-0.45	-4.37	-4.41
	U_v	-0.20	-0.37	-1.60	-1.71
C_{SS}		0.93	0.93	0.93	0.93
H_{SS}		1.0008	1.0008	1.0008	1.0008
E(C)*		-0.40	-0.41	-0.394	-0.397
E(H)*		0.01	0.01	0.14	0.14
$100\sigma_C$		0.68	0.93	1.97	2.04
$100\sigma_H$		1.28	1.54	1.66	1.90

Note: (*) expressed as percentage deviation from the deterministic steady-state. U_d, U_l and U_v are the deterministic steady-state, level and volatility component, respectively. $\bar{g} = 1.07;\ \rho_g = 0.85;\ \sigma_g = 0.007$.

Source: Author's calculation.

By using the data for recurrent spending, we achieve estimated values for fiscal shocks given as: $\bar{g} = 1.23;\ \rho_g = 0.46;\ \sigma_g = 0.034$. Table 6 reports welfare costs of recurrent spending shocks, which is significantly higher than capital spending shocks. More importantly, a higher trend inflation level signifies these costs. The results suggest that recurrent spending might produce more severe consequence as compared to capital spending, especially there is a rise in trend inflation.

Table 6: Welfare Costs of Fiscal Shocks (Recurrent Spending)

		$\bar{\pi}^* = 1.02^{0.25}$		$\bar{\pi}^* = 1.06^{0.25}$	
Welfare Cost			0.45%		0.69%
Welfare		-207.63	-208.53	-213.91	-215.34
	U_d	-206.99	-206.99	-207.93	-207.93
	U_l	-0.44	-0.94	-4.40	-5.46
	U_v	-0.21	-0.60	-1.58	-1.95
C_{SS}		0.84	0.84	0.84	0.84
H_{SS}		1.04	1.04	1.04	1.04
E(C)*		-0.36	-0.79	-0.35	-0.44
E(H)*		0.01	0.01	0.15	0.15
$100\sigma_C$		0.61	0.85	1.77	1.83
$100\sigma_H$		1.32	3.91	1.72	4.34

Note: (*) expressed as percentage deviation from the deterministic steady-state. U_d, U_l and U_v are the deterministic steady-state, level and volatility component, respectively. $\bar{g} = 1.23$; $\rho_g = 0.46$; $\sigma_g = 0.034$

Source: Author's calculation.

4. Discussion and Conclusion

This paper extended the New-Keynesian model in Ha et al. (2020a) by two dimensions. We assumed that the monetary authorities employ two instruments: nominal interest rate and money supply to conduct the policies. In the specific analysis regarding fiscal policy, we decomposed the government spending into capital and recurrent spending. The main purpose of this article is to investigate impacts of trend inflation on consequences of policy shocks in Vietnam. While prior scholars focused on the cyclical effects of trend inflation, our attention is paid to changes in welfare costs of policy shocks due to trend inflation. Although a few papers investigated changes in welfare costs of policy risk caused by trend inflation, there is no paper to study interaction between trend inflation and policy shocks. A change in determinacy region when the central banks use the nominal interest rate and money supply was another interest. Our paper also made the further contribution by distinguish the effects of shocks to capital and recurrent spending on the economy and examining effects of trend inflation on these effects.

Our result illustrated that trend inflation leads to changes in effects of monetary and fiscal shocks on the economy. In particular, trend inflation signifies impacts of monetary and fiscal shocks on responses of macroeconomic variables, determinacy region, and welfare costs. In other words, trend inflation causes consequences of policy shocks to be more severe. The empirical results also suggested that with a rise in trend inflation, the money supply might not be an effective tool and using government budget for recurrent spending produces severe consequences.

5. References

1. Alves, S. A. L. (2012). Optimal policy when the inflation target is not optimal. Working Paper Series 271
2. Alves, S. A. L. (2014). Lack of divine coincidence in new Keynesian models. *Journal of Monetary Economics, 67*, 33-46.
3. Ascari, G., & Ropele, T. (2009). Trend inflation, Taylor principle and indeterminacy. *Journal of Money, Credit and Banking, 41*(8), 1557-1584.
4. Ascari, G., & Sbordone, A. M. (2014). The macroeconomics of trend inflation. *Journal of Economic Literature, 42*(3), 679-739.
5. Ascari, G., Phaneuf, L., & Sims, E. (2018). On the welfare and cyclical implications of moderate trend inflation. *Journal of Monetary Economics*, *99*, 56-71.
6. Ascari, G., & Sbordone, A. M. (2014). The macroeconomics of trend inflation. *Journal of Economic Literature, 42*(3), 679-739.
7. Calvo, G. A. (1983). Staggered prices in a utility-maximizing framework. *Journal of Monetary Economics, 12* (3), 383-398.
8. Cogley, T., Primiceri, G. E., & Sargent, T. J. (2009). Inflation-gap persistence in the U.S. *American Economic Journal: Macroeconomics*, *2*(1), 43-69.
9. Coibion, O., & Gorodnichenko, Y. (2011). Monetary policy, trend inflation and the great moderation: An alternative interpretation. *American Economic Review, 101* (1), 341-370.
10. Coibion, O., Gorodnichenko, Y., & Wieland, J. (2012). The optimal inflation rate in new Keynesian models: Should central banks raise their inflation targets in light of the zero lower bound? *Review of Economic Studies, 79* (4), 1371-1406.
11. Ha, L. T., Thanh, T. T., & Thang, D. N. (2020b). Welfare costs of monetary policy uncertainty in the economy with shifting trend inflation. *Scottish Journal of Political Economy*. https://doi.org/10.1111/sjpe.12259.
12. Kiley, M. T. (2007). Is moderate-to-high inflation inherently unstable? *International Journal of Central Banking, 3* (2), 173-201.
13. Kozicki, S., & Tinsley, P. A. (2001). Shifting endpoints in the term structure of interest rates. *Journal of Monetary Economics, 47*(3), 613-652.
14. Nakata, T. (2014). Welfare costs of shifting trend inflation. *Journal of Macroeconomics, 41*, 66-78.

15. Ruge-Murcia, F. (2012). Estimating nonlinear dsge models by the simulated method of moments: With an application to business cycles. *Journal of Economic Dynamics and Control* , *36*(6), 914-938.

16. Zhang, W. (2009). China's monetary policy: Quantity versus price rules. *Journal of Macroeconomics, 31*, 474-484.

17. Woodford, M. (2003). *Interest and Prices: Foundations of a Theory of Monetary Policy*. Princeton University Press, Princeton.

THE RELATIONSHIP BETWEEN LOGISTICS SERVICE OUTSOURCING AND PERFORMANCE OF IMPORT-EXPORT COMPANIES IN HO CHI MINH CITY

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Abstract

The emergence of globalization has made outsourcing become one of the business strategies widely applied to provide the best services for businesses in the private and public sectors. While some researchers have analyzed the concept of outsourcing and its effect on the performance of the organization, very little research has been done on this issue in the context of import-export firms. Therefore, the absence of this research raises the question: "What is the impact of logistics outsourcing operations on the performance of import-export companies?" This quantitative study was conducted in one of the key economic centers - Ho Chi Minh City - to answer the above question. Respondents for this study included import-export and logistics staff (including managers and supervisors) at import-export enterprises. The results show the positive effects of outsourcing logistics services to the organization's performance and at the same time identify outsourcing activities that positively affect the performance of import-export businesses.

Keywords: *Import-export company, Logistics, Outsourcing, Organizational performance,.*

1. Introduction

Outsourcing, which is the strategic use of external resources to carry out activities handled by employees and internal resources, has received increasing interest in management practices around the world in recent decades (Bhattacharya, Singh and Bhakoo, 2013). The reasons companies decide to outsource are so different, the motivations most often mentioned are to achieve cost benefits or focus on core competencies. These two drivers are often linked together as an argument while managers use outsourcing to improve the use of capital investments by concentrating company human and capital resources on corporate operations activities (Quélin & Duhamel, 2003). In addition to these main motivations, other reasons for outsourcing mentioned in studies include achieving best practice by approaching external capabilities (Kakabadse, 2002); converting fixed costs into variable costs (Alexander and Young, 1996); and act as a tool to adapt to rapidly changing environments (Leavy, 2004). Increasing a company's internal focus on core business is often thought to improve performance and, as a result, increased market value.

Outsourcing is a management strategy through which a company assigns some non-core functions to more efficient, specialized service providers so that the organization can execute and focus on core business activities. The trend of globalization has driven many companies to outsource services from specialized firms to focus on their competitive advantage. Companies are sometimes forced to seek outsourced services due to a lack of human resources because they face challenges of acquiring the right skills and knowledge to enable them to gain world class competencies similar to what is expected of the service providers (Kremic, Tukel & Rom, 2006).

Outsourcing decisions are influenced by an organization's ability to invest in capacity development and maintain a position of competency superior to that of its competitors. Processes in which the organization lacks the necessary internal resources or competencies can be outsourced. Organizations can access additional capabilities from external providers that cannot benefit from implementing those processes internally (Irina, Liviu and Ioana, 2012).

The outsourcing concept has not received considerable attention and support, which can be considered as a favorable condition for improving the development and performance of an organization in Vietnam. The import and export sector needs enormous logistic mechanisms and requires careful management of this in order to achieve the organization's operational effectiveness. The core business of an import-export company is to do international business even though they still need to purchase goods, manage inventory, clear customs and transport goods. All of these other activities are not core and can be outsourced so that import and export companies can focus on their core function of doing international business.

Although some scholars (Bhattacharya et al., 2013; Njuguna, 2010; Kroes & Ghosh, 2010; Bustinza, Arias-Aranda and Gutierrez-Gutierrez, 2010) have demonstrated the positive effect of logistics outsourcing on activities of the organization, but there is a lack of research on this issue in the context of import-export companies. Therefore, further experimental studies are needed to shorten this research gap.

Scholars have defined outsourcing in many different ways. Previously, Lonsdale and Cox (2000) defined outsourcing as "the process of transferring an existing business, including related assets, to a third party". For their part, Bustinza et al. (2010) defines outsourcing as an organization retaining responsibility for providing services but assigning the day-to-day performance of those services to an external organization, according to contracts with agreed standards, costs, and conditions. In this study, outsourcing is defined as “the strategic use of external resources to carry out activities handled by employees and internal resources” (Bhattacharya et al., 2013).

Outsourcing is based on many theories, but this research applies the following theories: Resource-Based Perspectives, Transaction Cost Economics, Core Competencies and Contract Theory.

1.1. The structure of outsourcing

From the studies reviewed, four main structures of outsourcing are identified: cost reduction, quality improvement, technology adaptation and risk management.

a. Cut the cost

Outsourcing frees up capital, thus allowing investment in core operations, improving the organization's focus, freeing up management time and reducing staff costs and giving the organization flexibility (Lysons & Farrington, 2006). Reducing costs and improving efficiency are frequently cited as the main drivers of outsourcing. Smith & McKeen (2004) call them “outsourcing performance” is done with the clear goal of saving money through staff cuts and other resources.

b. Improve the quality

Quality is the ability of a product or service to consistently meet a customer's needs and expectations by delivering value for money. Growth in outsourcing is attributable to firms that need diverse and high quality services to survive and excel in rapidly changing external environments (Kok & Richardson, 2003). However, building strong outsourcing partnerships faces challenges given that companies don't know how to choose their outsourcing provider and poorly manage outsourcing relationships (Kok & Richardson, 2003). Quality can be described as being suitable for use. Quality in outsourcing contracts exists when the contract serves its function and meets the goals of both parties.

Outsourcing contracts can be affected by human and environmental factors in the organization. To build a satisfying relationship with service providers, businesses need to equip themselves with the knowledge and ability to appropriately manage relationships (Ren, Ngai, & Cho, 2010). In their research, Lee & Kim (1999) found that outsourcing success is influenced by 5 factors: trust, business understanding, benefit and risk sharing, conflict and commitment, while Anderson & Narus (1990) found other factors such as top manager's support, communication, and seniority of relationships. Successful outsourcing allows companies to achieve their organizational goals and build a competitive advantage (Han, Lee, & Seo, 2008).

c. Technology adaptation

Organizations are choosing to outsource non-core service activities such as HR services, Finance, Transport, IT and Engineering to both local and global service providers who have experience and better technical know-how in those fields. In any case, outsourcing such functions is a challenging process. The process is driven by factors that are not merely cost reduction (Moeen, Somaya, & Mahoney, 2013). Other factors such as service design, job management in different cultures and business process redesign are important factors that must be considered in outsourcing management. The service provider is also responsible for making changes in the service industry as needed due to changes in technology (Holcomb & Hitt, 2007). Similarly, when a company does not have the necessary qualifications to perform non-core activities, outsourcing may be an option.

Increasing inflation rates keep product prices rising, calling for more capital, and pressuring companies to reduce costs further in order to maintain their short- and long-term survival (Moeen, Somaya, & Mahoney, 2013). Manufacturing is expensive and requires high operating costs, thus becoming the main reason for outsourcing.

Device failure leads to delays in the delivery of products and services, which in turn results in poor organizational performance resulting in customer dissatisfaction and loss of goodwill. For specialized (and individually built) equipment, knowledge and skills to perform maintenance and spare parts required for replacement are required from original equipment manufacturers (OEMs) (Holcomb & Hitt), 2007). Therefore, the customer must have a maintenance service contract with the OEM which results in a non-competitive market. If the resellers provide maintenance service instead of OEM, the switching cost will prevent the customer from changing their service agent, so the customer is tied up and can't do anything without major financial harm (Moeen et al., 2013).

d. Risk management

The goal of outsourcing should be to unleash management and create trust so that companies take more risks in more value-added core businesses. However, outsourcing business activities leads to serious risk issues related to operational changes related to human resources, physical assets, technology and business processes, leading to to operational risk (Irina et al., 2012). Furthermore, outsourcing brings uncertainty as the new relationship between service provider and company represents an unproven agreement. In addition, it is difficult to justify whether the carrier performs the task better than the one internally performed (Lungescu, Pampa & Salanta, 2011). While outsourcing can come with different types of risks, they are all related to performance. This requires a risk assessment before entering into the outsourcing agreement for any business function (Irina et al., 2012).

Outsourcing results in loss of control, loss of critical skills and knowledge, loss of intellectual property, insecurity, quality of service can be reduced, and costs can increase and lose the ability to innovate (Wayman , two thousand and thirteen). There is also a need for continuous monitoring and monitoring of the service provider relationship as well as for dispute resolution. The most important challenge is how to deal with the change in the balance of power in favor of the service provider (Weele, 2010).

Due to the fact that the parties to the outsourcing contract have a long-term relationship, many issues need to be considered. Several aspects are of interest in contracting. According to Weele (2010), risks related to outsourcing contracts can be aggregated as technical risks, commercial risks, contractual risks or performance risks.

Several scholars (Bhattacharya et al, 2013; Njuguna, 2010; Kroes & Ghosh, 2010; Bustinza, Arias-Aranda, and Gutierrez-Gutierrez, 2010) have demonstrated that outsourcing positively affects team performance. This will be discussed in the next section.

1.2. Organizational performance

According to Jenatabadi (2015), organizational performance can be broadly defined as "a set of financial and non-financial indicators that provide information on the extent to which objectives and outcomes are achieved". Cocca and Alberti (2010) argue that organizational performance can be represented by the following aspects: effectiveness, efficiency, quality, productivity, quality of work, profitability, innovation and learning.

Efficiency refers to an organization's ability to fulfill its goals in the right way while efficiency refers to the full use of resources to accomplish its identified goals. Quality refers to the ability to effectively meet or exceed customer expectations (Jiménez-Jiménez & Cegarra-Navarro, 2007); productivity is related to the ratio of output to input; quality of work life that indicates an employee's emotional response to their work and organization (Pavlov & Bournce, 2011); profitability refers to revenue that exceeds cost while innovation refers to the continual improvement of a product / service or process (Rhee, Park & Lee, 2010); and according to Argote (2011), learning is defined as the ability of an organization to continuously create, store and transfer knowledge within the organization. Key aspects of organizational activity identified by other scholars include the ability to innovate (Liao & Wu, 2010; Rhee et al., 2010); productivity (Field, 2011); employee satisfaction and the ability to amplify to acquire, transfer and utilize new knowledge (García-Morales, Lloréns-Montes, & Verdú-Jover, 2008); competitive advantage (Hsu & Pereira, 2008), and improving the organization's reputation (Calantone, Cavusgil and Zhao, 2002).

2. Method

This study seeks to expand the knowledge in the field of logistics management by improving and testing a model that assumes logistics outsourcing activities are the determinant of the organization's performance.

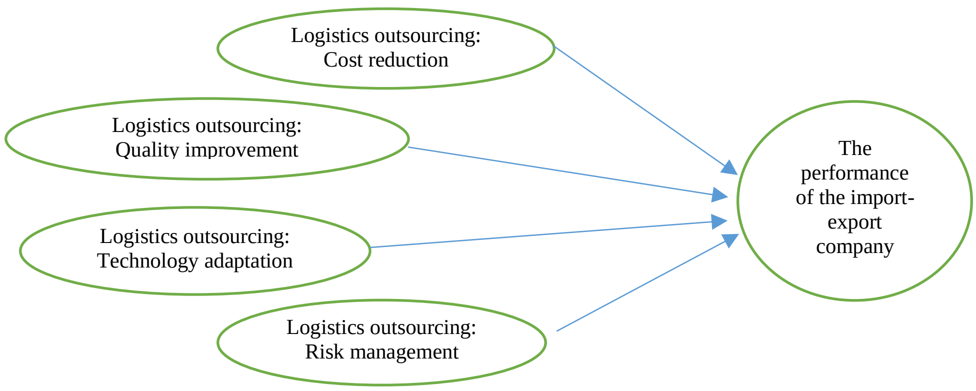

Figure 3.1. Research model (Source: Nzitunga, 2019; Joyclare, 2020 and author)

Because outsourcing frees up capital, thus allowing investment in core activities, improving the organization's core competencies, freeing up management time and reducing staff costs as well as bringing in the organization more flexibility (Kenneth & Lysons, 2006), the first hypothesis is thus derived:

H1: Cost reduction through logistics outsourcing positively affects the performance of import-export companies.

Scholars (Ren, Ngai, & Cho, 2010; Han, Lee, & Seo, 2008) have found that outsourcing provides improved quality by using a knowledgeable service provider, experience and expertise in providing a particular service, improving the organization's operational efficiency. Therefore, the second hypothesis is developed:

H2: Quality improvement due to logistics outsourcing positively affects the performance of import-export companies.

In Moeen, Somaya and Mahoney (2013) found a positive effect of technology adoption from outsourcing on organizational performance. From there, there is a reason to believe that this is also the case for the import and export sector. Therefore, a third hypothesis was formed:

H3: There is a positive relationship between technology adaptation achieved from logistics outsourcing and organizational performance in the import-export industry.

Several researchers have provided evidence of a positive association between risk management and organizational performance (Nair, Purohit, Choudhary, 2014; Saleem & Abideen, 2011). Therefore, the fourth hypothesis is deduced:

H4: Effectively manage risks due to logistics outsourcing that can positively affect the organization's performance in the import-export industry.

3. Results

For this study, a quantitative approach was used. Measurement data are used to form facts and explore patterns in research. This approach was chosen because the study seeks to test a set of hypotheses and it is an appropriate approach for a study designed to analyze theory through proposed hypotheses and collect data to support or refute these hypotheses (Leedy and Omrod, 2010). The sample subjects for this study included import-export and logistics staff (including managers and supervisors) at import-export companies in Ho Chi Minh City.

3.1. Sample

Due to the application of the EFA analysis method, the sample size is based on two factors: the minimum size and the number of measurement variables. According to Hair et al. (2010), the minimum sample size is 50, preferably 100, and the ratio of observations /

measurement variable is 5/1, meaning that each measurement variable needs a minimum of 5 observations. The study has 32 measurement variables, so the minimum sample size is 5 x 32 = 160. Research crowd is import-export enterprises in Ho Chi Minh City. The study used a simple random sampling method. Questionnaires were sent to import and export businesses by email, fax and directly. The total number of questionnaires distributed was 350, returned 270 with valid samples of 253 corresponding to 93.7% rate used as research data. Out of 253 observations, the distribution followed (table 3.1).

Characteristics of the research sample showing gender, age, academic level, position in the enterprise, the results are shown in Table 3.1.

Table 3.1. Sample characteristics

3.1.1 Gender

Gender	**Quantum**	**Ratio**
Male	160	63.2
Female	93	36.8
Total	253	100

3.1.2 Age

Age	**Quantum**	**Ratio**
19 - 29	73	29
30 - 39	142	56
40 - 49	28	11
Over 50	10	4
Total	253	100

3.1.3 Academic level

Level	**Quantum**	**Ratio**
Post graduate	32	12.7
Bachelor	165	65
Baccalaureate	48	18.9
Import-export certificate	8	3.4
Total	253	100

3.1.4 Position

Position	Quantum	Ratio
Governor	10	4
Manager	30	12
Staff	157	62
Others	56	22
Total	253	100

3.1.5 Outsourcing field

Outsourcing activities	Quantum	Ratio
Warehousing	35	14
Inland transport	23	9
Package	10	4
Consolidation & Deconsolidation	15	6
Chartering	43	17
Documentary	127	50
Total	253	100

(Source: author's data)

According to the analysis, there are 160 men and 93 female respondents, which shows that the number of male workers in import-export companies accounts for nearly twice the number of female workers at the rate of 63.2 and 36.8%, respectively. The results also showed that the majority of respondents (56%) were between the ages of 30 and 39. Only 4% of the respondents were 50 years of age or older. The rest, at the age of 19 - 29, make up 29% while 11% of the respondents are in the age group 40 - 49. This shows that the import-export companies hire the workforce mainly in the age group 30-39 and very It is rare to hire workers aged 50 and over. The reason may be due to the many movements between customs departments, ports and ICDs, shipping agency agency offices, packing and withdrawing container goods with a variety of time, so import and export companies. giving priority to young and dynamic laborers. The proportion of 4% of respondents in the age group above 50 can also be attributed to the fact that the labor force in this age group has become a manager, making it more difficult to access the sample.

The results showed that the majority of respondents (65%) have a bachelor's degree, while a baccalaureate degree is only 18.9% and postgraduate is 12.7%. This result shows that import-export companies mainly hire workers with bachelor's degrees, very few hire workers with import-export certificates because the work involves a lot of specialized profession, needing judgment. , analyze and solve problems and situations. In terms of positions and positions in the organization, the results show that most of them are employees (62%), while a very small percentage is the director (4%). The rest of the respondents are managers (12%) and other positions (22%). Due to their busy work, senior managers and directors are difficult to access and if they can do so, these individuals often authorize subordinates to answer the survey. Regarding the outsourcing field of logistics services, the results showed that document operations accounted for the largest proportion (50%) compared to other service sectors that import-export companies performed. This proportion shows that the main outsourced logistics services of import-export companies are import and export customs clearance procedures, finalization of processed goods norms, import and export taxes, thereby showing for import and export enterprises, customs procedures are considered to be complicated and complicated operations and should be outsourced.

3.2. Inspection scales using Cronbach's coefficient alpha reliability

Analysis results of Cronbach's alpha (table 3.2) show that most scales have Cronbach's alpha coefficients greater than 0.6 and total variable correlation coefficients greater than 0.3 (Hair et al., 2010). So the standard, ensuring reliability scales will be included in the analysis of the discovery factor EFA.

Table 3.2. Results of analysis of confidence coefficients Cronbach's alpha

Concept	Number of variables	Cronbach's alpha	Corrected Item-Total Correlation	Conclusion
Cost reduction	6	0.947	0.661 – 0.909	Yes
Quality improvement	6	0.913	0.621 – 0.849	Yes
Technology adaptation	6	0.908	0.606 – 0.832	Yes
Risk management	6	0.925	0.657 – 0.873	Yes
The performance of the import-export company	8	0.841	0.416 – 0.751	Yes

(*Source: author's data*)

3.3. Explore factor analysis (EFA)

The results of the factor analysis method are evaluated through KMO coefficient, loading coefficient, the difference between two or more factors, eigenvalue and total variance explained.

After analyzing Cronbach Alpha, the observed variables of the model continue to be included in the analysis of the exploratory factors EFA according to the Eigenvalue standard greater than 1 and 05 factors are extracted. KMO coefficient = 0.843> 0.5, so all variables are satisfactory. The total variance extracted is 82.552, which means that these 5 extracted factors explain 82.552% of the variation of the data and are satisfactory. With Varimax rotation, the loading coefficients are all greater than 0.5 and meet the conditions of factor analysis. Therefore, these 5 observed variables are accepted and continue to be included in multiple regression analysis to consider the impact level of the independent variable on the dependent variable of the research model.

Name and explain the factor: The observed variables after being handled and removed appropriately, the variables with large loading coefficients in the same factor will be the explanatory variables for that factor and based on the nature of the specific variables that the factor includes will find a new name for the factor, this property is called the discovery property, which is a prominent feature of EFA.

From the KMO and Barlett's test results, we have KMO coefficients of 0.843, greater than 0.5 and sig of 0.000, less than 0.005. Total Variance Explained results show that the total variance extracted is 82.552%, greater than 50% and the Rotated Component Matrix results show that all factor loading factors Factor loading are greater than 0.5. At the same time discover a new factor. Specific results are in (table 3.4)

Table 3.4. Results of explore factor analysis EFA

Concept	KMO	Sig.	Cumulative of Variance	Loading factor
	0.843	0.000	82.552 %	
Cost reduction (CP)				0.705 – 0.947
Quality improvement (CL)				0.701 – 0.860
Technology adaption (CG)				0.655 – 0.879
Risk management (RR)				0.680 – 0.886
Market flexibility (LH)				0.637 – 0.851
Organizational performance (HS)	0.749	0.000	71.768%	0.534 – 0.861

(*Source: author's data*)

The following EFA adjusted research model is:

Organizational Performance = Function (Cost Reduction, Quality Improvement, Technology adaption, Risk Management, Market Flexibility).

Test assumptions of the linear regression model

In order for the results of the analysis to have broad implications from the sample to the whole, the study continues to perform the step of testing the assumptions of the regression model. To perform the linear regression analysis step, the model must ensure that there is no multicollinearity phenomenon, because "multicollinearity makes our assessment of the impact of each independent variable on the dependent variable into deviation"(Hoang & Chu, 2008).

Table 3.5. Multicollinearity test

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.116	.294		10.597	.000		
	CG	.093	.061	.131	1.530	.000	.482	1.075
	CP	.053	.541	.732	.988	.000	.635	1.574
	CL	.048	.682	.623	.705	.002	.452	1.214
	RR	.289	.054	.412	5.358	.000	.594	1.683
	LH	.003	.061	.104	.054	.003	.518	1.929

a. Dependent Variable: HS

(*Source: author's data*)

Verification of no multicollinearity phenomenon identified by VIF magnification of factors 1.929 (<2) meets the requirements. It can be concluded that no multicollinearity has occurred.

c. Multiple regression analysis

Regression analysis was performed with 05 independent variables, including the variables: Cost reduction, Quality improvement, Risk management, Technology adaption, Market flexibility and one dependent variable, Organization Performance. The Enter method is used to analyze this relationship. Variables with significance level <0.05 are selected.

Table 3.6. The summary model using the Enter method

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson

1	.764[a]	.733	.715	.67183	1.846

a. Predictors: (Constant), LH, RR, CP, CG, CL

b. Dependent Variable: HS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	5.224	5	1.045	27.558	.000[b]
1	Residual	34.149	247	.138		
	Total	39.373	252			

a. Dependent Variable: HS

b. Predictors: (Constant), LH, RR, CP, CG, CL

(*Source: author's data*)

From the results we see that the Adjusted R Square = .715 means that about 71.5% of the organizational performance variance is explained by the independent variables, the rest is due to factors outside the model and random error. The Sig value of the F-test is 0.000 <0.05. Thus, the built-in linear regression model can be broadly extrapolated and applied to the whole.

So the standardized linear regression equation is as follows: Organization Performance from outsourcing logistics services = 0.732 (Cost reduction) + 0.623 (Quality improvement) + 0.131 (Technology adaption) + 0.412 (Risk management) + 0.104 (Market flexibility)

4. Discussion and Conclusions

4.1. Summarize and discuss key findings

4.1.1. The effect of cost reduction on the organization's performance

The first hypothesis - specifically that cost reduction through logistics outsourcing positively affects the organization's performance in the import and export industry - is confirmed by the coefficient of statistical significance (0.732). This finding is consistent with research by (Lysons and Farrington, 2006; Smith and McKeen, 2004). The management effects are logistics outsourcing that leads to cost reduction through the elimination of ineffective assets; reducing investment in assets and redirecting internal resources into company core operations; and the availability of more funds for other projects, thus leading to increased organizational performance.

4.1.2. The impact of quality improvement on the organization's performance

For the second hypothesis - the hypothesis that quality improvement due to logistics outsourcing positively affects the organization's performance in the import-export industry has been confirmed by the coefficient of statistical significance (0.623). This is consistent with research by (Ren et al., 2010; Han et al., 2008). This implies that for the import-export industry, the achieved organizational performance is proportional to the level of logistics quality.

4.1.3. Effect of technology adaption on an organization's performance

In addition, for the third hypothesis, namely, there is a positive relationship between the application of technology obtained from logistics outsourcing and the organization's performance in the import-export industry, small statistical significance (0.131) was found by regression analysis, consistent with the study of (Moeen et al., 2013; Holcomb & Hitt, 2007). This means that for the import-export industry, the organization's performance is proportional to the adaption of new technology by the organization, but the level of impact is limited.

4.1.4. The effects of risk management on the performance of the organization

Relating to the fourth hypothesis - effective management of logistics outsourcing risk is likely to positively affect the performance of an organization in the import and export industry - the statistical relationship is found by regression analysis (0.412). This is consistent with research by (Irina et al., 2012; Wayman, 2013). In addition, here, the regulatory implication is that for the import and export industry, the performance achieved by the organization depends on whether risk management practices are enhanced.

The study also discovered a new factor that is market flexibility, although the statistical significance is still modest (0.14).

This study has contributed to additional studies on logistics management. While the findings point to a positive statistical significance for logistics outsourcing operations, as well as for organizational performance, there is room for improvement. Adequate evidence from research suggests that import-export firms should implement appropriate logistics outsourcing to improve their organization's performance in the import-export sector in Ho Chi Minh City. These aspects are measurable and therefore manageable.

4.2. Conclusion

The import and export sector needs effective logistics mechanisms and requires careful management to achieve the organization's operational effectiveness. The core business of an import-export company is international business, although they still need to purchase raw materials, manage inventory, clear customs and transport goods. All of these activities are not core activities and should be outsourced so that import and export companies can focus on their core function of international business.

With the findings of the study showing the positive effect of outsourcing logistics on the organization's operations, steps that can be taken immediately to address the current situation may include but are not limited are: strategic planning of all stages and aspects of logistics management; ensuring that key personnel are trained in logistics management, in contemporary logistics management concepts and principles; objectively measuring logistics management performance and ensure that there is an appropriate outsourcing plan to effectively support the implementation of logistics management policy.

5. References

1. Alexander, M., and Young, D. (1996). Outsourcing: Where's the Value? *Long Range Planning*, 29(5), 728-730.

2. Anderson, J.C., Narus, J.A. (1990). A model of distributor firm and manufacturer firm working partnerships. *An International Journal Mark*, 54(1), 42-58.

3. Bhattacharya, A., Singh, P.J., and Bhakoo, V. (2013). Re-visiting the outsourcing debate: two sides of the same story. *Production Planning & Control*, 24(4-5), 399-422.

4. Bustinza, O., Arias-Aranda, D., and Gutierrez-Gutierrez, L. (2010). Outsourcing, competitive capabilities and performance: an empirical study in service firms. *International Journal of Production Economics*, 126(2), 276-288.

5. Calantone, R.J., Cavusgil, S.T., Zhao, Y. (2002). Learning Orientation, Firm Innovation Capability, and Firm Performance. *Industrial Marketing Management*, 31(6), 515-524.

6. Cocca, P., and Alberti, M. (2010). A framework to assess performance measurement system in Firms. *International Journal of Productivity and Performance Management*, 59(2), 186-200.

7. Field, L. (2011). Exploring the political underbelly of organizational learning – learning during pay and performance management change. *The Learning Organization*, 18(4), 272-287.

8. García- Morales, V.J., Lloréns- Montes, F.J., and Verdú- Jover, A.J. (2008). The effects of transformational leadership on organizational performance through knowledge and innovation. *British journal of management*, 19(4) 299-319.

9. Han, H.S., Lee, J.N., Seo, Y.W. (2008). Analysing the impact of a firm's capability on outsourcing success: a process perspective. *Information & Management*, 45(1), 31-42.

10. Hair et al, (2010), "*Multivariate data analysis*", 7th edition, p. 574

11. Hoàng, T. & Chu, N. M. N. (2008), *Thống kê ứng dụng trong kinh tế - xã hội*.

Hà Nội: NXB Thống kê

12. Holcomb, T.R., Hitt, M.A. (2007). Towards a model of strategic outsourcing. Journal of Operations Management, 25(2), 464-481.

13. Hsu, C. C., & Pereira, A. (2008). Internationalization and performance: The moderating effects of organizational learning. *Omega*, 36(2), 188-205. Irina, S., Liviu, I., & Ioana, M. (2012). A study on the benefits and the risks of outsourcing logistics in the Romanian industry. T*he Annals of the University of Oradea*, 21(1), 1066-1071.

14. Kakabadse, A., and Kakabadse, N. (2002). Trends in Outsourcing: Contrasting USA and Europe. *European management journal*, 20(2), 189-198.

15. Kok, W.K., and Richardson, S. (2003). Business process re-engineering in Malaysian banks and finance companies. *Managing Service Quality*, 13(1), 54-71.

16. Kremic, T., and Tukel, O.I. (2003). *Assisting public organizations in their outsourcing endeavours: a decision support mode*. Working paper. Cleveland State University, Cleveland.

17. Kroes, J.R., and Ghosh, S. (2010). Outsourcing congruence with competitive priorities: Impact on supply chain and firm performance. *Journal of Operations Management*, 28(2), 124-143.

18. Leavy, B. (2004). Outsourcing strategies: opportunities and risks. *Strategy & Leadership*, 32(6), 20-25.

19. Lee, J.N., and Kim, Y.J. (1999). Effect of partnership quality and Information System outsourcing success: conceptual framework and empirical validation. *Journal of Management Information System*, 15(4), 29-61.

20. Liao, S.-H., and Wu, C.-c. (2010). System perspective of knowledge management, organizational learning, and organizational innovation. *Expert Systems with Applications*, 37(2), 1096-1103.

21. Lonsdale C.M, & Cox, A.L. (2000). The historical development of outsourcing: The latest fad? *Industrial management & Data systems Journal*, 100(1), 444-450.

22. Lungescu, C. D., Pampa, V., & Salanta, I. I. (2011). Outsourcing: the benefits and the risks. *Managerial Challenges of the Contemporary Society*, (2), 270-273.

23. Lysons, K., and Farrington, B. (2006). *Purchasing and Supply Chain Management*. Harlow: Pearson Education.

24. Moeen, M., Somaya, D., and Mahoney, J.T. (2013). Supply portfolio concentration in outsourced knowledge-based services. *Organization Science*, 24(1), 262- 279.

25. Jenatabadi, H. (2015). *An Overview of Organizational Performance Index: Definitions and Measurements*. [Online], [Accessed 11 September 2018]. https://papers.ssrn.com/sol3/ papers.cfm?abstract_id=2599439.

26. Njuguna, S. (2010). *A survey of determinants of growth of business process outsourcing in Kenya*. MBA project. University of Nairobi School of business: Nairobi.

27. Nzitunga, J.B. (2015). Strategic Development for Man-ufacturing Small & Medium Enterprises (SMEs) in Namibia. *Scientific & Academic Publishing*, 5(4), 117-131.

28. Pavlov, A., and Bournce, M. (2011). Explaining the effects of performance measurement on performance – an organizational routines perspective. *International Journal of Operations and Production Management*, 31(1), 101-122.

29. Quélin, B., and Duhamel, F. (2003). Bringing together strategic outsourcing and corporate strategy: Outsourcing motives and risks. *European management journal*, 21(5), 647-661. Smith, H., and Mckeen, J. (2004). Development in practice XIV: IT sourcing-how far can you go? *Communications of the Association for Information Systems*, 14(1), 508-520.

30. Ren, S., Ngai, E., Cho, V. (2010). Examining the determinants of outsourcing partnerships quality in Chinese small and medium-sized enterprises. *International Journal of Production Resources*, 48(2), 453-475.

31. Rhee, J., Park, T., and Lee, D. H. (2010). Drivers of innovativeness and performance for innovative Firms in South Korea: mediation of learning orientation. *Technovation*, 30(10), 65-75.

32. Wayman, M. (2013). Curbing outsourcing risks. *Internal Auditor*, 2(1), 41-44.

33. Weele, A. J. (2010). *Purchasing and Supply Chain Management: Analysis, Strategy, Planning and Practice*. Hampshire: Cengage learning EMEA.

34. Jean Bosco Nzitunga, Assessing the Influence of Logistics Outsourcing Practices on Organizational Performance in the Mining Industry, *Journal of Logistics Management* 2019, 8(1): 14-24 DOI: 10.5923/j.logistics.20190801.02

35. Joyclare Khakasa Wabuge, Dr. Anthony Osoro, Factors Affecting Organizations' Logistic Outsourcing In The Supply Chain Management In Kenya: A Case Of Kenya Seed Company Limited, *International Journal of Scientific and Research Publications*, Volume 10, Issue 2, February 2020 255 ISSN 2250-3153, p. 255-271. DOI: 10.29322/IJSRP.10.02.2020.p9836 http://dx.doi.org/10.29322/IJSRP.10.02.2020.p9836

FORECAST CONTAINER THROUGHPUT VOLUMES OF SEA PORT CLUSTER NUMBER FIVE BY ARIMA MODEL

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Abstract

This study applies ARIMA model in forecasting the number of containers through seaport cluster No. 5 according to Decision No. 1745 / QD-BGTVT dated August 3, 2011. Data were collected from the Vietnam Maritime Administration, the Vietnam Port Association (VPA) for the period 1995-2020 and processed using the software "R". The results show that ARIMA model (0.2.1) is suitable for forecasting container throughput of seaport cluster No. 5 in the period of 2021-2025 with an average forecast of 6.77% corresponding 946,716 TEUs. With this result, policymakers and businesses will help to formulate policies, plans as well as to plan properly and reasonably.

Keywords: *Forecast, TEU, ARIMA, Container, Throughput.*

1. Introduction

According to the planning of development of Vietnam's seaport system up to 2020, orientation to 2030 and the detailed plan approved in Decision No. 1745 / QD-BGTVT dated August 3, 2011, the seaport cluster number 5 is the inter-port system between Ho Chi Minh City (Ho Chi Minh City), Dong Nai and Ba Ria - Vung Tau, including the entire system of ports in Ho Chi Minh City on the Saigon River, Nha Be River. and the deep-water port Cai Mep - Thi Vai in Ba Ria - Vung Tau. This port cluster system plays an important role not only for transportation but also for the development of the southern key economic region, which contributes more than 40% of the country's GDP and attracts more than 50% FDI of Việt Nam[1]. Therefore, forecasting container throughput volumes seaport cluster No. 5 is a very important activity for the government, seaport operators, FDI investors, and import-export enterprises in the region in establishing planning, planning policy, operation management. The more accurate the forecast results, the more feasible the policy making as well as the plan are. The port container throughput projections are often used directly in container port operations and often use a TEU (Twenty Equipvalent Unit) of one TEU equivalent to one 20 feet container. This forecast also relates to the purchase of additional machinery, equipment, supplies, and worker placement and placement. Moreover, unlike

[1] http://www.baodongnai.com.vn/kinhte/201905/vung-kinh-te-trong-diem-phia-nam-vai-tro-dan-dat-trong-phat-trien-2944651/

other manufacturing industries, the container terminal industry cannot increase the capacity and size of the container terminal and yard to meet changing needs but must rely on strategies such as inventory management. warehouse, outsourcing, overtime. Therefore, forecasts are necessary for control and planning of the container port system as well as for the port operator in decision-making and planning. In this study, the authors use the univariate forecasting method, in which the future value time series is assumed based only on past values to predict the future container throughput of ports. hybrid. Historical data is analyzed to identify models and build future forecasting models. And ARIMA model is the model selected on the "R" treatment tool to forecast container throughput of port cluster No. 5 in the next 5 years. Research data were collected from the Vietnam Maritime Administration and the Vietnam Port Association (VPA) for the period 1995-2020.

Table 1: Statistics of TEUs throughput of port cluster No. 5 for the period 1995-2020

Unit: TEU

1995	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
80,101	18,377	526,446	413,663	686,900	649,068	684,578
2002	2003	2004	2005	2006	2007	2008
380,492	1,037,443	1,308,840	1,525,316	1,850,052	3,036,453	3,388,037
2009	2010	2011	2012	2013	2014	2015
3,388,037	3,003,803	4,250,974	4,491,350	5,886,428	6,953,892	7,689,640
2016	2017	2018	2019	2020		
7,876,100	8,594,634	9,537,225	11,273,997	12,221,725		

Source: Vietnam Maritime Administration; VPA, 2020

2. Literature Review and Research Model

There are many models used to forecast container throughput of ports, the most common being a regression model to identify and measure causality of variables such as the research of T.C. Guo (1993) or H.D.Liu. et al. (1996). It is necessary to consider the estimated error caused by the factors of predictive uncertainty, so some studies find it is necessary to adjust the forecast using alternative techniques. As a study by J.G. Gooijer et al. (1989) used diverse time series models to define the navigational steel traffic flow at the port of Antwerp. Meanwhile W.H.K. Lam (2004) proposes a No-Ron (NN) network model to forecast cargo traffic through Hong Kong ports. And, C.C.Chou (2004) used classified integral representation method, a new method to calculate the opacity to predict the total volume of import and export containers for Taiwan ports and found that the forecast results. better than seasonal forecast (SARIMA). In addition to individual models, some authors have used combined models to predict container throughput through ports such as studies by Shih-Huang Chen et al. (2010) using genetic programming. (GP), analytical method (X-11) and moving average integrated with automatic seasonal regression (SARIMA) to forecast container throughput through major Taiwan ports or such as Gang Xie et al. (2012) used the least squares-based approaches to support vector regression (LS SVR) model to forecast the container throughput at the proposed ports and the results show the resulting. The proposed combination can achieve better predictive performance than the individual approaches. According to Mingfei Niu et al (2017), this group of authors built a synthetic model to combine many models such as VMD-ARIMA-HGWO-SVR for prediction for the purpose of improving stability and accuracy. of container throughput through Chinese ports. In summary, the above forecasting models have their own advantages and disadvantages and depend on statistical data. Meanwhile, according to Robert et al., (1979), the ARIMA model is very suitable for linear relationships between present data and past data. Moreover, Brockwell et al., (2001) also suggested that the ARIMA model will forecast more accurately when the data are detailed in the year.

3. Methods

Box & Jenkins (1970) first introduced the Autoregressive Integrated Moving Average (ARIMA) model in time series analysis, known as the Box-Jenkins method. The ARIMA model is combined by 3 main components: AR (Self-Regression Component), I (Stationary Calculation of Time Series) and MA (Moving Average Component). According to Gujarati (2006) as well as R. Carter Hill et al., (2011) to use the ARIMA model in time series prediction, it must go through 4 steps.

Step 1: Identify the model

To use ARIMA model (p, d, q) in prediction, it is necessary to identify three components p, d and q of the model. The component d of the model is identified through the time series stationary test. If the time series stops at order 0 we denote I (d = 0), if the first difference of the stop sequence we denote I (d = 1), if the second difference of the stop series we denote I (d = 2). To test chain stop using the modified Dickey – Fuller unit root test (ADF) and Phillips-Perron test (D. Dickey and W. Fuller, 1979): $\Delta Yt = \beta 0 + \beta 1t + \pi Yt-1 + \sum_{j=1}^{t} \Delta Yt - 1 + \varepsilon$. Test hypothesis H0 with $\pi = 0$, H1 with $\pi < 0$ and use student statistics (symbol t). After the stationary test, we will determine the order of the self-regression process (AR) and the moving average process (MA) through the autocorrelation chart (ACF) and partial correlation chart (PACF). According to G. Box and Jenkin (1970), the p-order regression procedure, symbol AR (p) is: $(Yt - \delta) = \alpha 1(Yt-1 - \delta) + \alpha 2(Yt-2 - \delta) + \cdots + \alpha p (Yt-p- \delta) + ut$.

Where: Yt is the time series, δ is the expectation of the series Yt, ut is the white noise. According to D. N. Gujarati and D. C. Porter (2009), the q-order moving average procedure, denoted MA (q) is: $Yt = \mu + \beta 0ut + \beta 1ut-1 + \beta 2ut-2 + \cdots + \beta qut-q$. Combining we have ARIMA model (p, q) as follows:

$$Yt = \Theta + \alpha 1Yt-1 + \alpha 2Yt-2 + \cdots + \alpha pYt-p + \beta 0ut + \beta 1ut-1 + \beta 2ut-2 + \cdots + \beta qut-q.$$

Identification of the ARIMA model (p, d, q) is to find suitable values of p, d, q, where d is the degree of difference of the time series to be investigated, p is the order of self-regression and q is the order moving average. Determining p and q will depend on the graphs PACF = f (t) and ACF = f (t).

Step 2: Estimating the parameters and selecting the model.

The model parameters will be estimated using the "R" tool. The process of model selection is the process of experimenting and comparing adjusted criteria R^2, AIC and Schwarz until we choose the best model for prediction.

Step 3: Test the model

To ensure the model is suitable, the error of the model must be white noise, you can use the ACF correlation chart or Breusch-Godfrey test to check the autocorrelation of the error. For variable variance, either the White or ARCH test can be used. Besides, to evaluate the reliability of the predictive model, the study uses MAPE index (Mean Absolute Percent Error). According to C. Lewis (1983), the MAPE greater than or equal to 50%, the forecast is incorrect, 20% - 50% is valid, 10% -20% is a good forecast, and less than 10% is a perfect forecast. The MAPE index is defined as follows:

$$\text{MAPE} = \frac{100}{n} x \sum_{i=2}^{n} \left|\frac{xt-\mu t}{xt}\right|$$

In which "xt" is the true value and "µt" is the forecast value at time t, n is the total number of predictions.

Step 4: Forecast

After testing the error of the forecasting models, if appropriate, it will be used in the forecasting.

4. Results

4.1. Building ARIMA model

To build the ARIMA model, we must first test the solitude of the chain of container throughput through the port. Dickey-Fuller (ADF) and Phillips-Perron (PP) test results show that / t-stat / are both less than the critical value. Therefore, it is concluded that the chain of container throughput through the port does not stop. Shown in figure 1

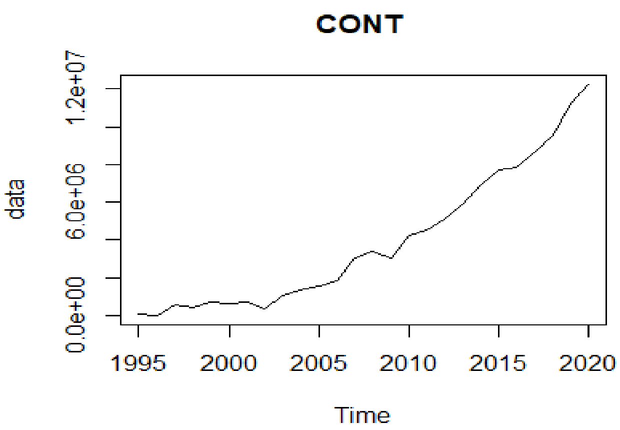

Figure 1: Zero difference graph

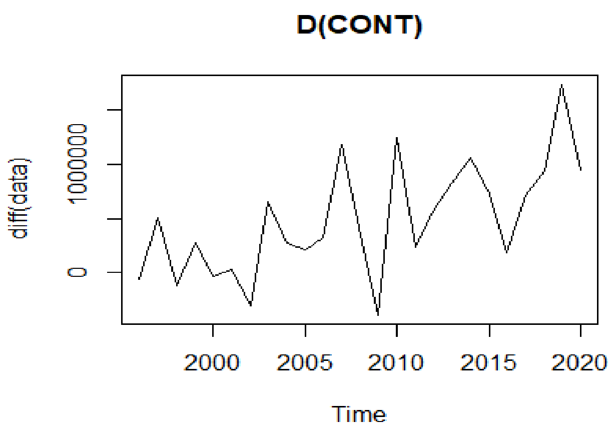

Figure 2: Graph of difference of order 1

…ain through the port does not stop at the zero difference, the first difference must be taken to test the stopping and the result of the chain still does not stop shown in Figure 2. Continuing to take the second difference, the production chain. The volume of containers through the stopped port is shown in Figure 3. Results of the ADF and PP tests are shown in Table 2 after the chain has stopped. And the stationary test results show Table 2 with graph ACF in figure 4 and PACF in figure 5, showing the chain stopped and significant P <0.05, which means that it is reliable to predict.

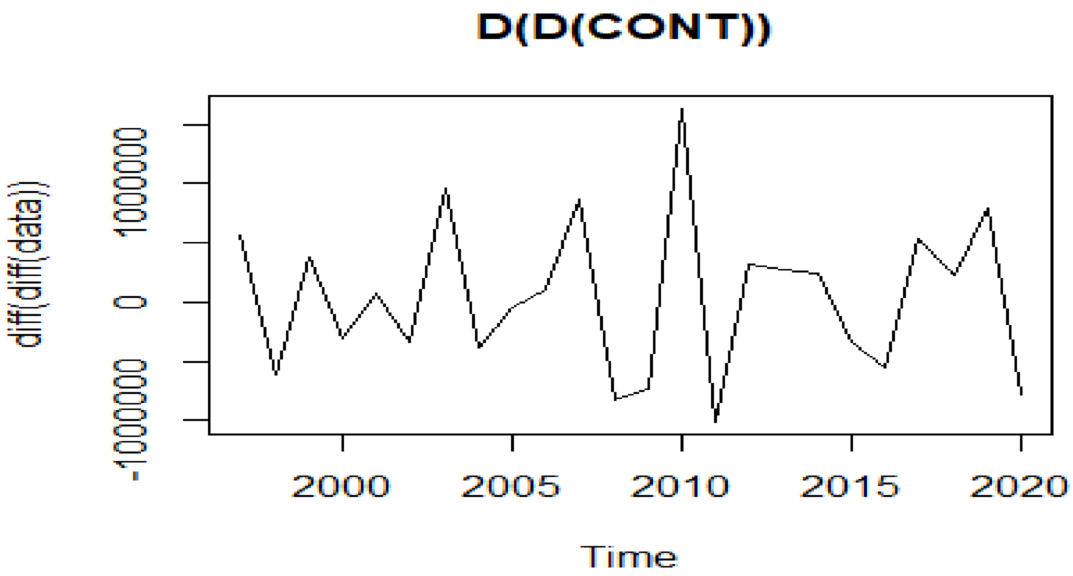

Figure 3: Graph of difference of order 2

Table 2: Stability TEST results

Variale	**Value ADF**	**P-value**
CONT	0.077666	>0.99
D(CONT)	-3.9485	0.02511
D(D(CONT))	-5.4249	<0.01

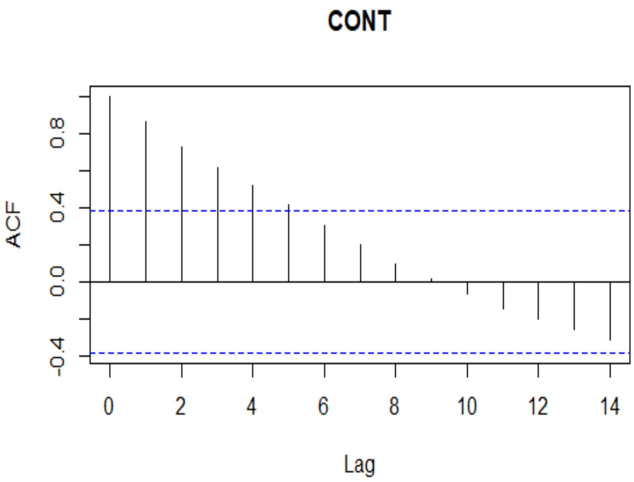

Figure 4: ACF chart

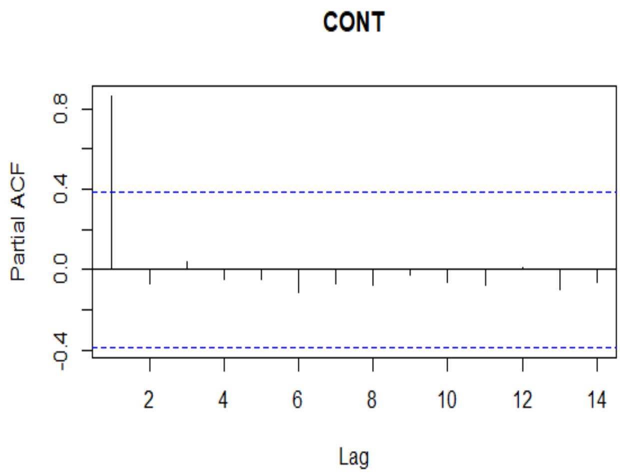

Figure 5: PACF chart

4.2. Estimation of model selection parameters

To find the most suitable prediction model, it is necessary to use empirical methods by comparing adjusted R2, AIC and Schwarz with the smallest AIC. The comparison results show that ARIMA model (0,2,1) is the most suitable model for statistical data set. The results of the models are shown in Table 3.

Table 3. AIC results of some models

Model	AIC
ARIMA (0,2,2)	702.2987
ARIMA (0,2,0)	712.3595
ARIMA (1,2,0)	707.0652
ARIMA (0,2,1)	701.254
ARIMA (1,2,1)	702.7549

4.3. Test the model

To know if the ARIMA model (0,2,1) violates the assumptions of the regression model, it is necessary to do some more tests. The White test shows that the model has no variance and variance. The Breusch-Godfrey test showed that the error had no similar correlation, the Jacque-Bera test showed that the random error had a normal distribution. Moreover, the calculation and comparison of the MAPE index of the models showed that ARIMA (0,2,1) had higher accuracy in terms of both reference data and test data shown in the table 4 and the model error are shown in Table 5

Table 4. Regression results of ARIMA model (0,2,1)

	Estimate	S. E	t.value	p.value	Lag
MA1	-0.754	0.111	-6.81	3.85e-07	1

n = 26; 'sigma' = 483936.9; AIC = 701.254; SBC = 702.5121

Table 5. Model error

ME	RMSE	MAE	MPE	MAPE	MASE	ACF1
136105.7	464951.5	338816.6	0.7716496	20.78972	0.6075287	-0.2493524

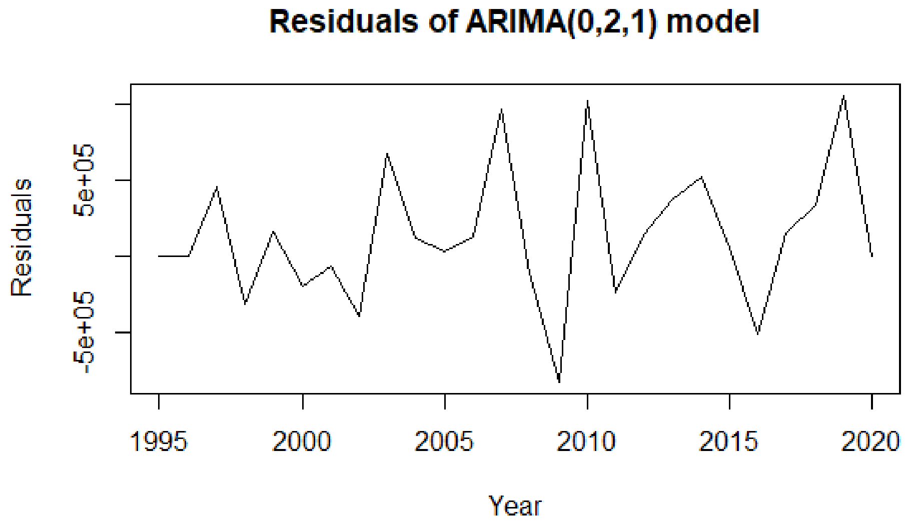

Figure 6: Steady test chart of residuals

Continuing to test the residue of the residue in the ARIMA model (0,2,1), we see that H0, the residual of the model is not stationary and the remainder of the model has no correlation phenomenon. It can be concluded that the statistics are sufficiently reliable for the forecast. Results are shown in figure 6; Table 6; figure 7 and table 7

Table 6. Results of the stationary residue test of the model

Type	Lag	ADF	P-value
no drift no trend	0	-5.63	<=0.01
	1	-3.93	<=0.01
	2	-2.62	0.0112
with drift no trend	0	-6.19	<=0.01
	1	-4.83	<=0.01
	2	-3.59	0.0158
with drift and trend	0	-6.36	<=0.01
	1	-5.13	<=0.01
	2	-4.20	0.0163

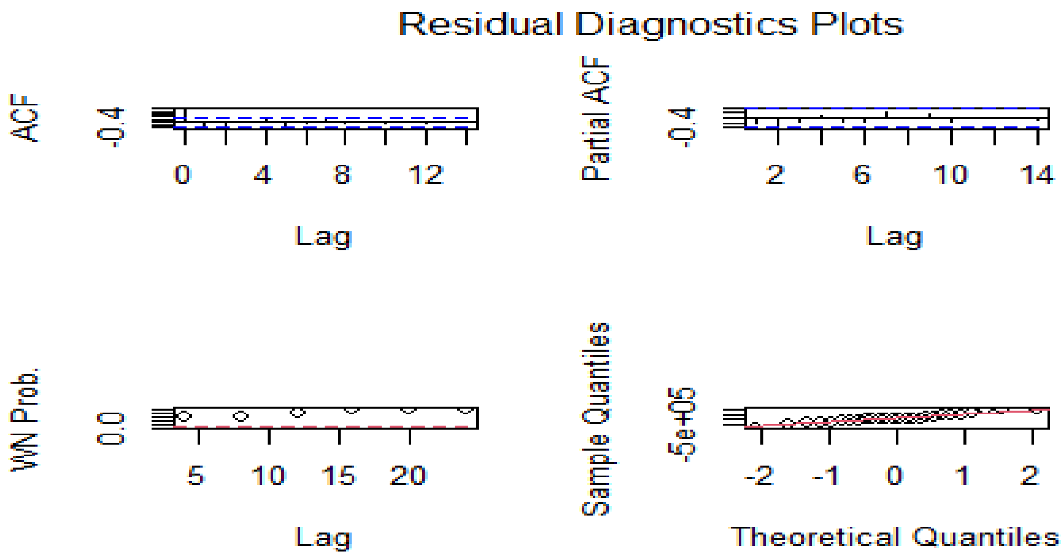

Figure 7: ACF and PACF diagram of remainder

Table 7. Test of similar correlation

Lag	LB	p.value
4	3.17	0.530
8	6.99	0.538
12	7.98	0.787
16	8.28	0.940
20	8.78	0.985
24	9.00	0.998

Continuing to test the ARCH effect to test the variance of variance, the test results show that H0: The variance of the model is unchanged, which means that the data is statistically significant. The ARCH effect test is shown in Figure 8 and Table 8 shows the results of testing the variance of error

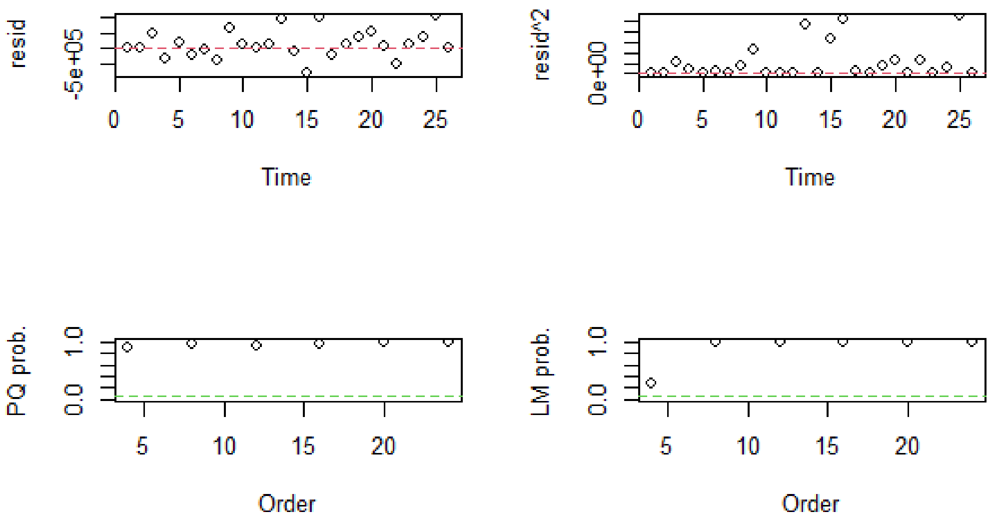

Figure 8. Testing the ARCH effect

Table 8. Results of testing variance of variation

order	PQ	p.value	LM	p.value
4	1.049	0.902	3.789	0.285
8	2.763	0.948	0.482	1.000
12	5.695	0.931	-0.001	1
16	7.098	0.971	0.148	1
20	7.167	0.996	0.245	1
24	7.352	1.000	0.385	1

4.4. Forecast

From the test results, we have the forecast results of the container throughput through the port cluster No. 5 to 2025 are shown in Table 9 and Figure 9.

Table 9. Forecast of container throughput through port cluster No. 5 from 2021-2025

Unit: TEU

	Point Forecast	Low 95%	High 95%
2021	13,168,441	12,199,542	14,137,340
2022	14,115,157	12,566,832	15,663,482
2023	15,061,873	12,942,984	17,180,762
2024	16,008,589	13,301,200	18,715,978
2025	16,955,305	13,633,835	20,276,775

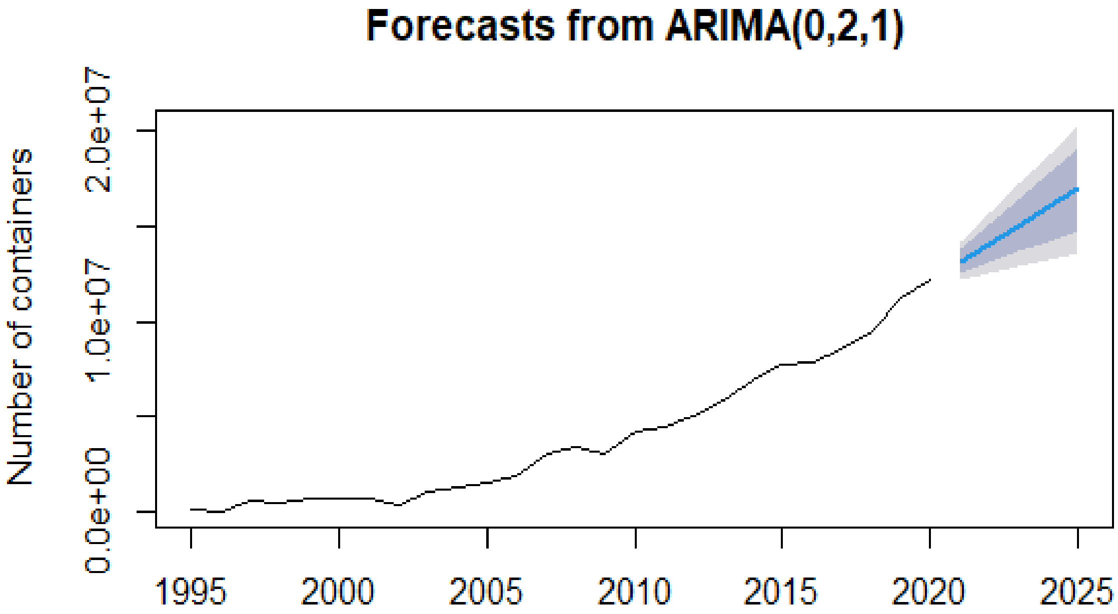

Figure 9: Forecast chart of container throughput through port cluster No. 5 in the period of 2021-2025

The forecast results in Table 9 show that the container throughput through the port cluster No. 5 is forecast to increase on average annually in the period 2021 - 2025 of 6.77% or 946,716 TEUs. In which, the lowest increase volume with reliability p> 0.05% is 2.22%, equivalent to 367,290 TEUs and the volume of containers through the port cluster No. 5 with reliability P <0.05% is 10.69%, corresponding to the level of output of 1,526,142 TEUs.

5. Discussion and Conclusion

Thus, the application of forecast results helps policy makers to deal with the increase in container throughput through the port cluster No. 5 in the future. The government should have solutions to develop infrastructure, connect logistics networks to avoid traffic congestion, which is inherently traffic and the gateway to ports located in this port cluster area 5 have been and are congested as well. serious degradation. For businesses doing business in port operations, they should have strategies to develop and expand ports as well as build and link more satellite systems or have plans to purchase handling equipment to improve their competitiveness. competition as well as efficient port operation. As for import-export production and business enterprises or FDI enterprises, there are plans to choose a cluster of import and export ports to avoid congestion, overload at this port cluster, which will incur a lot of logistics costs. business results.

Research and application of ARIMA model to forecast container throughput of port cluster No. 5 with the aim of finding the best forecasting model for forecasting container throughput of ports in Vietnam. Research results show that, ARIMA model (0,2,1) shows good forecast of container throughput through port and ARIMA model application has been done in a number of studies around the world. However, this study has not compared the forecast results with some other models, these limitations will be addressed in the next study.

5. References

1. C.C. Chou (2004). A study on forecasting the container volume of international ports in Taiwan area. Ph.D. Dissertation, Department of Shipping and Transportation Management, National Taiwan Ocean University.
2. C. Lewis (1983). Industrial and business forecasting methods. *Journal of Forecasting*, vol. 2, pp. 194-196.
3. D. N. Gujarati and D. C. Porter (2009). Basic Econometrics, 5 ed., vol. 5, Canada: Mc GrawHill, pp. 777-784.
4. D. Dickey and W. Fuller (1979). Distribution of the Estimators for Autoregressive Time Series with a Unit Root. *Journal of the American Statistical Association*, vol. 74, pp. 427-431.
5. G. Box and Jenkin (1970). Time Series Analysis, Forecasting and Control, 4 ed., San Francisco: Holden-Day, 1970, pp. 234-239.
6. Gang Xie, Shouyang Wang, Yingxue Zhao, Kin Keung Lai (2012). Hybrid approaches based on LSSVR model for container throughput forecasting: A comparative study. *Applied Soft Computing*, Volume 13, Issue 5, May 2013, Pages 2232-2241
7. H.D. Liu, H.H. Chang (1996). The study on the model for forecasting the port volume. Chinese Technology 17, 89–97.
8. J.G.de Gooijer, A. Klein (1989). Forecasting the Antwerp maritime steel traffic flow: A case study. *Journal of Forecasting* 8, 381–398.
9. Mingfei Niu, Yueyong, Shaolong Sun, Yu Liu (2017). A novel hybrid decomposition-ensemble model based on VMD and HGWO for container throughput forecasting. Applied Mathematical Modelling, Volume 57, May 2018, Pages 163-178
10. P. J. Brockwell and R. A. Davis (2001), Introduction to Time Series and Forecasting, 2rd ed., New York: Springer Link, pp. 180-196.
11. R. B. MILLER and J. C. HICKMAN (1973). Time series analysis and forecasting. *Transaction of society of actuaries*, vol. 25, no. 1, pp. 267-329.
12. R. Hill, W. E. Griffiths and G. C. Lim (2011). Principles of Econometrics, 4 ed., New Jersey: John Wiley & Sons, Inc., pp. 512-517
13. Shih-Huang Chen & Jun-Nan Chen (2010). Forecasting container throughputs at ports using genetic programming. *Expert Systems with Applications*, volume 37, Issue 3, 15 March 2010, Pages 2054-2058.

14. T.C. Guo (1993). The analysis for thec argo volume and capacity of KeelungPort. The study on the integration development and deepen for the ports in Taiwan area-The development plan for KeelungPort. The Institute of Transportation, Ministry of Transportation and Communications.

15. W.H.K. Lam, P.L.P. Ng, W. Seabrooke, E.C.M. Hui (2004). Forecasts and reliability analysis of port cargo throughput in HongKong. Journal of Urban Planning and Development 130(3), 133–144.

POLICY INTEGRATION IN THE CONTEXT OF GLOBALIZATION: AN OVERVIEW APPROACH

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Abstract

International integration is an inevitable process, due to the social nature of labor and the relationship between people. Individuals who want to survive and thrive must have relationships and links that form the community. Many communities are linked to each other to form society and national-ethnic groups. Countries are linked together to form larger international bodies and form the world system. The development of each country and ethnicity depends directly on the policies and strategies chosen by its leadership. Starting from the objective trend of globalization, policy integration is a relatively new concept, especially in the context of Vietnam's deeper integration into the world. This article introduces the conceptual approach to policy integration from a theoretical perspective. Hopefully this is an important data, helping policymakers identify solutions to participate and contribute to the country's international integration process.

Keywords: *Policy, policy integration, globalization*

1. Introduction

Since 1960s, "globalization" has become one of the concepts widely used in contemporary social sciences and at the same time one of the most controversial. Globalization is understood as a phenomenon associated with an increase in the number and intensity of mechanisms, processes and activities that promote increased mutual dependence among countries around the world as well as economic and political integration at the global level. Accordingly, globalization overshadows national borders, narrowing spaces across aspects of the world's economic, political, social and cultural life

There are many ways of analyzing policy in the context of globalization, in which policy association and integration are recognized as of top importance in the policy-making process of each country. The world today faces significant challenges, from persistent poverty and severe inequality along with climate change and environmental sustainability, conflict and inequality. It all hinders a joint effort for people to have the opportunity to develop comprehensively. In that context, policy integration is not indispensable without the element of globalization. Social issues seriously harm human development, such as violent labor, terrorism, migration, human trafficking, etc. are against the desire to make the world a better place

With the effect of promoting human development while eliminating the negative side effects, policy integration will expand the opportunities of the current generation but not reduce the opportunities of future generations. Policy integration requires that countries' strategies be agreed and planned in creating job opportunities, ensuring human welfare, and building action towards sustainable development. However, shortly after the G 20-2017 summit took place in Germany. The joint statement demonstrates the views of the group of 20 major economies on various world issues, including financial transparency, food security, cooperation in solving the migrant crisis and fighting terrorism... This reflects on the ongoing challenges facing the world brought about by globalization. In fact, it makes it even more difficult to integrate policy.

Many of today's most pressing societal challenges including terrorism, food security, climate change, involuntary migration, or underemployment (WEF 2015) are crosscutting the boundaries of established jurisdictions, governance levels, and policy domains. While it is recognized that these problems require some level of policy integration, severe integration challenges to policymakers and their institutional surroundings continue to exist (Briassoulis 2004; Geerlings and Stead 2003; Hovik and Hanssen 2015; Jochim and May 2010; Jordan and Schout 2006; Kettl 2006; Tosun and Lang 2013). Examples in the literature are abundant, including the problems of compartmentalization, fragmentation, competing and incoherent objectives, policy under- and overreaction, competing issue-attention, and inconsistent instrument mixes. These integration challenges emerge particularly when complex societal issues are confronted with traditional forms of subsystem policymaking within hierarchic governance systems (Jochim and May 2010; May et al. 2006). In these governance systems (sub-)sectoral policy is made by relatively stable actor configurations, each of which is characterized by specific sets of associated interests, belief systems, and problem perceptions (Baumgartner and Jones 2009; Sabatier and Jenkins-Smith 1993). Differences between subsystems generally do not allow for the coherent or holistic approaches that are needed to satisfactorily deal with problems of a cross-cutting nature (Jochim and May 2010). Rhodes (1991: 212) therefore aptly characterized the governance of these 'cross-cutting problems' through sectoral subsystems as resulting in 'policy messes.' What makes the governance of cross-cutting problems even more messy is that many are 'wicked'; in addition to cross-scale dynamics, these problems involve high degrees of ambiguity, controversy, uncertainty, and deadlocked interaction patterns (Rittel and Webber 1973; Termeer et al. 2015).

To overcome these integration challenges, governments and international organizations have introduced various initiatives to stimulate cross-sectoral policy integration between subsystems. Many of these initiatives, such as joined-up-government and whole-of-government, were developed as an answer to New Public Management (NPM) principles that had further worsened governance systems' abilities to deal holistically with cross-cutting policy problems (Christensen and Lægreid 2007; Halligan et al. 2011). Various scholars argue that it is somewhat surprising that this range of governance initiatives has not yet led to a general theory of policy integration in the political sciences (Geerlings and Stead 2003; Lafferty and Hovden 2003; Tosun and Lang 2013). Instead, the governance of cross-cutting policy problems has been studied through a plethora of approaches and schools of thought, all of which have distinct backgrounds and foci but also share considerable overlap (for overviews, see: Geerlings and Stead 2003; Tosun and Lang 2013).

This article tries to approach the concepts, theories and views of policy integration while reviewing and comparing the policy integration of scholars from an overview of foreign documents. With the aim of contributing to improving understanding of the term policy integration - an important tool for Governments to participate in the planning process and specially to coordinate policy in the face of the current trend of globalization

2. Method

Our aim in this paper is to theorize and bring some conceptual convergence in the debate on policy integration for the governance of cross-cutting policy problems. The concept of 'policy integration' was first used by Arild Underdal (1980) in the context of integrated marine policy. He argues that an 'integrated policy' is one in which the 'constituent elements are brought together and made subject to a single, unifying conception' (ibid.: 159). After his publication, the notion has primarily been used in the context of sustainable development, where it is referred to as Environmental Policy Integration (EPI) (e.g., Jordan and Lenschow 2010; Lafferty and Hovden 2003; Runhaar et al. 2014), and, more recently, as Climate Policy Integration (CPI) (e.g., Adelle and Russel 2013; Dupont and Oberthür 2012; Nilsson and Nilsson 2005). The principle of policy integration, however, remains the same: The objective of EPI is to incorporate, and, arguably, to prioritize, environmental concerns in non-environmental policy domains,Footnote1 with the purpose of enhancing environmental policy outcomes.

Whereas much of the early EPI literature understands the concept as a governing 'principle' or desired policy outcome, more recently scholars have directed their attention toward the ways in, and extents to which, EPI has become adopted within various political systems and policy processes, and the factors that facilitate or hinder this adoption (for an overview of this literature, see: Jordan and Lenschow 2010). These recent studies mark the shift toward a more processual approach to policy integration, i.e., one that proceeds beyond studying whether EPI has been implemented or not toward the dynamics and reasons behind (dis)integration. However, as Adelle and Russel (2013) put it, existing typologies have been mainly used to evaluate progress toward EPI (for example in: EEA 2005; Jordan and Schout 2006; Mickwitz et al. 2009), rather than approaching integration as an inherently dynamic concept in itself (i.e., as a derivative of the verb 'to integrate'). As a result, integration just comes in one flavor: It is a desired state that is reached, or else we do not speak of policy integration at all. In this paper, we aim to reconceptualize policy integration by adopting a processual understanding of integration. The shift from a relatively static (desired) outcome centered approach toward a differentiated processual understanding of integration raises interesting questions about when integration is fully realized, what elements constitute integration processes, and how these may develop over time, inter-alia. To address these questions coherently and to align integration studies with adjacent theories on policy dynamics, we propose a conceptual framework that unpacks the notion of policy integration (Hogan and Howlett 2015). We thereby view policy integration as a multi-dimensional and 'ongoing process' (EEA 2005; Jordan and Schout 2006; Keast et al. 2007). This differentiated view recognizes that policy integration '…potentially has many various aspects which may not always 'move' in parallel or at the same speed' (cf. Bauer and Knill 2012: 31). Through this pursuit, the framework aims to contribute to the advancement of the study of policy integration theory in the context of globalization.

3. Results

Having elaborated the four starting principles of our processual approach to policy integration, we can now define the concept. We define policy integration as an agency-driven process of asynchronous and multi-dimensional policy and institutional change within an existing or newly formed governance system that shapes the system's and its subsystems' ability to address a cross-cutting policy problem in a more or less holistic manner. Tracking such a process in a systematic manner requires a more concrete conceptualization of the various dimensions of integration. The goal of the remainder of the paper is to set out these dimensions.

3.1. Policy frame

The last remark is particularly relevant for the first dimension of policy frame, which has generally been used to refer to competing or dominant problem definitions of societal problems in public policy debates (Baumgartner and Jones 2009; Schön and Rein 1994). Policy frames have hereby been shown to have predictive value regarding public support for and decisions about policy alternatives (Lau and Schlesinger 2005; Roggeband and Verloo 2007). Here, we follow a narrower interpretation of policy frame and concentrate on how a particular problem is perceived within a given governance system. In particular, this dimension is about whether a cross-cutting problem is recognized as such and, if so, to what extent it is thought to be requiring a holistic governance approach (Peters 2005). Importantly, the policy frame here entails the problem definition and governance understanding that is dominant among the governance system's macropolitical venues and decision-makers. This dominant problem definition may deviate from whether and how the problem is perceived in individual policy subsystems ("Subsystem involvement" section). The absence of a policy frame that fosters a common governance approach can pose serious risks. Gieve and Provost (2012) for example show how the lack of awareness and promotion of the need to coordinate between monetary and regulatory policy subsystems resulted in the collapse of the U.S. subprime mortgage market and eventually in the 2007–2009 financial crises.

The more specific policy frame we discern, focusing on the elements of cross-cuttingness and holistic governance, is embedded within a broader frame. The sociopolitical mechanisms that influence the continuity and change of these broader policy frames have been studied extensively and include focusing events, policy entrepreneurship, and interest mobilizations (Baumgartner and Jones 2009; Zahariadis 2007). In addition, the policy frame is informed by the administrative culture of a governance system. Some administrative cultures have hereby been shown to be more open toward integration than others and this differs across countries and issues (Hoppe 2010). For example, Anglo-Saxon countries are more likely to adopt integrative approaches compared to Napoleonic countries (6 2004).

An important methodological side-note is that policy frames are generally not straightforward to observe. The cognitive and normative ideas that constitute frames are sometimes articulated in a foundational document or statement, but they eventually become taken-for-granted elements (Rayner and Howlett 2009) and, as a result, are not easily identifiable (for a discussion of methodologies, see: Verloo 2005).

We distinguish four manifestations of the policy frame in policy integration processes, which are presented in the following Table 1.

Table 1 Manifestations of policy frame

Low amounts of policy integration ⟷ High amounts of policy integration

Policy frame	The problem is defined in narrow terms within the governance system; the cross-cutting nature of the problem is not recognized and the problem is considered to fall within the boundaries of a specific subsystem. Efforts of other subsystems are not understood to be part of the governance of the problem. There is no push for integration	There is awareness that the policy outputs of different subsystems shape policy outcomes as well as an emerging notion of externalities and do-no-harm. The problem is still predominantly perceived of as falling within the boundaries of a particular subsystem. There is no strong push for integration	As a result of increasing awareness of the cross-cutting nature of the problem, an understanding that the governance of the problem should not be restricted to a single domain has emerged as well as associated notions of coordination and coherence	General recognition that the problem is and should not solely be governed by subsystems, but by the governance system as a whole. Subsystems are desired to work according to a shared, 'holistic' approach, which is particularly recognized within procedural instruments that span subsystems

Source: Toward a processual understanding of policy integration.Howlett, M. (2007)

3.2. Subsystem involvement

The second dimension of policy integration is subsystem involvement. This dimension captures the range of actors and institutions involved in the governance of a particular cross-cutting policy problem. The rise of a cross-cutting problem on the political agenda is often followed by an increase in the number of subsystems that are formally or informally involved (cf. Peters and Hogwood 1985). This has been shown to be particularly the case when two or more subsystems share beliefs and functional overlap (Zafonte and Sabatier 1998). Actors within subsystems often play an active entrepreneurial role in involvement by trying to expand their subsystem's jurisdiction over such broad issues (Jones and Strahan 1985). These expansions of jurisdictions are not only relevant from the perspective of who decides what, they also affect the overarching policy frame that was discussed in "Policy frame" section (Baumgartner and Jones 2009).

It is hereby important to note that the exact boundaries of subsystems may be difficult to determine, because they are analytical constructs rather than firm demarcations (Nohrstedt and Weible 2010). However, it is generally possible to identify relatively stable groups of actors and institutions involved in making a specific policy (Koppenjan and Klijn 2004; Sabatier 1988). In addition, it is not necessarily entire subsystems that are raising or addressing an issue. Sometimes, individuals, or groups of actors within a subsystem may draw attention to a particular concern and as such come to function as policy entrepreneurs (Jochim and May 2010). By redefining a problem as a cross-cutting policy problem, these actors may realize the incorporation of the problem within a subsystem, resulting in a broadening of the subsystems involved in the governance of the problem.

The first indicator consists of which subsystems are involved in the governance of the cross-cutting issue. Subsystems are considered to be involved when they explicitly address a particular problem within their policy process—thus when they label policy efforts, i.e., activities involving agenda-setting, preparatory debates, policy design, or internal and external communication, inter-alia, in terms of the problem—regardless from whether these efforts substantially contribute to addressing the problem or not (Dupuis and Biesbroek 2013). The engagement of subsystems is thus determined by the extent to which subsystems consider a particular issue to be of their concern as well as the recognition of the issue's cross-cutting nature and governance implications thereof. A good illustration of how such beliefs within subsystems can change over time is the adoption of fisheries concerns within EU development cooperation policies. For a long time, the potential role of fisheries for improving livelihoods and food security had been overlooked, until some policy entrepreneurs within the development cooperation and fisheries subsystems realized that mutual synergies could be realized (Candel et al. 2015).

Apart from those subsystems that are involved, it is important to account for those that are not yet but could be (Dupuis and Biesbroek 2013; Sabatier 1988). Drimie and Ruysenaar (2010) for example show how the impact of South Africa's Integrated Food Security Strategy remained limited due to the failure to include subsystems other than the agricultural subsystem. As a result, the implementation of the strategy was dominated by agricultural policy efforts, while matters of health, nutrition, access, and social inequality remained largely unaddressed. Involvement of other subsystems could have led to new information, perspectives, and resources (cf. Jack 2005). The indicator can therefore best be assessed through a proximity-to-target measurement, determining how many of the potentially involved subsystems are involved.

The second indicator involves the density of interactions between subsystems in a network configuration. As not all subsystems are involved to the same extent, a distinction can be made between subsystems in which a problem is primarily embedded, and subsystems that are only indirectly involved in a problem's governance (cf. Orton and Weick 1990). For relatively higher amounts of policy integration we would, apart from a larger number of subsystems involved, expect a set of dominant subsystems, i.e., subsystems characterized by high intentionality, that engage in frequent interactions with each other, while maintaining less frequent interactions with a set of less engaged subsystems. A possible manner of measuring these interactions lies in determining how often subsystems, e.g., departments, have the lead in developing policy proposals regarding a particular problem and how often other subsystems have an input through procedural instruments such as impact assessments and inter-departmental taskforces and consultations (for example as in: Hartlapp et al. 2012). Using these two indicators, we distinguish four possible manifestations of subsystem involvement within a policy integration process, ranging from low to high integration, see Table 2.

Table 2 Manifestations of subsystem involvement

	Low amounts of policy integration ⟷			High amounts of policy integration
Subsystems involved	One dominant subsystem, which governs the issue independently Formally, no other subsystems are involved, although they may be in terms of substantial, non-	Subsystems recognize the failure of the dominant subsystem to manage the problem and externalities which results in the emergence of	Awareness of the problem's cross-cutting nature spreads across subsystems, as a result of which two or more subsystems have formal responsibility for	All possibly relevant subsystems have developed ideas about their role in the governance of the problem. The number of subsystems that are formally

	intentional policymaking	concerns about the problem in one or more additional subsystems	dealing with the problem	involved is equal to or higher than at previous manifestations, but complemented with a less engaged set of alternative subsystems
Density of interactions	No interactions	Infrequent information exchange with dominant subsystem	More regular and formal exchange of information and coordination, possibly through coordinative instruments at system-level	High level of interaction between formally involved subsystems, that maintain infrequent interactions with a less engaged set of subsystems

Source: Toward a processual understanding of policy integration. Howlett, M. (2007).

3.3. Policy goals

Each governance system and associated subsystems have several short-, medium-, and long-term policy goals to pursue, some of which are directly impacting, or are impacted by, the cross-cutting problem. A policy goal here refers to the explicit adoption of a specific concern within the policies and strategies of a governance system, including its subsystems, with the aim of addressing the concern. We recognize that policies can be rather abstract and set out strategic lines, or take the shape of concrete programs entailing specific interventions (Howlett and Ramesh 2003). The dimension of policy goals, here, focuses on two aspects: (1) the range of policies, both at system-level and within subsystems, in which (concerns about) a cross-cutting problem is adopted as a goal, and (2) the coherence between the consequential diversity of policy goals.

First, as higher degrees of integration involve a relatively high density of subsystems, they also encompass a broader range of policies. Ideally, concerns about a cross-cutting problem would be adopted as a goal in all these policies. However, our starting principle of asynchronous integration implies that this does not always happen in practice. Here too, a proximity-to-target measure could be used, assessing the number of potentially relevant policies in which these concerns are adopted. Whereas at low degrees of integration we would expect policy goals regarding a cross-cutting problem to be restricted to one or a few domains and associated policies, shifts toward enhanced policy integration are accompanied by a diversification of policy goals across domains (cf. Peters and Hogwood 1985). Stead (2008) provides an example of low integration in terms of policy goals by arguing that the integration of transport policy is hindered by the autonomous and sectoral goal-setting by other subsystems. An example of enhanced integration of policy goals is given by Hustedt and Seyfried (2015), who show how enhanced internal coordination of climate change policies within the European Commission resulted in the adoption of climate change mitigation and adaptation goals in the policies of a number of non-traditional domains, such as energy and maritime affairs.

One of the main integration challenges found in the literature is that there are often fundamental differences in the way in which various policy goals get framed and perceived, also in terms of temporality or geographical scale (Adelle et al. 2009). A second indicator therefore involves the degree of coherence within a governance system vis-à-vis a cross-cutting policy problem (Rayner and Howlett 2009). Coherence can be achieved and measured within a policy domain (May et al. 2006), but for cross-cutting policy problems it is particularly relevant how the goals of various domains and associated subsystems relate to each other. In other words, coherence relates to whether a governance system's policies contribute jointly to—or at least do not undermine—specific objectives (e.g., food security, employment or sustainable development) (OECD 2013: 7). However, the operationalization and measurement of horizontal coherence within a governance system vis-à-vis cross-cutting issues is understudied at best and highly controversial at worst (Nilsson et al. 2012). The progress of policy integration studies will largely depend on whether conceptual and methodological agreements for studying policy coherence can be found. Here, we confine ourselves to a simple binary distinction between strong and weak coherence. Weak coherence exists when attuning of policy goals between subsystems does not or hardly take place. Strong coherence exists when subsystems attune their policy goals to jointly address a cross-cutting problem, which they can do by mitigating externalities, searching for synergies, or even working toward a system-wide 'integrated policy strategy' (Rayner and Howlett 2009). Whereas the first is achieved by 'negative coordination,' i.e., one subsystem formally has the lead in drafting policy proposals and monitors other subsystems for possible negative effects by applying the 'do-no-harm' principle (OECD 2014), the latter two take the shape of 'positive coordination,' i.e., subsystems jointly work together toward a comprehensive approach (Scharpf 1994). A good example of an integrated policy strategy is the sustainable development strategies that many governments have adopted to integrate economic, social, and environmental development objectives (Meadowcroft 2007). Table 3 presents the four manifestations of policy goals associated with relatively stronger or weaker degrees of policy integration.

Table 3 Manifestations of policy goals

	Low amounts of policy integration	⟵	⟶	High amounts of policy integration
Range of policies in which problem is embedded	Concerns only embedded within the goals of a dominant subsystem	Concerns adopted in policy goals of one or more additional subsystems)	Possible further diversification across policy goals of additional subsystems	Concerns embedded within all potentially relevant policy goals
Policy coherence	Very low or no coherence. Occurs when cross-cutting nature is not recognized, or when subsystems are highly autonomous in setting (sectoral) goals	Because of rising awareness of externalities and mutual concerns subsystems may address these to some extent in their goals	Coordinated sectoral goals, which are judged in the light of coherence	Shared policy goals embedded within an overarching strategy

Source: Toward a processual understanding of policy integration. Howlett, M. (2007).

3.4. Policy instruments

The fourth dimension of policy integration consists of the substantive and/or procedural policy instruments within a governance system and associated subsystems. Substantive instruments allocate governing resources of nodality, authority, treasure and organization (Hood 1983) to directly affect the 'nature, types, quantities and distribution of the goods and services provided in society.' Procedural instruments are designed to 'indirectly affect outcomes through the manipulation of policy processes' (Howlett 2000: 413–415). Procedural instruments can also be deployed at a governance system-level, for example to facilitate the coordination between subsystems (Jordan and Schout 2006). Within a policy integration process, we distinguish three types of indicators related to policy instruments for policy integration: (1) subsystems' deployment of instruments, (2) procedural instruments at system-level, and (3) the consistency of substantive and procedural instruments.

First, as higher amounts of policy integration are characterized by a wider range of subsystems involved and of associated policies in which the problem is adopted as a goal, they ideally also include supportive instruments within subsystems' policies to pursue the more or less coherent sets of goals. In other words, we would expect a diversification of instruments addressing the problem across subsystems' policies. These instruments can be both substantive or procedural, depending on the nature of the problem and the governance philosophies within a subsystem (Howlett 2009).

Second, enhanced amounts of policy integration are characterized by the deployment of procedural instruments at governance system-level to coordinate subsystems' policy efforts and to enforce and safeguard the consistency of the instrument mix as a whole (Jordan and Lenschow 2010). Examples of such instruments include overarching plans and strategies, constitutional provisions, legislative standards setting, overarching funding programs and financial incentives, consultation mechanisms, impact assessments, interdepartmental working groups, and (green) cabinets, inter-alia (e.g., Adelle et al. 2009; EEA 2005; Feiock 2013; Jacob and Volkery 2004; Jacob et al. 2008; Karré et al. 2013; Ross and Dovers 2008). At the highest degree of integration, organizational procedural instruments will take the shape of a boundary-spanning structure or overarching authority that oversees, steers and coordinates the problem as a whole (Jochim and May 2010; Lafferty and Hovden 2003). Jochim and May (2010) provide the example of U.S. Community Empowerment regime in the 1960s and 1970s, in which subsystems of economic development, housing, education, employment, social welfare, and transportation worked together to realize urban renewal. This mutual effort was facilitated by the creation of overarching inter-agency review teams. Pelkonen et al. (2008) give another example of a boundary-spanning structure by showing how the Finnish Science and Technology Policy Council, a governmental advisory body, fosters the integration of science and technology policies between domains.

Third, higher amounts of integration are characterized by a stronger consistency of policy instrument mixes, i.e., the sets of instruments that subsystems have developed incrementally in an ad hoc fashion over a longer course of time (Gunningham and Sinclair 1999; Howlett and Rayner 2007). This consistency is relative to the (more or less) coherent goals that a set of instruments is meant to help procure (Howlett 2009; Howlett and Rayner 2007; Rayner and Howlett 2009). Thus, an appropriate instrument mix effectively realizes certain integration objectives (Adelle and Russel 2013). As with policy goals, the consistency of instrument mixes should, in case of a cross-cutting policy problem, be assessed for the governance system as a whole, thus between subsystems. It is hereby not only the types of instruments that matter, but also their magnitude and whether they are targeted to the appropriate audiences (EEA 2005). Although the public policy literature has provided various arguments for why inconsistencies may arise and how they could be overcome (on paper) (e.g., Gunningham et al. 1998; Rayner and Howlett 2009), as with coherence an univocal and agreed-on operationalization of the consistency of instrument mixes is lacking. For the sake of our theoretical argument, it suffices to distinguish between weak and strong consistency. Within strong consistency, a further distinction can be made between negative coordination of instruments, i.e., mitigating the externalities of subsystems' instruments, and positive coordination, i.e., seeking synergies between instruments or even developing a unified instrument mix at system level (cf. Scharpf 1994). The latter has also been referred to as a ‘new governance arrangement’ and involves the replacement of subsystems’ existing instrument mixes that resulted from an incremental process of policy layering with an entirely new and consistent instrument mix (Howlett and Rayner 2006, 2007).

Table 4. Manifestations of policy instruments

Low amounts of policy integration ⟷ High amounts of policy integration

Range of subsystems’ policies that contain policy instruments	Problem only addressed by the substantive and/or procedural instruments of a dominant subsystem	As a result of increased awareness of externalities one or more additional subsystems (partially) adapt their instruments to mitigate negative effects	Possible further diversification of instruments addressing the problem across subsystems	Instruments embedded within all potentially relevant subsystems and associated policies
Procedural instruments at system-level	No relevant procedural instruments at system-level	Some procedural information sharing instruments at system-level)	Increasing number of system-level procedural instruments that facilitate subsystems to jointly address the problem	Broad range of procedural instruments at system-level, including boundary-spanning structures that coordinate, steer and monitor subsystems’ efforts
Consistency	No consistency. Sets of instruments are purely sectoral and result from processes of policy layering	Subsystems consider externalities of sectoral instrument mixes in light of internal and inter-sectoral consistency	Subsystems seek to jointly address the problem by adjusting and attuning their instruments. Consistency becomes an explicit aim	Full reconsideration of subsystem instrument mixes, resulting in a comprehensive, cross-subsystem instrument mix that is designed to meet a set of coherent goals

Source: Toward a processual understanding of policy integration Howlett, M. (2007).

4. Discussion and Conclusion

In the previous sections we have presented a new conceptual lens to study policy integration processes. It is important to note that our framework should first and foremost be seen as a heuristic that may serve as a starting point for more refined policy integration studies. We acknowledge that we have touched upon a broad range of concepts and scholarly debates within the public policy literature; all of which deserve, and fortunately receive, more lengthy elaborations in themselves. The primary goal of this paper has been to synthesize fragmented accounts of policy integration into a single, more refined framework. This inevitably has left open important questions about individual concepts and ontologies, for example about how to study policy coherence ("Policy goals" section) and consistency ("Policy instruments"). We hope this paper will be an impetus to addressing such loose ends within the policy integration literature. In addition, the ambition of this paper has been to draw policy integration out of the domain of environment and to make it a subject of general theorizing in the political sciences as more and more problems are perceived as "wicked" and cross-cutting. Although debates on EPI in the early 2000s have certainly set the agenda and have provided a firm foundation for thinking about integration, expanding the integration debate and agenda to other domains and (associated) scholarly communities could provide new perspectives on mechanisms of stability and change, interactions and possible trade-offs between parallel integration processes, and normative implications of (the absence of) policy integration.

The relevance of the framework to policymakers and political leaders lies in three contributions. First, the framework offers an assessment tool to evaluate current degrees of policy integration in the governance of a particular cross-cutting problem. In addition, it can be used for comparing these degrees over time, between issues, or between governance systems to address the normative question whether integrative progress is enough. A second contribution is the above argument that these actors should not oversee the merits of lesser degrees of policy integration. Thirdly, the framework shows that actors should think about the four dimensions as conditions that they need to invest in simultaneously, if they want to realize a mutually supportive interplay across the four dimensions that enable full policy integration. The challenge then is to overcome the asynchronous nature of most integration processes by investing sufficient capacity and resources, including will, into synchronization efforts. For those out of government office, the framework may be a helpful tool to monitor whether political promises to invest in more integrative approaches are kept and, consequentially, to hold decision-makers accountable to the commitments they make. Such accountability measures may be the first step toward integration beyond mere discursive levels for a range of issues that lie waiting to be addressed.

5. References

1. Agranoff, R. (1986). Intergovernmental Management. Human Services Problem-Solving in Six Metropolitan Areas. State University of New York Press.

2. Agranoff, R. (1996). Managing Intergovernmental Processes. In: Perry, J.L. (ed.) Handbook of Public Administration. Second Edition. Jossey-Bass, San Francisco.

3. Alter, C. and Hage, J. (1993). Organizations working together. Sage, Newbury Park.

4. Cabinet Office (2000). Wiring it up. Whitehall's Management of Cross-cutting Policies and Services. The Stationery Office, London [http://www.pm.gov.uk/output/page86.asp].

5. Challis, L., Fuller, S., Henwood, M., Klein, R., Plowden, W., Webb, A., Whittingham, P., Wistow, G. (1988). Joint approaches to social policy: rationality and practice. Cambridge University Press, Cambridge.

6. Gray, B. (1989). Collaborating Finding a Common Ground for Multiparty Problems. Jossey-Bass Publishers, San Francisco.

7. Organisation for Economic Co-operation and Development (1996). Building Policy Coherence, Tools and Tensions, Public Management Occasional Papers, No.12. OECD, Paris.

8. Ostrom, E., (1990). Governing the Commons: The Evolution of Institutions for Collective Action. Cambridge University Press, Cambridge.

9. Rogers, D.L. and Whetten, D.A. (1982). Interorganizational coordination: theory, research, and implementation. Iowa State University Press, Ames.

10. Scientific Council for Government Policy (2002). Sustainable Development. Administrative Conditions for an Activating Policy. Reports to the Government No. 62. Sdu, The Hague.

11. Schermerhorn, J.R. (1975). Determinants of Interorganizational Cooperation, Academy of Management Journal, 18(4) pp.846-856.

12. Thompson, G., Frances J., Levačić, R. and Mitchell, J. (eds) (1991). Markets, Hierarchies and Networks, The Coordination of Social Life. Sage, London.

13. Underdal, A. (1980). Integrated marine policy – What? Why? How? Marine Policy 4(3) pp.159-169. Warren, R.L., Rose, S.M. and Bergunder, A.F. (1974). The structure of Urban Reform. Lexington Books, Lexington.

14. Wilkinson, D. and Appelbee, E. (1999). Implementing holistic government: joined-up action on the ground. Policy Press, Bristol.Wolman, H. (1992). Understanding cross-national policy transfers: the case of Britain and the US. Governance 5(1) pp.27-45.

Web-accessible material

1. Hall, P. A. (1993). Policy paradigms, social learning, and the state: The case of economic policymaking in Britain. Comparative Politics, 25(3), 275–296. Google Scholar

2. Halligan, J., Buick, F., & O'Flynn, J. (2011). Experiments with joined-up, horizontal and whole-of-government in Anglophone countries. In A. Massey (Ed.), International handbook on civil service systems (pp. 74–100). Cheltenham: Edward Elgar.Google Scholar

3. Hartlapp, M., Metz, J., & Rauh, C. (2012). Linking agenda setting to coordination structures: Bureaucratic politics inside the European Commission. Journal of European Integration, 35(4), 425–441. Google Scholar

4. Hogan, J., & Howlett, M. (2015). Policy Paradigms in Theory and Practice: Discourses, Ideas and Anomalies in Public Policy Dynamics. London: Palgrave Macmillan. Google Scholar

5. Hoppe, R. (2010). The governance of problems: Puzzling, powering and participation. Bristol: The Policy Press. Google Scholar

6. Hovik, S., & Hanssen, G. S. (2015). The impact of network management and complexity on multi-level coordination. Public Administration, 93(2), 506–523. Google Scholar

7. Howlett, M. (2000). Managing the "hollow state": Procedural policy instruments and modern governance. Canadian Public Administration, 43(4), 412–431. Google Scholar

8. Howlett, M. (2009). Governance modes, policy regimes and operational plans: A multi-level nested model of policy instrument choice and policy design. Policy Sciences, 42(1), 73–89. Google Scholar

9. Howlett, M. (2014). Why are policy innovations rare and so often negative? Blame avoidance and problem denial in climate change policy-making. Global Environmental Change, 29, 395–403. Google Scholar

10. Howlett, M., & Ramesh, M. (2003). Studying public policy: Policy cycles and policy subsystems. Don Mills: Oxford University Press. Google Scholar

11. Howlett, M., & Rayner, J. (2006). Convergence and divergence in 'New Governance' arrangements: Evidence from European integrated natural resource strategies. Journal of Public Policy, 26(2), 167–189. Google Scholar

12. Howlett, M., & Rayner, J. (2007). Design principles for policy mixes: Cohesion and coherence in 'New Governance Arrangements'. Policy and Society, 26(4), 1–18. Google Scholar

13. Hustedt, T., & Seyfried, M. (2015). Co-ordination across internal

organizational boundaries: how the EU Commission co-ordinates climate policies. Journal of European Public Policy,. doi:10.1080/13501763.2015.1074605:1-18. Google Scholar

14. Jack, S. L. (2005). The role, use and activation of strong and weak network ties: A qualitative analysis*. Journal of Management Studies, 42(6), 1233–1259. Google Scholar

15. Jacob, K., & Volkery, A. (2004). Institutions and instruments for government self-regulation: Environmental policy integration in a cross-country perspective. Journal of Comparative Policy Analysis: Research and Practice, 6(3), 291–309. Google Scholar

16. Jacob, K., Volkery, A., & Lenschow, A. (2008). Instruments for environmental policy integration in 30 OECD countries. In A. Jordan & A. Lenschow (Eds.), Innovation in environmental policy? Integrating the environment for sustainability (pp. 24–48). Cheltenham: Edward Elgar. Google ScholarJochim, A. E., & May, P. J. (2010). Beyond subsystems: Policy regimes and governance. Policy Studies Journal, 38(2), 303–327. Google Scholar

OPERATING CASH FLOW AND CORPORATE FINANCIAL PERFORMANCE OF LISTED COMPANIES IN VIETNAM

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Abstract

The paper investigates the effect of operating cash flow on the corporate financial performance of non-financial companies listed on the stock market in Vietnam, spanning the period from 2009 to 2018. The stuty use the fixed effects model, with panel data. The results show that operating cash flow has a positive effect on operational efficiency which is measured through ROA and ROE. In addition, the results also indicate that asset growth and investment opportunities have a positive effect on business performance. In contrast, the debt ratio has a negative impact on the performance of the business. From which, the paper highlights the importance of cash flow management and provides recommendations for regulators and managers to improve firms' operational efficiency.

Keywords: *Cash flow; Financial performance; Stock market; Investment opportunities.*

1. Introduction

The operational efficiency of the business is an essential financial factor that attracts investors and managers' attention [18]. Induced organizational effectiveness plays a significant role in the company's safety and growth, supporting the company to succeed in the market. Therefore, operational efficiency remains a vital factor that investors consider in making a decision to purchase or sell stocks. Managers, hence, always attempt to detect manners to improve the firm's operational efficiency. From these two perspectives, this research evaluates the factors that influence a firm's operational efficiency - one of the most salient topics in corporate finance.

Cash flow is defined as an "in and out" movement of money in a company or an entity given a certain time [11]. Indeed, cash flow management is a prominent part of the company and will determine the survival of a business. On the one hand, cash flow plays a substantial role in influencing the decision-making process of a company since the company's purpose is to generate positive net cash flow. Besides, enterprises need to manage their cash flow properly to achieve their financial needs while reducing costs and increasing firm performance.

Several researchers have studied the relationship between cash flow and operational efficiency. The test findings are, however, contradictory. A positive connection between cash and performance has been found in particular authors. Adelegan [1] has experimentally analyzed the relationship between cash flow and dividends on the Nigerian stock market. The author uses the ordinary least squares regression method, with 63 companies from 1984 to 1997. The research results show that cash flow affects the change of dividend in the firm. The author also finds a positive and meaningful relationship between the company's cash flow and efficiency. Tsuji [21] studies the revenue and operational efficiency of the electrical equipment sector in the Tokyo stock exchange, applying ordinary least square with annual data from 2009-2011. The findings demonstrate the different relationships between the cash flow and efficiency of the business. Cash flow factors help companies to forecast future stock profits.

The link between cash flow and productivity in hospitals and the media industry in Nigeria was investigated by Frank and James [6]. Pearson's descriptive statistical analyzes and analysis have shown that the link between cash flow and net income is positive and statistically meaningful. The author has since affirmed that the cash flow has an impact on the business output of the company. In the Nigerian stock market, another study was carried out. The research evaluates the cash flow-to-financial output of listed banks in the emerging economies from Ogbonnaya, et al. [16]. The findings show that cash flow in operations has a positive effect on banks ' financial performance. Cash flow from investment and financial activities, by contrast, has a negative but weak effect on the bank's financial performance.

On the other hand, cash flow could have a negative influence on operational efficiency. Hong, et al. [10] examined Chinese listed immobilier companies' relation between free cash flow and financial results from 2006 to 2011. Free cash flow is negatively related to a company's financial performance. However, surplus free cash flow can affect the company's financial results. Ashtiani [3] shows a negative but not significant link between the cash flows, investment efficiency, and financial results of listed companies on the Tehran Börse. Significance of statistics. Whereas, Watson and Wells [23] find the relationship between the cash flow and operating performance was negative and statistically significant. The relationships between profit and cash flow variables in the Iran stock market have been analyzed by Mazloom, et al. [15]. Multi-variable method for analyzing regression using data from 2003 to 2011. The results of the regression indicate a significant negative correlation between firm performance and cash flow.

In Vietnam, Thanh and Ha [22] explore the effect on market performance in Vietnam from banking relations. The author uses a multiple regression analysis based on data from 465 Vietnamese companies from 2007 to 2010. Research shows that the efficiency of business decreases with increased banking ties. Moreover, the study shows that cash flow is inversely linked to the company's revenue-to-equity ratio. Cash flow, therefore, has an adverse impact on the efficiency of Vietnamese-listed companies.

From the above reviews, a variety of empirical studies have been conducted worldwide and in Vietnam to determine the effect of cash flow on firm operational efficiency. However, their research results are contradictory and distinct. The results of empirical studies are different between countries and industries. The purpose of this article, hence, to investigate the effect of cash flow on firm operational efficiency in Vietnam.

The study based on agent theory and free cash flow theoryAgency theory focuses on the conflict between managers and shareholders [9]. Practically, Chief executive officers are not always the same as the chairman, and managers are not members of the board. Therefore, managers do not adhere to shareholders' interests and thus take steps to the detriment of shareholders or devalue the enterprises [20]. Shareholders pay the costs of the agency in conjunction with supervising managers, and these costs of the agency represent a possible expense because of a conflict of interests between the shareholders and public managers

Consistent with agency theory, the free cash flow hypothesis implies that managers tend to pursue their personal goals and ignore shareholder value when firms have excessive free cash flow [12, 13]. Due to the conflict between managers and shareholders, the chief executive of the firm tends to invest extra cash in new projects despite the low net present value, leading to a deterioration in firm value. Jensen and Meckling [13] followed this hypothesis and then replicated it in Jensen [12]. Following Jensen [12] suggestions, managers are expected to expand resources beyond the optimum scale. The shortage of money would prevent the firm expenditure on inefficient projects [14]. Coincidentally, managers are enforced to participate in foreign markets to increase their resources. Therefore, a company's cash flow can affect the company's operational efficiency. One way to alleviate the effect of free cash flow is by employing debt financing that restrains overinvestment behaviors, implying that this issue might be mitigated through a higher level of debt in the capital structure.

2. Method

2.1. Sample

To examine the effect of cash flow on firm operational efficiency, we collect financial information of 502 listed companies listed in the Ho Chi Minh stock exchange from 2009 to 2018. The sample is restricted by excluding insurance, real estate, securities, and banks because of their different financial reporting systems and a higher leverage level than other sectors [5]. We acquire financial data from the StoxPlus database.

2.2 Models and Variable Construction

In order to analyze the impact of cash flow on the efficiency of Vietnamese stock-market firms, we propose the following models:

$$ROA_{it} = \delta_0 + \delta_1 * Cashflow_{it} + \delta_2 * Firm\ size_{it} + \delta_3 Firm\ growth_{it} + \delta_4 * Market - to - book_{it} + \delta_5 * Firm\ leverage_{it} + \gamma_i + \lambda_t + \epsilon_{it} \quad (1)$$

$$ROE_{it} = \delta_0 + \delta_1 * Cashflow_{it} + \delta_2 * Firm\ size_{it} + \delta_3 Firm\ growth_{it} + \delta_4 * Market - to - book_{it} + \delta_5 * Firm\ leverage_{it} + \gamma_i + \lambda_t + \epsilon_{it} \quad (2)$$

The dependent variable is Firm performance measured by two indicators: returns on assets (*ROA*) and returns on equity (*ROE*), and the main independent variable is the *Firm cash flow* measured by the cash flow from the market divided by the total assets of the company. The control variable in the model includes *Firm size, Market-to-Book, Firm growth*, and *Firm leverage*.

Table 1: Variable construction

ID	Variable name	Abbreviation	Definitions
1	Return on asset	*ROA*	Net income divided by total asset
2	Return on equity	*ROE*	Net income divided by total equity
3	Firm cash flow	*Firm cash flow*	Annual cash flow divided by total assets
4	Firm size	*Firm size*	Ln(total assets)
5	Asset growth	*Firm growth*	Annual changing ratio: Firm growth =$(TA_t-TA_{t-1})/TA_{t-1}$
6	Market to book ratio	*Market-to-Book*	Market value divided by book value
7	Firm leverage	*Firm leverage*	Total leverage divided by total assets

The fixed effects model (FEM) and random effects model (REM) were used to perform regression analysis. First, the author estimates the above two models with the FEM and REM. Then, the author uses Hausman test to compare between FEM or REM model. Hausman test results show that the fixed effects model (FEM) is more suitable than the random effects model (REM). Therefore, the study uses the FEM with the STATA to test the models.

Next, We investigate the autocorrelation phenomenon, heteroskedasticity, and multicollinearity in the models. The Wooldridge test (with the xtserial command) is used to test for autocorrelation. The analysis of variance change in the FEM model is done with xttest3 command. To check the phenomenon of multicollinearity, the author used the vif command in STATA.

Table 2: Validity test

Panel A: Autocorrelation test

Wooldridge test for autocorrelation in panel data H_0: no first-order autocorrelation	
Model 1	**Model 2**
F(1, 542) = 140.465 Prob > F = 0.0000	F(1, 542) = 99.369 Prob > F = 0.0000

Panel B: Heteroskedasticity test

Modified Wald test for groupwise heteroskedasticity in the fixed effect regression model H_0: sigma(i)^2 = sigma^2 for all i	
Model 1	**Model 2**
chi2 (601) = 5.9e+35 Prob>chi2 = 0,0000	chi2 (502) = 2.4e+33 Prob>chi2 = 0,0000

Panel C: Multicollinearity test

	VIF	**1/VIF**
Firm cash flow	1.34	0.74
Firm size	8.29	0.14
Firm Market-to-book	1.40	0.71
Firm growth	1.46	0.68
Firm leverage	7.38	0.13
Mean VIF	4.27	

Source: Author's calculations

The results of the Wooldridge test (Panel A) and the Modified Wald test (Panel B) show that the two models have the phenomenon of autocorrelation and heteroskedasticity. The results of the VIF magnification coefficients of the independent variables are less than 10, so there is no multicollinearity phenomenon in the model. Therefore, the cluster and robust command in STATA is used to correct the autocorrelation and heteroskedasticity in the FEM model.

3. Results

3.1. Descriptive statistics and correlation analysis

The mean, standard deviation, minimum value, and maximum value of the variables in the research model are described in Table 3.

Table 3: Summary statistics

	Obs.	Std. Dev.	Mean	Minimum	First quartile	Median	Third quartile	Maximum
ROA	5584	0.07	0.07	-0.07	0.02	0.05	0.10	0.30
ROE	5584	0.13	0.14	-0.17	0.05	0.13	0.21	0.53
Firm cash flow	5531	0.14	0.06	-0.27	-0.03	0.05	0.13	0.42
Firm size	5606	1.43	12.98	10.01	12.04	12.89	13.91	16.49
Firm growth	5003	0.32	0.16	-0.26	-0.02	0.09	0.24	1.55
Market-to-Book	4555	0.58	0.73	0.13	0.34	0.55	0.91	2.82
Firm leverage	5606	0.23	0.50	0.06	0.32	0.52	0.68	0.89

Source: Author's calculations

The mean, standard deviation, minimum value, and maximum value of the variables in the research model are described in Table 3. The table shows that the average *ROA* value for the Vietnam stock market of non-financial firms is 7.00 percent for the period 2009 to 2018, while the mean *ROE* value is 14 percent. That means that the average profit after tax is 7 dongs when the company spends 100 dongs of assets, and the most considerable gain is 30. Additionally, the total net profit of 100 VND invested in the company would be VND 14 on average and record 53. The average value of the *Firm cash flow* statistics is 0.06, which means the average operating cash flow for non-financial companies listed on the stock exchange of Vietnam in the 2009-2018 period is 6% of their total company assets. The mean value of the variable *Firm leverage* is 0.50, meaning that on average, firms use about 50% of borrowed capital to build the company's assets.

Table 4 represents the correlation between variables in the model (1) and (2) as follows:

Table 4: Pairwise correlations

Panel A: Correlation matrix for the first model

Variables	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
(1) ROA	1.000					
(2) Cash flow	0.373***	1.000				
(3) Firm size	-0.071***	-0.014	1.000			
(4) Firm growth	0.186***	-0.194***	0.084***	1.000		
(5) Market-to-book	0.329***	0.149***	0.164***	0.109***	1.000	
(6) Firm leverage	-0.436***	-0.193***	0.330***	0.064***	-0.140***	1.000

Panel B: Correlation matrix for the second model

Variables	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
(1) ROE	1.000					
(2) Cash flow	0.286***	1.000				
(3) Firm size	0.060***	-0.014	1.000			
(4) Firm growth	0.249***	-0.194***	0.084***	1.000		
(5) Market-to-book	0.266***	0.149***	0.164***	0.109***	1.000	
(6) Firm leverage	-0.037***	-0.193***	0.330***	0.064***	-0.140***	1.000

Note: This table reports the correlation matrix between variables. The main dependent variables are *ROA* and *ROE* measured by net income divided by total assets and total equity, respectively. Control variables are *Firm size, Firm growth, Market-to-book,* and *Firm leverage*. Significance at the 10%, 5%, and 1% level is indicated by *, **, *** respectively.

As can be illustrated from Panel A and Panel B, the results of the correlation coefficient matrix between pairs of variables have absolute values less than 0.8, so there is no multicollinearity issue between the variables in the model. Therefore, eliminating research variables is not necessary, and the model is rational.

3.2. The impact of cash flow on firm operational efficiency

In this section, we investigate the effect of cash flow on firm operational efficiency. The primary dependent variables are the Return on assets and the Return on equity. The results are illustrated in table 5 below:

Table 5: The effect of cash flow on firm operational efficiency

Dependent variable	ROA	ROE
Cash flow	0.058***	0.105***
	(0.008)	(0.016)
Firm size	-0.006	-0.002
	(0.004)	(0.008)
Firm growth	0.055***	0.104***
	(0.004)	(0.009)
Market-to-book	0.02***	0.04***
	(0.003)	(0.005)
Firm leverage	-0.152***	-0.146***
	(0.013)	(0.025)
Constant	0.212***	0.233**
	(0.043)	(0.092)
Observations	4325	4325
R-squared	0.305	0.248

Note: Significance at the 10%, 5%, and 1% level is indicated by *, **, *** respectively.

Source: Author's calculations

- ***Firm cash flow***

The *Firm cash flow* variable coefficient (δ_1) in model 1 is 0.058, at a significant level of 1%. The coefficient of the cash flow variable in model 2 is 0.105 at 1% of significance. Therefore, operating cash flow has a positive and statistically significant impact on two indicators that measure the company's performance, namely return on asset and return on equity of non-financial companies listed on the stock market in Vietnam. It means that, as the company's operational cash flow ratio rises, operational efficiency always improves. Adelegan [1], Frank and James [6], and Ogbonnaya, Ekwe and Uzoma [16] have considered this analysis. The above relationship, however, contrasts with the results found in the Iran stock market of Ashtiani [3] on the Tehran Stock Exchange, Watson and Wells [23], Mazloom, Azarberahman and Azarberahman [15] with the dependent equity income variable, Hong, Shuting and Meng [10] on the Chinese listed real estate companies, Tsuji [21], the Tokyo Stock Exchange (2013).

➢ ***Firm size***

Coefficients of the *Firm size* variable in model 1 and model 2 have negative values of 0.006 and 0.002, respectively. Nevertheless, firm size has no impact on the business performance of non-financial companies listed on Vietnam's stock market. Some author found no correlation between firm size and operational efficiency, such as Ha-Brookshire [8] found no evidence of the impact of firm size variable. Thus, it can be seen that the results on the effect of scale on operational efficiency are not consistent among studies, depending on the characteristics of each different industry.

➢ ***Market-to-Book***

The coefficient of the market-to-book variable in model 1 and model 2 are both positive values: 0.02 and 0.04 at 1% of significance correspondingly. That means investment opportunities have a strong statistical positive effect on income on both assets and equity of non-financial companies listed on Vietnam's stock market.

➢ ***Firm growth***

The growth rate variable - *Firm growth* has positive Beta coefficients (0.055 and 0.104) and has a very high statistical significance of 1% in the two above models. Therefore, if the company has a high growth rate, its operational efficiency will also increase. Thus, investment opportunities and growth rates have a positive impact on the operational efficiency of non-financial companies listed on Vietnam's stock market. This result shows that companies with more investment opportunities and are in a period of high growth are also more efficient than firms with fewer investment opportunities and low growth. This result is similar to many studies in the world, such as Amidu [2], Onanjiri and Korankye [17], and Gill, et al. [7].

➢ ***Firm leverage***

The coefficient of the debt ratio variable (*Firm leverage)* in model 1 and model 2 are both negative (-0.152 and -0.146), with high statistical significance at 1%. Therefore, the debt ratio has a negative impact on the operational efficiency of the firm. Thus, with the non-financial companies listed on Vietnam's stock market using more debt, their operational efficiency decreases. The same result is also found in the study of Amidu Amidu [2], Dogan and Topal [4] with the dependent variable of ROA. However, some studies have found a positive effect of debt use on operational efficiencies such as Sunday & Partners (2015) with the dependent variable ROA, Priya and Nimalathasan [19], and Dogan and Topal [4] with the dependent variable ROE.

4. Discussion and Conclusion

The article examined the influence of operating cash flow on the performance of non-financial companies listed on the Vietnam stock market in the period 2009-2018. The results have shown that operating cash flow has a positive effect on operating performance, measured through two indicators of return on assets (ROA) and return on equity (ROE). Besides, investment opportunities and growth rate of total assets also have a positive effect on the performance of the company. In contrast, debt ratio have a negative effect on performance.

The company's operational efficiency is positively correlated with the ratio of operating cash flow to total assets. So if the company wants to increase its operational efficiency, it is necessary to control the proportion of cash flow operating in the company. Companies should consider increasing operating cash flows as their total assets increase. Besides, investment opportunities and growth of the company are also important indicators that have a significantly positive impact on operational efficiency. However, according to the life cycle theory, these two indicators will change according to different development cycles of the company. In the early stages and growth phases, a company often has various excellent investment opportunities to expand its customer base and reach potential markets. Therefore, the company should maintain higher amount of cash to carry out investment and development activities, increase assets, thereby helping to improve operational efficiency. When the stage is ripe, investment opportunities decrease, and competition in the market increases, leading to a decrease in efficiency in using assets and equity of enterprises. In that case, the company should reduce the amount of cash by distributing it to its shareholders, like paying a cash dividend. The above move can help stabilize investor sentiment when receiving dividends from businesses. Finally, to improve operational efficiency, companies need to limit the use of debt. Using too much debt will have a negative effect on operational efficiency. Therefore, managers need to calculate to determine the optimal debt structure for each enterprise to improve operational efficiency.

5. References

1. Adelegan, O. J. (2003), *An empirical analysis of the relationship between cash flow and dividend changes in Nigeria,* African Development Review, 15 (1), 35-49.

2. Amidu, M. (2007), *How does dividend policy affect performance of the firm on Ghana stock Exchange,* Investment management and financial innovations, 4 (2), 103-112.

3. Ashtiani, A. R.(2005), *The study of relationship between accounting ratios and operating cash flows, investments financing and stock returns in TSE,* Mashhad, Islamic Azad University of Mashhad, Iran.

4. Dogan, M.; Topal, Y. (2014), *The influence of dividend payments on company performance: The Case of Istanbul Stock Exchange (BIST),* European Journal of Business and Management, 6 (3), 189-197.

5. Fama, E. F.; French, K. R. (1993), *Common risk factors in the returns on stocks and bonds,* Journal of Financial Economics, 33 (1), 3-56.1993.

6. Frank, B. P.; James, O. K. (2014), *Cash flow and corporate performance: A study of selected food and beverages companies in Nigeria*, European Journal of Accounting Auditing and Finance Research, 2 (7), 77-87.

7. Gill, A.; Biger, N.; Mathur, N. (2011), *The effect of capital structure on profitability: Evidence from the United States*, International Journal of Management, 28 (4), 3-15.

8. Ha-Brookshire, J. E. (2009), *Does the firm size matter on firm entrepreneurship and performance?* Journal of Small Business and Enterprise Development.

9. Hill, C. W.; Jones, T. M. (1992), *Stakeholder‐agency theory*, Journal of management studies, 29 (2), 131-154.

10. Hong, Z.; Shuting, Y.; Meng, Z. (2012), *Relationship between free cash flow and financial performance evidence from the listed real estate companies in China*, IPCSIT, 36, 331-335.

11. Hovakimian, A.; Hovakimian, G. (2009), *Cash flow sensitivity of investment*, European Financial Management, 15 (1), 47-65.

12. Jensen, M. C. (1986), *Agency costs of free cash flow, corporate finance, and takeovers*, The American economic review, 76 (2), 323-329.

13. Jensen, M. C.; Meckling, W. H. (1976), *Theory of the firm: Managerial behavior, agency costs and ownership structure*, Journal of financial economics, 3 (4), 305-360.

14. Lang, L. H.; Litzenberger, R. H. (1989), *Dividend announcements: Cash flow signalling vs. free cash flow hypothesis*? Journal of financial economics, 24 (1), 181-191.

15. Mazloom, A.; Azarberahman, A.; Azarberahman, J. (2013), *The association between various earnings and cash flow measures of firm performance and stock returns: some Iranian evidence*, International Journal of accounting and financial reporting, 3 (1), 24.

16. Ogbonnaya, A.; Ekwe, M.; Uzoma, I. (2016), *Relationship of cash flow ratios and financial performance of listed banks in emerging economies–Nigeria example*, European Journal of Accounting, Auditing and Finance Research, 4 (4), 89-97.

17. Onanjiri, R.; Korankye, T. (2014), *Dividend Payout and Performance of Quoted Manufacturing Firms in Ghana*, Research Journal of Finance and Accounting, 5 (15), 442-454.

18. Osazefua, I. J. (2019), *Operational efficiency and financial sustainability of listed manufacturing companies in Nigeria*, Journal of Accounting and Taxation, 11 (1), 17-31.

19.Priya, K.; Nimalathasan, B. (2013), *Dividend policy ratios and firm performance: a case study of Selected Hotels & Restaurants in Sri Lanka*, Global Journal of Commerce and Management Perspective, 2 (6), 16-22.

20.Shapiro, S. P. (2005), *Agency theory*, Annual review of sociology, 31.

21.Tsuji, C. (2013), *An Investigation of comprehensive income and firm performance: The case of the electric appliances Industry of the Tokyo Stock Exchange*, Accounting and Finance Research, 2 (2), 29-35.

22.Thanh, V. H.; Ha, N. M. (2013), *The effect of banking relationship on firm performance in Vietnam*, International Journal of Economics and Finance, 5 (5), 148-158.

23.Watson, J.; Wells, P. A. (2005), *The association between various earnings and cash flow measures of firm performance and stock returns: Some Australian Evidence*, Available at SSRN 815365.

THE EFFECT OF ACQUISITIONS ON FINANCIAL EFFICIENCY OF VIETNAMESE LISTED COMPANIES

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Abstract

The authors carried out a research project on the impact of acquisitions on the financial performance of Vietnamese listed companies. The sample includes 20 non-financial companies listed on the Hanoi Stock Exchange (HNX) and Ho Chi Minh City Stock Exchange (HSX) from 2010 to 2019. Firstly, the results have shown that acquisitions have a negative effect on profitability, particularly ROA and PM of Vietnamese non-financial companies and at the same time, raise pessimistic views to the debt-to-equity ratio. However, the age of the acquisitions show little to none effects on the aforementioned. Finally, acquisitions' impacts on the liquidity of Vietnamese non-financial firms are negligible, despite margins, leverage, and firm size all positively affect the company liquidity. Thereby suggesting that by commencing acquisitions, Vietnamese companies can afford to save cost of debt and expenses.

Keywords: *Acquisitions, financial efficiency, profitability, liquidity, leverage, Vietnam.*

1. Introduction

The world has a tendency to move towards economic globalization as a result of the impact of trade in general and particularly, free trade. Mergers and acquisitions (M&A) are one of the outstanding activities that catch up with this globalization trend, which have had high growth prospects around the world in recent years. Large and well-known deals have taken place in the banking sector (ABN Amro & Barclays PLC, 2007), the technology sector (Antel, TPG Capital & Goldman Sachs), and the marketing sector of technology companies (Salesforce & Alibaba, 2018). There have been many studies around the world regarding the topic of M&A, notable mentions are (Singh & Mogla, 2010) comparing the performance of the company before and after the merger of the target companies in India, (Chang & Tsai, 2012) studying on the long-term performance of consolidated companies over the period of 1990 to 2007 or (Gugler, Mueller, Yurtoglu & Zulehner, 2003) contributing a large international assessment of the impact of mergers on profits from 1981 to 1998. In Vietnam, M&A activities and their impacts have also been studied by a few authors, one of the highlights is "Analysis of the impact of mergers and acquisitions activities on the performance of listed companies." by Nguyen Thanh Nhan (2019).

During the current economic crisis related to the issue of maintaining business operations, especially concerning the survival of businesses when the COVID-19 pandemic occurred and has had a great impact on the world economy. The emerging economy of Vietnam in particular, which comprises mostly small and medium-sized enterprises, will be more susceptible to the negative impacts of this threat. Therefore, M&A are considered to be able to create waves of corporate restructuring, which will contribute to the improvement of structure, openness, connection, and the ability to participate in the global supply chain individually of each company in particular and the economy in general. Especially, in the context that Vietnam is a country with developing economy aiming to join the world globalization trend. According to Quartz, the globalization situation in Vietnam is quite good, as evidenced by the fact that in 2017, Vietnam's trade-to-GDP ratio reached more than 200%. Mergers and acquisitions activities have attracted more attention since the inception of the Enterprise Law in 1999 and have become more active in recent years with a rapid growth in both quantity and scale. According to the Vietnam M&A Market Overview report in 2018, in the past 10 years, specifically from 2009 to 2018, the country had 4,353 M&A deals with a total value of 48.8 billion USD. In 2019, there were 10 outstanding M&A deals, focusing on consumer goods, retail, finance, banking, and real estate.

Inheriting the research of Abdul Rashid and Nazia Naeem (2016), we carry out the study to analyze the impact of acquisition activities on the financial performance of non-financial enterprises, an ongoing activity with more popularity than mergers in Vietnam. Specifically, throught the assessment of the impact of acquisitions on important financial ratios indicating the financial performance of the companies such as *Profitability Ratios* (Return on Assets and Profit Margin), *Leverage Ratios* (Debt-to-Equity Ratio and Interest Coverage Ratio) and *Liquidity Ratios* (Current Ratio and Quick Ratio). Some related research results are worth mentioning, such as the study of Chatfield, Dalbor, Ramdeen and Harrah (2011) on the financial situation in the form of abnormal profits, from which results showed that the target audience in the restaurant has received considerably positive returns from the aggregate benefits of the acquisition; in addition, Leepsa and Mishra (2012) examined the effects on post-acquisition financial performance in manufacturing firms in India. Their results showed that the financial performance of the company after the acquisition has improved in terms of liquidity, which is the current ratio, quick ratio and return on assets, but most of the results are not statistically significant. .

We conduct the research with the desire to give managers a clearer and more objective view of the impact of acquisitions in order to propose better business and restructuring methods and policies timely and precisely for the state of the business in the current epidemic context. At the same time, the research results can contribute to the those research documents regarding the impact of M&A on the Vietnamese market to help investors identify the market and make effective investment decisions, which is beneficial for individual investors in particular and corporate strategy managers in general.

2. Methodology

2.1. Data

The study uses data of 20 non-financial companies listed on Hanoi Stock Exchange (HNX) and Ho Chi Minh City Stock Exchange (HSX) during the period from 2010 to 2019. The data extracted from the financial statements of these companies is collected on web portals such as: https://vietstock.vn/, https://cafef.vn/, https://www.stockbiz.vn/, https://www.cophieu68.vn/. Also, we remove the companies which lack of information during the research period and financial companies from our sample since the specific characteristics of these types of companies may falsify the research results, in other words, we select non-financial listed companies for our research sample. Besides, we use 2-year pre and post-acquisition average of financial ratios in our empirical analysis so that our priorities are the companies which made the acquisitions in the period from 2012 to 2017.

2.2. Research models

The study examines the change of the following ratios capable of assessing the financial performance of the companies:

i. The Profitability Ratios include Return on Asset (ROA) and Profit Margin (PM);

ii. The Leverage Ratios include Debt-to-Equity Ratio (DE) and Interest Coverage Ratio (COV);

iii. The Liquidity Ratios include Current Ratio (CR) and Quick Ratio (QR).

In addition to the above financial ratios, we include different control variables in the models which are the firm age (Age), the firm size (Size) and dummy variable in order to ensure the robustness of the results and reduce the possibility of multicollitnearity in the same way of Abdul Rashid and Nazia Naeem (2016). The specific calculations of the variables are represented in Table 1.

Table 1. Formula for calculating variables in the research model

VARIABLE	VARIABLE'S NAME	MEASURE
ROA	Return on Assets	$ROA = \frac{Net\ profit}{Total\ assets}$
PM	Profit Margin	$PM = \frac{Rate\ of\ return}{Revenue}$
DE	Debt-to-Equity Ratio	$DE = \frac{Liabilities}{Equity}$
COV	Interest Coverage Ratio	$COV = \frac{EBIT}{Interest\ expense}$
CR	Current Ratio	$CR = \frac{Current\ assets}{Current\ liabilities}$
QR	Quick Ratio	$QR = \frac{Current\ assets\ - Inventory}{Current\ liabilities}$
Age	The age of the company	Age is calculated from the date that the company was listed on the HSX or HNX until it made the acquisition
Size	The size of the company	$Size = \ln(Total\ assets)$
D	Dummy variable	Dummy variable has the value 0 in the pre-acquisition period and 1 the post-acquisition period

Inheriting the research of Abdul Rashid and Nazia Naeem (2016), we use different regression models by considering profitability, leverage and liquidity ratios respectively as the dependent variables respectively and altering the independent variables (or called control variables) which are the other ratios different from the dependent variable. Also, the other control variables included in the models such as the firm age, firm size and dummy variable.

The study uses Ordinary Least Squares Method (OLS) and empirical Bayesian estimation to enrich our research. Bayesian estimation provides precise results as compared to the traditional OLS technique because it used priors (average of data) that made the results had been more reliable as the standard deviations tend decrease due to priors.

Model of the impact of acquisitions on profitability

To examine the impact of acquisition deals on profitability in terms of return on assets (ROA) and profit margin (PM), we estimate the following equations:

$$Y_{it}(ROA) = \beta_1 + \beta_2 D_{it} + \beta_3 CR_{it} + \beta_4 DE_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + u_{it} \quad (1)$$

$$Y_{it}(ROA) = \beta_1 + \beta_2 D_{it} + \beta_3 QR_{it} + \beta_4 COV_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + u_{it} \quad (2)$$

$$Y_{it}(PM) = \beta_1 + \beta_2 D_{it} + \beta_3 CR_{it} + \beta_4 DE_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + u_{it} \quad (3)$$

$$Y_{it}(PM) = \beta_1 + \beta_2 D_{it} + \beta_3 QR_{it} + \beta_4 COV_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + u_{it} \quad (4)$$

Inside:

Subscripts i and t represent the i-th company and the t-order time respectively.

u_{it}: Error without mean and constant variance.

Modeling the impact of acquisitions on leverage

To examine the impact of acquisition deals on leverage through debt-to-equity ratio (DE) and interest coverage ratio (COV), we estimate the following equations:

$$Y_{it}(DE) = \beta_1 + \beta_2 D_{it} + \beta_3 CR_{it} + \beta_4 ROA_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + u_{it} \quad (5)$$

$$Y_{it}(DE) = \beta_1 + \beta_2 D_{it} + \beta_3 QR_{it} + \beta_4 PM_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + u_{it} \quad (6)$$

$$Y_{it}(COV) = \beta_1 + \beta_2 D_{it} + \beta_3 CR_{it} + \beta_4 ROA_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + u_{it} \quad (7)$$

$$Y_{it}(COV) = \beta_1 + \beta_2 D_{it} + \beta_3 QR_{it} + \beta_4 PM_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + u_{it} \quad (8)$$

Model of the impact of acquisitions on liquidity

To examine the impact of acquisition deals on liquidity through the current ratio (CR) and quick ratio (QR), we estimate the following equations:

$$Y_{it}(CR) = \beta_1 + \beta_2 D_{it} + \beta_3 COV_{it} + \beta_4 ROA_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + u_{it} \quad (9)$$

$$Y_{it}(CR) = \beta_1 + \beta_2 D_{it} + \beta_3 DE_{it} + \beta_4 PM_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + u_{it} \quad (10)$$

$$Y_{it}(QR) = \beta_1 + \beta_2 D_{it} + \beta_3 COV_{it} + \beta_4 ROA_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + u_{it} \quad (11)$$

$$Y_{it}(QR) = \beta_1 + \beta_2 D_{it} + \beta_3 DE_{it} + \beta_4 PM_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + u_{it} \quad (12)$$

Modeling for empirical Bayesian

In order to apply the empirical Bayesian estimation, from equations (1) to (12), we take the dependent variable Y_{it} in the form of a matrix and all of the control variables in their respective equations are considered X_{it} matrix. Priors are estimated by taking the average values of the financial ratios, age and size of the firms in our sample. These average values are considered as $\overline{Y}$ and $\overline{X}$ matrices to apply the empirical Bayesian estimation.

3. Results

3.1. Descriptive statistics

The result of the descriptive statistics shows that the return on asset (ROA) of these companies makes up an average of 6.87%. The DE ratio has the mean value (1.1949) very close to the minimum value (0.0626), which shows that most of the Vietnamese listed non-financial companies are financing their main business with shareholders' equity. In general, companies have less solvency because the mean value of CR variable (2.3260) is close to the minimum value (0.3986). The firm age (Age) has a huge disparity among the companies in the sample. Firm sizes are quite similar when the mean size (28) is moderately different from the maximum and the minimum value of variable.

Table 2. Descriptive statistics

Variable	n	Mean	S.D.	Min	0.25	Mdn	0.75	Max
ROA	200	0.0687	0.0653	-0.1266	0.0251	0.0537	0.1167	0.2670
PM	200	0.0772	0.0749	-0.1060	0.0217	0.0570	0.1211	0.3583
DE	200	1.1949	1.2240	0.0626	0.3653	0.7703	1.6343	7.4650
COV	200	128.8517	998.8131	-1.2e+02	0.9394	3.1401	10.5173	1.3e+04
CR	200	2.3260	1.5220	0.3986	1.2510	1.9052	2.8963	8.9030
QR	200	1.6363	1.4359	0.0754	0.6282	1.1992	2.2875	8.8592
Age	200	24.5500	12.9163	5.0000	13.5000	23.5000	34.0000	60.0000
Size	200	28.0060	1.4723	24.9354	27.1326	27.9371	28.6851	31.7680

Source: Stata 16 software results

3.2. Regression results according to Ordinary Least Squares Method (OLS)

Impact of acquisitions on profitability (ROA and PM)

Table 3 shows that acquisitions are at 1% statistically significant and have a negative impact on ROA. The acquisitions have a negative impact on the profit margin (PM) of the acquired companies, which is represented by a coefficient value of negative 0.0406015. Also, financial leverage as debt-to-equity ratio (DE) has a negative effect on PM. As we can see that, after the acquisitions, the profitability has been decreased due to the coefficient value of the dummy variable is negative. Quick ratio (QR) and size of the company have a significant positive effect on profit margin with coefficient values of 0.0225229 and 0.0100218 respectively.

Table 3. Impact of acquisitions on profitability (ROA, PM) represented in equations (1), (2), (3), (4) according to OLS Method

P>|t|	t	Std. Err.	Coef.	PM ROA	Coef.	Std. Err.	t	P>|t|
0.000	-4.52	0.008992	-0.0406015	D	-0.038417	0.0078252	-4.91	0.000
0.001	3.36	0.003161	0.0106345	CR	0.0082317	0.0027508	2.99	0.003
0.000	-6.01	0.003834	-0.0230251	DE	-0.024254	0.0033362	-7.27	0.000
0.000	4.53	0.003051	0.0138212	Size	0.013243	0.0026546	4.99	0.000
0.011	2.55	0.000342	0.000872	Age	-0.000239	0.0002973	-0.8	0.423
0.000	-3.60	0.08488	-0.3055274	_cons	-0.264756	0.0738627	-3.58	0.000
0.000	-3.96	0.009654	-0.0382603	D	-0.03575	0.008888	-4.02	0.000
0.000	6.45	0.00349	0.0225229	QR	0.017936	0.003213	5.58	0.000
0.170	-1.38	4.58E-06	-6.30E-06	COV	1.17E-06	4.21E-06	0.28	0.781
0.003	3.04	0.003297	0.0100218	Size	0.010484	0.003036	3.45	0.001
0.126	1.54	0.000387	0.0005947	Age	-0.00034	0.000357	-0.94	0.346
0.012	-2.53	0.09193	-0.2324552	_cons	-0.22591	0.084637	-2.67	0.008

Impact of acquisitions on leverage (DE and COV)

Table 4 provides evidence that acquisitions have a significant negative impact on debt-to-equity ratio (DE) because the coefficient of the dummy variable is negative 0.377453 with p-value of 0.016. The PM and the firm age have a significant negative relationship with the debt-to-equity ratio. The relationship between the firm age as well as the firm size with interest coverage ratio (COV) is negative.

Table 4. Impact of acquisitions on leverage (DE, COV) represented in equations (5), (6), (7), (8) according to OLS Method

P>|t|	t	Std. Err.	Coef.	COV DE	Coef.	Std. Err.	t	P>|t|
0.457	-0.75	157.7967	-117.5812	D	-0.377453	0.1559534	-2.42	0.016
0.662	0.44	1228.612	537.5458	ROA	-8.827487	1.21426	-7.27	0.000
0.560	0.58	52.54179	30.69293	CR	-0.189303	0.051928	-3.65	0.000
0.020	-2.35	52.9868	-124.2566	Size	0.171435	0.0523678	3.27	0.001
0.569	-0.57	5.714224	-3.262071	Age	-0.008511	0.0056475	-1.51	0.133
0.014	2.49	1464.044	3646.969	_cons	-2.137098	1.446942	-1.48	0.141
0.236	-1.19	156.0972	-185.4539	D	-0.336007	0.1647647	-2.04	0.043
0.170	-1.38	1115.175	-1534.301	PM	-7.393779	1.177097	-6.28	0.000
0.093	1.69	59.601	100.5188	QR	-0.143017	0.0629104	-2.27	0.024
0.045	-2.02	52.13062	-105.2463	Size	0.171913	0.0550252	3.12	0.002
0.491	-0.69	6.075412	-4.196761	Age	-0.000409	0.0064128	-0.06	0.949
0.026	2.25	1439.655	3238.229	_cons	-2.614683	1.519593	-1.72	0.087

Impact of acquisitions on liquidity (CR and QR)

The result presented in Table 5 shows that all the independent variables, ROA, COV and Age have a significant positive impact on the current ratio (CR) of the acquiring firms but the firm size. The results of the control variables show that COV is positive related to QR, which is not significant while the return on asset and age of the firm have a positive and statistically significant impact on liquidity position (QR) of the acquired companies.

Table 5. Impact of acquisitions on liquidity (CR, QR) represented in equations (9), (10), (11), (12) according to OLS Method

P>|t|	t	Std. Err.	Coef.	QR CR	Coef.	Std. Err.	t	P>|t|
0.787	0.270	0.191842	0.0519346	D	0.147852	0.2154789	0.69	0.4930
0.000	5.580	1.382213	7.715362	ROA	8.875207	1.552514	5.72	0.0000
0.305	1.030	8.72E-05	0.0000897	COV	0.0000572	0.0000979	0.58	0.5600
0.549	-0.600	0.064809	-0.0388769	Size	-0.126571	0.0727934	-1.74	0.0840
0.000	6.860	0.006651	0.0456183	Age	0.0316039	0.0074709	4.23	0.0000
0.563	0.580	1.785817	1.034024	_cons	4.394068	2.005846	2.19	0.0300
0.992	-0.01	0.187559	-0.0019872	D	0.0113251	0.2086965	0.05	0.957
0.000	4.47	1.384691	6.195902	PM	5.183264	1.540744	3.36	0.001
0.024	-2.27	0.07981	-0.1814355	DE	-0.3439331	0.0888046	-3.87	0.000
0.732	-0.34	0.063498	-0.021815	Size	-0.0679676	0.0706537	-0.96	0.337
0.000	5.23	0.006763	0.0353421	Age	0.0204809	0.0075248	2.72	0.007
0.517	0.65	1.722709	1.11895	_cons	3.730955	1.916857	1.95	0.053

3.3. Regression results according to Empirical Bayesian Estimation (EM)

In Bayesian statistics, drawing conclusions does not depend on the size of the data (Baldwin & Fellingham, 2013; Depaoli & van de Schoot, 2016; Doron & Gaudreau, 2014) and solutions for drawbacks of frequency statistics when population parameters are assumed to be constant but unknown. Therefore, the authors use Bayesian estimation method and Gibbs sampling algorithm to understand the impact of acquisitions on firm performance.

Impact of acquisitions on profitability (ROA and PM)

Table 6 illustrates that acquisitions reduce the profitability of the acquiring company based on the negative coefficient of the dummy variable. The current ratio has a positive effect on the return on assets ratio (ROA). On the other hand, the debt to equity ratio (DE) has a statistically significant and negative impact on ROA. In addition, firm size and age do not have a significant impact on profitability. The findings confirm the results of the OLS estimation and these results are in agreement with Loderer & Waelchli (2010).

Table 6. Impact of acquisitions on profitability (ROA, PM) according to Empirical Bayesian method

Median	MCSE	Std.Dev.	Mean	PM ROA	Mean	Std.Dev.	MCSE	Median
-0.04109	0.000624	0.00857	-0.04116	D	-0.0371917	0.008304	0.000791	-0.03731
0.010775	0.000284	0.003079	0.010786	CR	0.0081057	0.002658	0.000128	0.008038
-0.02316	0.000159	0.003766	-0.02324	DE	-0.0241379	0.003286	0.000155	-0.0242
0.013651	0.000124	0.002979	0.013726	Size	0.0133648	0.002799	0.000164	0.013403
0.000882	0.000023	0.000333	0.000877	Age	-0.0002046	0.000297	0.000013	-0.00021
-0.3012	0.003418	0.083115	-0.30248	_cons	-0.2700682	0.077948	0.004589	-0.27112
0.003553	7.90E-06	0.000365	0.003582	Sigma2	0.0027475	0.000282	6.10E-06	0.002725
-0.04021	0.000371	0.009746	-0.04016	D	-0.03699	0.008904	0.00044	-0.03743
0.022661	0.000237	0.003609	0.022745	QR	0.017607	0.003314	0.000181	0.017653
-5.43E-06	2.40E-07	4.46E-06	-5.50E-06	COV	1.78E-06	4.23E-06	2.10E-07	1.70E-06
0.01188	0.000268	0.000965	0.011699	Size	0.012312	0.001668	0.000487	0.012566
0.000617	0.000022	0.000404	0.000624	Age	-0.00026	0.000361	0.000017	-0.00026
-0.28478	0.0073	0.024393	-0.27935	_cons	-0.27785	0.04508	0.013547	-0.28463
0.004038	9.30E-06	0.000413	0.004075	Sigma2	0.003466	0.000353	8.10E-06	0.003442

Impact of acquisitions on leverage (DE and COV)

In Table 7, the results related to control variables such as ROA, CR are similar to the results of OLS. The acquisition reduces the leverage of the debt to equity (DE) ratio. Firm age and profit margin have a negative but almost insignificant effect on the debt to equity ratio of the acquiring company. Firm size has almost no effect on leverage, however, we surprisingly find the impact of quick ratio on debt to equity ratio to be negligible.

Table 7. Impact of acquisitions on leverage (DE, COV) according to Empirical Bayesian method

Median	MCSE	Std.Dev.	Mean	COV DE	Mean	Std.Dev.	MCSE	Median
-85.6269	5.80341	87.64488	-85.0768	D	-0.38167	0.155307	0.00755	-0.39085
2.491845	7.43379	102.2585	0.284038	ROA	-8.87520	1.207331	0.067572	-8.91846
43.28534	1.83179	42.09648	43.58529	CR	-0.18966	0.053678	0.002587	-0.19091
2.842055	0.423402	6.805333	2.740549	Size	0.174793	0.051885	0.002371	0.175174
-1.42274	0.307969	5.715118	-1.20553	Age	-0.00811	0.005595	0.000272	-0.00808

Median	MCSE	Std.Dev.	Mean	COV DE	Mean	Std.Dev.	MCSE	Median
11.28935	4.3325	98.46849	14.34781	_cons	-2.23184	1.428715	0.070435	-2.24234
1001142	2216.5	102747.8	1005975	Sigma2	0.958515	0.09816	0.002232	0.952645
-83.8702	5.34672	83.69683	-83.4722	D	-0.33871	0.162105	0.00664	-0.34132
-10.7746	4.03865	98.75644	-11.9929	PM	-7.37098	1.160827	0.059066	-7.43568
51.87961	2.43983	50.30097	53.61055	QR	-0.14293	0.063413	0.004992	-0.14352
3.552624	0.487491	6.979184	3.544836	Size	0.175194	0.053627	0.003483	0.175757
-1.51718	0.450323	5.874784	-1.61651	Age	-0.00025	0.006407	0.000445	-0.00032
25.88365	6.58212	107.2028	22.6277	_cons	-2.71282	1.482196	0.094379	-2.71497
998753.6	2238.04	103996.6	1006294	Sigma2	1.078899	0.110697	0.002749	1.074256

Impact of acquisitions on liquidity (CR and QR)

Ultimately, the results from Table 8 provide evidences that the impact of acquisitions is positive but not considerable, a finding which is consistent with the OLS estimation results that the authors presented earlier. In particular, it can be observed that the coefficient of the dummy variable is negative, however, it is not statistically significant.

Table 8: Impact of acquisitions on liquidity (CR, QR) according to Empirical Bayesian method

Median	MCSE	Std.Dev.	Mean	QR CR	Mean	Std.Dev.	MCSE	Median
0.023653	0.031237	0.137961	0.029912	D	0.172103	0.187729	0.009154	0.169633
7.148932	0.147837	0.647432	7.085411	ROA	9.23923	0.366795	0.057723	9.237204
7.99E-05	3.40E-06	8.29E-05	7.91E-05	COV	4.69E-05	9.51E-05	3.90E-06	4.37E-05
-0.05702	0.004186	0.016347	-0.05829	Size	-0.13965	0.024275	0.006529	-0.13916
0.045815	0.000206	0.006635	0.045961	Age	0.031619	0.006905	0.000223	0.031635
1.59881	0.136335	0.480758	1.622833	_cons	4.723178	0.686018	0.179974	4.709003
1.429939	0.003495	0.147113	1.440262	Sigma2	1.810287	0.184882	0.00433	1.795468
-0.00558	0.014201	0.193428	-0.00157	D	-0.0115	0.222199	0.015388	-0.00946
6.17549	0.074832	1.420199	6.167458	PM	4.997528	1.547903	0.080411	5.031069
-0.18252	0.003581	0.081343	-0.18238	DE	-0.34305	0.091115	0.003632	-0.34143
-0.02215	0.003159	0.063189	-0.02154	Size	-0.05599	0.078304	0.007702	-0.0565
0.036194	0.000453	0.007016	0.035866	Age	0.020747	0.007908	0.000489	0.020451
1.108815	0.08634	1.727342	1.090366	_cons	3.428449	2.119639	0.202372	3.413143
1.363246	0.003158	0.139507	1.369757	Sigma2	1.698946	0.175554	0.004222	1.684869

4. Discussion and Conclusion

The results of the study on the impact of acquisitions on the profitability of companies are consistent with the study (Pawaskar, 2001), showing that acquisitions do not lead to profit growth. Although the acquisition of a less-growing company helps to increase market share, it also increases costs in the early stages, especially agency costs in the acquired company due to changes in the company's organizational structure... However, quick ratio (QR) and firm size have a statistically significant and positive effect on ROA. At the same time, similar to Loderer & Waelchli (2010) and Singh & Mogla (2008, 2010) studies, the results of traditional OLS methods and Bayesian empirical estimation both prove that acquisitions reduce profit. The study's findings suggest that firms with more liquidity are likely to have higher profit margin, while firms with high debt to equity ratios are likely to have lower profit margin.

From the results of studying the impact of acquisitions on leverage, we conclude that acquisitions have no statistically significant effect on leveraged positions, as measured by COV of acquired companies in Vietnam. But the evidences obtained from the two methods also show that acquisitions have a considerably negative impact on debt to equity (DE) ratio.

Finally, for the liquidity ratio of the sample firms, the acquisitions, although have a positive impact, do not affect substantially to the current ratio and do not have any statistical significance to the quick ratio of the acquired company.

5. References

1. Chang, S. C., & Tsai, M. T. (2012). Long-run performance of mergers and acquisition of privately held targets: Evidence in the USA. Applied Economics Letters, 20(6), 520-524.
2. Baldwin, S.A & Fellingham, G.W. (2012). Bayesian Methods for the Analysis of Small Sample Multilevel Data With a Complex Variance Structure. Psychological methods, 18(2), 151-164.
3. Chatfield, H. K., Dalbor, M. C., Ramdeen, C. D., & Harrah, W. F. (2011). Returns of merger and acquisition activities in the restaurant industry. Journal of Foodservice Business, 14(3), 189-205.
4. Chatfield, H. K., Chatfield, R., & Dalbor, M. (2012). Returns to hospitality acquisitions by method of payment. The Journal of Hospitality Financial Management, 20(1), 1-16.
5. Depaoli, S. & Schoot, R. (2016). Improving Transparency and Replication in Bayesian Statistics: The WAMBS-Checklist. Psychological Methods, in press.
6. Doron, J. & Gaudreau, P. (2014). A Point-by-Point Analysis of Performance in a Fencing Match: Psychological Processes Associated With Winning and Losing Streaks. Journal of sport & exercise psychology, 36(1), 3-13.

7. Gugler, K., Mueller, C. D., Yurtoglu, B. B., & Zulehner, C. (2003). The effects of mergers: An international comparison. International Journal of Industrial Organization, 21(5), 625-653.

8. Leepsa, N. M., & Mishra, C. S. (2012). Post merger financial performance: A study with reference to select manufacturing companies in India. International Research Journal of Finance and Economics, 1(83), 6-17.

9. Leepsa, N. M., & Mishra, C. S. (2013). Wealth creation through acquisitions. Decision, 40(3), 197-211.

10. Leepsa, M., & Mishra, S. (2014). An examination of success of merger and acquisitions sector in India using index score.

11. Luận văn Thạc sĩ Kinh tế của tác giả Nguyễn Thanh Nhàn 2019 "Phân tích tác động của hoạt động mua bán và sáp nhập đến hiệu quả hoạt động của các công ty niêm yết''.

12. Leepsa, N. M., & Mishra, C. S. (2016). Theory and practice of mergers and acquisitions: Empirical evidence from Indian cases. IIMS Journal of management science, 7(2), 179.

13. Loderer, C. & Waelchli, U. (2010). Firm Age and Performance. SSRN Electronic Journal.

14. Pace Institute of Management -"Những thương vụ M&A đình đám trên thế giới".

15. Pawaskar, V. (2001). Effect of Mergers on Corporate Performance in India. Vikalpa, 26(1), 19-32.

16. Singh, F., & Mogla, M. (2008). Impact of mergers on profitability of acquiring companies. ICFAI Journal of Mergers and Acquisitions, 5(2), 35-50.

17. Singh, F., & Mogla, M. (2010). Profitability analysis of acquiring companies. IUP Journal of Applied Finance, 16(5), 72-90.

18. Tạp chí tài chính " 10 Thương vụ M&A ấn tượng trong năm 2019".

19. Tạp chí tài chính '' Kinh tế Việt Nam đi lên nhờ toàn cầu hóa''.

20. TS. Nguyễn Thị Việt Nga – "Triển vọng hoạt động mua bán và sáp nhập doanh nghiệp tại Việt Nam" (2019) - Học viện Tài chính.

21. Rashid, A. & Naeem, N. (2016). Effects of Mergers on Corporate Performance: An Empirical Evaluation using OLS and the Empirical Bayesian Methods. Borsa Istanbul Review, 17(1), 10-24.

AGRICULTURAL EXPORT: WHICH SPECIALIZED SKILLS THAT VIETNAMESE SME MANAGERS NEED TO OVERCOME TECHNICAL TRADE BARRIERS

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Abstract

In recent years, Vietnamese agricultural export has increased significantly due to the growth in the market demand, the improvement in product structure, the intensive application of high technology, as well as the incentives of the government. Nonetheless, the capabilities of Vietnamese small and medium-sized enterprises' (SMEs') agricultural products to meet the technical requirements of the international market is still limited. In this situation, the support related to human resource management in order to enhance abilities for SME managers is extremely necessary. By adopting qualitative approach, this paper investigates the perceptions of Vietnamese agricultural exporters with regard to specialized skills they need in export. Data is collected through in-depth interviews with 124 Vietnamese SMEs doing business in various fields, exporting various agricultural products and coming from various provinces/cities in Vietnam. The participants shared a range of training need with regard to knowledge to help them overcome technical barriers, which was then used to develop appropriate training courses. SME managers and training institutions may use the outcomes of this study do develop effective training programs for SME managers.

Keyword: *specialized skills, technical barriers, Vietnam, SMEs*

1. Introduction

A great number of Vietnamese agriculture product types, especially Vietnamese fruits, are increasingly penetrated fastidious markets, which also sets the higher requirements for quality improvement for Vietnamese producers. However, in export, SMEs are often required to adjust their products to meet the requirements of markets, especially of fastidious markets. A number of product adjustments need to follow the regulations of the governments of the importing countries, especially those regarding the protection of the health and safety for their citizens (Leonidou 2004).

This paper, to begin with, explores the perceptions of Vietnamese agricultural SME managers with regard to specialized skills needed to help them overcome technical barriers in export. Subsequently, implications related to relevant training programs on technical skills are provided. Research outcomes are expected to be beneficial to SME managers and training/consulting institutions in assisting Vietnamese SMEs to overcome technical barriers in exporting agricultural products to overseas markets.

2. Literature Review

Agricultural export

Enterprises tend to export goods and services for many reasons. Particularly, export may help firms increase their revenue and profit when accessing new markets as well as reduce business risks by diversifying export markets (Troy, 2019). For SMEs, they tend to penetrate into international markets when they realize that the domestic market for their goods and services is saturated or is on the downward trend (Daniels *et al.*, 2013). The decision to expand the market is also made when SMEs want to maintain the development pace, gain numerous benefits such as accumulating international business experiences, accessing modern technology and financial sources, as well as joining the supply chain (Edinburgh Group, 2014; European Commission, 2003).

Agricultural product export activities has witnessed the more involvement of SMEs. When developing countries increasingly participate in the global supply chain of agricultural products, the role of SMEs is increasingly important. Global Trade Report 2016 (WTO, 2016) pointed out some characteristics of the agricultural export activities of SMEs. Firstly, the share of SMEs participating in the agricultural export is still low compared to large enterprises. Secondly, almost all SMEs are indirectly involved in the export of agricultural products. Thirdly, thanks to the revolutionary advances in information technology and e-commerce, the potential of SMEs to participate in export is growing. Fourthly, governments are likely to pay more attention to promoting the participation of this sector in agricultural exports.

Technical trade barriers to SMEs in agricultural export

The impacts "Technical Barriers to Trade" (TBT) on different countries, with different economic growth are not the same. Bao and Qiu (2012) described that measures related to TBT imposed by a developing country have greater impact on export of other developing countries rather than on that of developed countries. However, TBT introduced by a developed country can affect equally export of both developed and developing countries. The export activities of developed countries affected by TBT of developed countries are normally greater than that of developing countries.

Research of Decreux *et al*. (2010) on the impact of NTBs in the EU-Korea free trade area also emphasized that different industries are generally affected differently. Bao and Qiu (2010) supported this view by noting that the impacts of TBT on agriculture and other commodities are different. Accordingly, TBT is considered as a factor limiting commercial transactions of agricultural products, but promoting commercial transactions of manufactured products. The results of this study is quite similar to studies of other authors such as Fontagne *et al.* (2005), Disdier *et al.* (2008) and Moenius (2004). Fontagne *et al.* (2005) generalized the findings of the Moenius (2004) by indicating that trade barriers, including TBT, have a negative impact on trade in agricultural products, but have little or even positive impact on trade in the majority of other commodity production. Choi *et al.* (2015) reflected that the "Sanitary and Phytosanitary Measures" (SPS) affecting the trade of the agricultural and food sectors is greater than that of other industries, when considering the international business among China, Japan and Korea.

As can be seen from above studies, TBT have a quite negative impact on the export of agricultural products, especially for developing countries. Therefore, a study with the aim of supporting enterprises in developing countries such as Vietnam in order to overcome the challenges from technical barriers becomes more crucial.

3. Method

3.1. Data Collection

According to Saunders *et al.* (2012), in the studies where the perceptions of participants are investigated the qualitative method should be used. The qualitative method often enables researchers to obtain rich and detailed responses to their investigation (Bryman & Bell, 2011). The primary data in this research were collected in the form of semi-structured interviews. This type of interview provides the researcher with the opportunity to probe answers provided by the interviewees, as they are asked to explain or build on their responses (Bryman & Bell, 2011; Saunders *et al.*, 2012). During the interviews, particular responses may provide interesting and useful ideas for the interviewer to develop the study further.

This research was conducted with 124 agricultural export SMEs. Based on the list of agricultural SMEs in selected provinces, the researcher approached SME managers. Thanks to the introduction of state officials in these provinces, the researcher found it more convenient to connect SME managers. Besides, many of participants were referred by previous interviewees, by using the “snow-ball” technique. The interview protocol was used to assist the interviewer during interview.

3.2. Data Analysis

According to Creswell (2014), qualitative researchers use a step-by-step procedure to systemize the data analysis process. In such a process, researchers organized the data, conducted a preliminary read-through of the database, coded and organized themes, and organized the data in a format for interpretation. The qualitative QSR support software Nvivo supported the data analysis process.

4. Results

4.1. Understanding of technical requirements

General understanding of technical requirements

To begin with, SME managers in this study expressed their need to gain a general understanding of technical standards, as"*knowledge of technical barriers has a huge impact on agricultural export*" (M_82). Besides, the SME manager wanted to acquire "*in-depth knowledge of technical barriers because it directly affects the production process to create commodities to meet the requirements"* (M_30). From their view, only when they master regulations related to technical standards, they may "*avoid violating international regulations*" (M_78), as well as "*minimize the risks in export* " (M_80). This becomes more essential when the understanding of Vietnamese SMEs in this issue is still limited, whereas the requirements from foreign markets are becoming stricter and more complicated. One SME manager emphasized:

"I expect to be equipped with specialized skills related to technical barriers. Currently, technical barrier is still a big challenge for Vietnamese agricultural exporters. An agricultural firm that wants to survive and develop needs to have a deep understanding of all technical requirements to manufacture satisfactory products" (M_29)

In addition, SME managers also wanted to be aware of "*the impact of technical barriers on factors such as price determination and selection of export products*" (M_115). In certain cases, to meet the standards, SMEs have to make great investment in technology, which pushes production costs higher and leads to a disadvantage in price competition.

Proficient use of methods to meet technical requirements

Along with understanding of technical barriers and "*skills to assess and analyze technical requirements*" (M_113), SME managers also wanted to acquire skills to apply and implement activities to meet these technical requirements. Based on the widely and consistently trained and shared knowledge, the manufacturers, exporters, farming households and trading firms would be unified in accordance to the requirements, creating standard export products. One SME manager said: *"We must learn specialized knowledge of technical standards because mastering this knowledge may help us set specific criteria to meet the agricultural export requirements"* (M_72).

Mastering techniques and methods of production and business to meet technical standards becomes much more difficult for SMEs which are new to agricultural export business. Therefore, with these young firms, the skills assisting them to use techniques in manufacturing and exporting to meet technical requirements become more important, as shared by one SME manager:

"I expected to have the ability to use proficiently techniques to meet technical standards in agricultural export, as my company has just established, the standardization in manufacturing and operation has not completed" (M_100)

SME managers also wished to acquire techniques and methods to handle disputes related to technical barriers. One SME manager expressed: *"I need to be proficient in technical methods to meet technical standards, both in production for export, and in dealing with legal matters"* (M_84)

Update and forecast changes related to technical requirements

SME managers shared the need to be updated on information related to technical standards in order to "*meet the requirements of new partners, new markets*". (M_47) and to "*make appropriate adjustment*". (M_94).

Recognizing that the technical standards are becoming stricter, which is due to serves trade barriers and the more demanding requirements of consumers, especially those on food safety, SME managers showed the importance of proactive adaption to changes related to technical standards in agricultural export. In this case, the learning skills of SME managers is strongly crucial.

Agricultural export SME managers also expected to acquire "*skills to predict technical barriers*" (M_76). Capturing "*changes and trends in the application of technical barriers by countries*" (M_115) may help SMEs to be more proactive in production and export, as well as in business strategies adjustment.

4.2. Specific understanding of technical regulations

Understanding of packaging and labeling regulations

Knowledge of standards related to packaging and labeling was believed to help SME managers to provide correct information on product packaging that satisfies labeling requirements, especially those of some difficult export markets. The information provided on the packaging, especially on agricultural products labelling, was believed to be "*directly related to consumer health and the environment*" (M_33), therefore, it is often strictly regulated.

Understanding of food safety regulations

Among technical requirements, food safety standards were emphasized by SME managers as the most important condition, as shared by one SME manager: *"It is necessary to master food safety requirements in export because a very small deviation may make agricultural products to be rejected"* (M_50).

Furthermore, "*a small trouble related to food safety may greatly affect the reputation of the company*" (M_19). Therefore, SME managers extremely stressed that this understanding must be in-depth, comprehensive and updated. One SME manager emphasized: "*The agricultural export SMEs need to have thorough and comprehensive* *understanding of regulations on quality and food safety standards, otherwise it may lead to great loss"* (M_55).

Meanwhile, the capabilities to meet food hygiene and safety standards is still a huge limitation of Vietnamese export SMEs, as shared by a manager: *"Among challenges from export markets, strict regulations on phytosanitary and food safety are major problems of many Vietnamese agricultural SMEs in export"* (M_123).

SME managers particularly showed the need for "*in-depth knowledge of food safety and hygiene standards in both traditional and potential markets*" (M_88). They wanted to master food safety standards in some key markets that they are approaching, especially in difficult ones such as Japan and Korea. One SME manager said: *"I need understand technical standards of food hygiene and safety because they are the most important regulation in exporting to Japan, Korea. However, many Vietnamese agricultural exporters have not meet these requirements "* (M_77).

Understanding of the maximum residue levels of Pesticides

Vietnamese SME managers wished to earn more specific understanding of regulations related to maximum levels of pesticide residues. These regulations have been commonly used by countries to protect domestic production, as shared by a manager *"Some countries set very low residue levels and they are extremely difficult to satisfy"* (M_40). In fact, these standards are often considered as "*the biggest concern of Vietnamese exporters*" (M_81).

In addition, regulations related to *"maximum residue levels of other chemicals that affect product quality*" (M_95) were also requirements that SME managers need to satisfy.

Understanding of product traceability

How to gain certifications of origin of agricultural products was a content that SME managers wanted to master. Among these certificates, Hazard Analysis and Critical Control Points (HACCP) was particularly emphasized by Vietnamese SME managers.

Understanding of phytosanitary regulations

Regulations related to phytosanitary such as irradiation requirements were standards that Vietnamese agricultural export suggested to be considered when exporting. These regulations have been seen as a great challenge of Vietnamese agricultural exporters and require the investment of SMEs in all stages of production and export. One SME manager said:

"The most difficult technical barriers for my company are phytosanitary and food safety which are usually set at a high level by foreign markets and require great effort to satisfy" (M_121).

4.3. Understanding of voluntary certifications

The understanding of voluntary certifications related to food hygiene and safety, working safety, environmental issues...was also the content that SME managers in this study expected to master.

Understanding of ISO 14001

According to the SME managers, environmental protection is a responsibility not only of individual enterprise, but also of the whole community. In particular, ISO 14001 related standards such as the Environmental management system (EMS) were particularly noted by participants.

Understanding of SA 8000

From the view of Vietnamese SME managers, ensuring corporate social responsibility (CSR) and management system certification (SA 8000) are related to increasing export competitiveness as well as maintaining sustainable development and corporate reputation for SMEs. One SME manager said: *"I need knowledge and skills to apply SA8000 because it is the inevitable requirement for enterprises to integrate into international markets"* (M_20).

Furthermore, understanding of food safety management system certification (ISO 22000), Hazard Analysis and Critical Control Point (HACCP), Certificate of Good Agricultural Practice (Euro Gap/Global Gap), Good Manufacturing Practices (GMP), or Food Quality Certifications such as Geographical Indications (GI), were also contents related to voluntary certifications that SME managers in this study wished to capture.

4.4. Understanding of product quality requirements

From the viewpoints of SME managers in this study, overcoming technical barriers requires them to gain an in-depth understanding of product quality. In particular, satisfying product quality standards and testing requirements is a prerequisite for penetrating any foreign market. One SME manager shared: *"it is necessary to understand quality standards and requirements related to inspection to avoid losing export opportunities and exporting banned commodities"* (M_55).

Product quality was perceived to be directly related to the export capacity of agricultural SMEs, and requires the efforts of many stakeholders. One SME manager said: *"Improving product quality requires the efforts of many relevant parties such as farmers, manufacturers, exporters, researchers and state agencies"* (M_123).

In particular, SME managers emphasized the importance of "*understanding export product quality requirements of the target markets*" (M_15). One SME manager stressed:

“Only when the enterprises’ product meets the quality requirements of the target markets, the export objectives may be reached and the unnecessary risks may be avoided” (M_44).

To satisfy product quality standards, the SME managers shared the wish to understand "*procedures to assess quality standards to meet technical standards*" (M_23). Based on the understanding of product quality procedures and assessment processes, the agricultural export SMEs may "*produce and export the most appropriate products”* (M_39).

4.5. Understanding of product quality regulations of specific export markets

In order to export to a certain market, SME managers needed to master "*export regulations and technical standards of particular export countries*" (M_32) as "*each market has its own particular requirements for different products*" (M_44). One SME manager said: *“Each country has a different system of standards for product quality, especially for food safety. A single fault related to product quality may cause huge losses, including a loss of enterprises’ reputation. Therefore, it is necessary to understand quality standards of each export country”* (M_19).

SME managers also expressed the need for group of technical standards required by both traditional and potential markets, as well as those from certain regions such as the EU and the US. The requirements of difficult markets such as Korea, Japan are specific contents that SME managers would like to understand. One SME manager said: *“I need knowledge about technical standards currently applied in the most demanding markets in order to manufacture and supply products to meet specific standards in those demanding markets”* (M_89).

In particular, SME managers needed skills to examine the suitability between the quality requirements of each market and their production and export capacity in order to develop strategies to select the right product-market pair and minimize possible risks. One SME manager said:

“I need in-depth knowledge of quality standards and skills of standard analysis of potential export markets. I also want to understand the process of assessing and verifying the product quality on these markets, thereby ensuring the quality of exported goods, limiting risks in export” (M_05).

Due to “*difficulties in satisfying technical requirements set by export markets*” (M_33), as well as the potential loss of violating regulations of export markets, SME managers expected the government should develop programs to help them acquire fully understanding of policies and regulations related to the standards of key exporting countries. Based on that, "*SMEs will be more proactive in preparing conditions to overcome barriers*" (M_20).

4.6. Understanding of agricultural product regulations

SME managers in this study paid particular attention on regulations in agricultural export. From their view, technical standards in agricultural export is strongly difficult to overcome, compared to other industries. Besides, due to the limited export value of Vietnamese agricultural products, they expected to gain knowledge of technical standards to increase export value. One SME manager said: *"I need knowledge of agricultural production, especially technical standards to improve export value, ensuring the quality of agricultural products"* (M_01).

SME managers also emphasized the need for understanding technical standards of agricultural products in specific markets in order to produce, cultivate and trade agricultural products in appropriate to the requirements of export markets. SME managers believed that as agricultural standards are usually related to human health, countries often set strict barriers to these products. They expected to participate training activities to improve understanding of agricultural technical standards of key export countries.

Almost all SME managers interviewed acknowledged that technical standards are normally used as non-tariff barriers and protection tools for agricultural production in export countries. Therefore, it requires SMEs to proactively satisfy these standards to seize export opportunities.

In particular, SME managers in the study wanted to have an in-depth understanding of the standards set for organic agricultural products regulated in particular export markets. One SME managers said: *"I need to know about standards set for organic products in the US, EU, Japan, Australia markets to which my company tends to export agricultural products"* (M_107).

4.7. Understanding technical standards for specific agricultural products

Besides the difference among markets, the differences in technical standards set for various export products were emphasized by SME managers as the knowledge they wanted to master, as shared by one SME manager: *"In fact, each type of agricultural product has its own characteristics and the requirements of each export market for these products are also different. Therefore, SMEs need to fully understand these requirements to reduce the risks"* (M_99).

SME managers wished to master technical standards applied for specific agricultural products to better prepare suitable products for export. One SME manager took an example

"I need to understand the regulations set for lychee products when exporting to certain markets. Normally, there are requirements for traceability, pesticide residues and irradiation prior to export" (M_107).

Because of these differences, SME managers expected to join in-depth training courses on particular agricultural export products, such as "*training on standards in fruit export, particularly on lychee export*" (M_110) with the aim of developing and adjusting business strategies, in accordance with the requirements of target markets. However, it is difficult for one course to cover all the barriers in all markets, thus "*introduction to technical barriers of some popular target markets of Vietnamese agricultural SMEs*" (M_119) was the content that participants wanted.

5. Discussion and Conclusion

5.1. Implications

Based on qualitative findings, some training programs to improve knowledge of SME managers with regard to technical barriers in trade are provided. Accordingly, training courses on TBT should support SME managers improve their capabilities to be able to: Know how to identify and distinguish technical barriers; Know how to assess the possible impact of technical barriers on import-export activities; Know how to meet technical barriers set by specific markets.

Specific courses focusing on enhancing in-depth knowledge related to technical standards should include following contents: Introduction on general TBT; Technical requirements (labeling, terms used); Inspection procedures (accreditation, sampling, testing, registration, approval); Analysis of agreements on TBT

Some specific contents related to TBT that need to be clarified to participants are:

- *Introduce regulations prohibiting or restricting import of products shown in the Technical Barriers to Trade (TBT) regulations:* Prohibitions regulated in TBT; Authorization requirements for reasons related to TBT; Registration requirements for importers in accordance to TBT regulations; Other requirements or prohibitions

- *Introduce regulations on maximum levels of pesticides chemicals in products:* General introduction about maximum levels of pesticides and chemicals in products; Regulations on restricting the use of certain substances

- *Introduce regulations on labeling:* General regulations on labeling; Regulations on labels for shipping procedures; Product packaging specifications

- *Introduce regulations on production and post-production regulations:* TBT on the manufacturing process; TBT regulations on transport and storage; Other requirements

- *Introduce requirements on product identification and quality assessment (such as organic and ecological labels)*

- *Introduce product quality regulations:* Assessment on quality conformity related to TBT; Requirements on product registration; Requirement on testing (Conformity);

Certification requirements (according to a certain standard); Inspection requirements (in the importing country); Requirements on traceability information (in production, processing and distribution).

- *Introduce regulations on pre-shipment inspection:* Regulations and procedures for inspection before checking; Requirement on direct deposit; Requirements for permission to pass through customs ports; Requirements for import monitoring (automatic licensing process); Other procedures

Training courses on voluntary sustainable certification should also be provided to Vietnamese SME exporters, such as those related to Environmental certification includes certification for Organic Agriculture, Other regulations such as ISO 14001 and ISO 22000; Social certification such as SA 8000; Certificate of food safety and good practice including: GAP, GMP, GI.

In addition to the general introduction, training courses for Vietnamese agricultural export SMEs should specify the contents associated with the export of agricultural products and appropriate to the limited capacities of Vietnamese SMEs. Apart from training courses, seminars and workshops to help SMEs update the changes related to technical standards are also essential.

Furthermore, the courses should include in-depth contents related to technical standards for agricultural products exported to specific markets, as well as technical standards for some specific agricultural products. Therefore, the grouping of exporters with similar products, exporting to similar markets in training courses or seminars may increase training efficiency.

5.2. Conclusion

The paper has provided the perceptions of Vietnamese SME managers with regard to skills and understanding needed to overcome technical barriers in agricultural export. SME managers shared a range of knowledge, from general understanding of technical standards to specific regulations related to labeling, food safety, maximum residue levels of pesticides, product traceability, and phytosanitary, etc. The understanding of product quality regulations applied in specific markets and for particular products were also reflected by SME managers. Based on the training need investigated, some implications related to training courses were provided.

6. Reference

1. Bao, X.H. & Qiu, L.D. (2012). How do technical barriers to trade influence trade? *Review of International Economics*, *20*(4), 691–706.
2. Bryman, A. & Bell, E. (2011). *Business Research Method.* OUP Oxford

3. Choi, B. Y., Bang, H. K., Lee, B. R. & Yoo, S. B. (2015). *A proposal to lower non-tariff barriers of China, Japan and Korea.* KIEP

4. Creswell, J.W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches.* Thousand Oaks, CA: Sage

5. Daniels, JD, Radebaugh, LH & Sullivan, DP (2013). *International business: Environments and operations,* 14th edn. Pearson, Boston.

6. Decreux, Y., Milner, C. & Péridy, N. (2010). Some new insights into the effects of the EU–South Korea Free Trade Area: the role of non-tariff barriers. *Journal of Economic Integration*, *25*(4), 783–817

7. Disdier, A., Fontagne, L. & Mimouni, M. (2008). The impact of regulations on agricultural trade: evidence from the SPS and TBTagreements. *American Journal of Agricultural Economics*, *90*(2), 336–50

8. Edinburgh Group (2014). *Growing the global economy through SMEs.* UK.

9. European Commission (2004). *Internationalisation of SMEs.* Luxembourg.

10. Fontagne, L., Mimouni, M. & Pasteels, JM. (2005). Estimating the Impact of Environmental SPS and TBT on International trade. *Integration and Trade Journal*, *22* (3), 2005

11. Leonidou, LC (2004). An analysis of the barriers hindering small business export development. *Journal of Small Business Management*, *42* (3), 279-302.

12. Moenius, J. (2004). Information versus product adaptation: the role of standards in trade. *Kellogg School of Management Working Paper*, Northwestern University

13. Saunders, M, Lewis, P & Thornhill, A (2012). *Research Methods for Business Students*, 6th edn., Pearson, Harlow, England.

14. Troy, S. (2019), *Export Definition*, investopedia.com

15. WTO (2016). World Trade Report, 2016, *Levelling the trading field for SMEs.*

List of Participants

Code	Position	Location	Labour (people)	Capital (million)	Age (year)	Main markets
M_01	Sale Leader	Hanoi	10-200	10-20	6-10	China
M_05	Sale Leader	Ha Tinh	10-200	<10	6-10	Various markets
M_15	Sale Leader	Hanoi	<10	<10	<3	Various markets
M_19	Sale Leader	Hanoi	10-200	<10	6-10	Variouis markets
M_20	Director	Hanoi	<10	<10	6-10	Various markets
M_23	Sale Leader	Hanoi	200-300	10-20	6-10	China
M_29	Deputy Director	Hanoi	10-200	20-100	3-5	Korea
M_30	Sale Leader	Hanoi	10-200	10-20	>20	Various markets
M_32	Sale Leader	Hanoi	10-200	10-20	11-20	EU
M_33	Director	Lang Son	<10	<10	3-5	China
M_39	Deputy Director	Hanoi	10-200	10-20	3-5	India
M_40	Director	Hanoi	10-200	10-20	<3	EU
M_44	Sale Leader	Thai Nguyen	10-200	<10	11-20	China
M_47	Sale Leader	HCMC	10-200	20-100	6-10	Singapore
M_50	Sale Leader	Hanoi	10-200	10-20	3-5	China
M_55	Sale Leader	Ninh Binh	10-200	20-100	11-20	China
M_72	Sale Leader	Ha Nam	10-200	10-20	<3	Various markets
M_76	Director	Son La	10-200	20-100	>20	Taiwan
M_77	Sale Leader	Son La	10-200	10-20	3-5	Korea

M_78	Director	Son La	10-200	<10	11-20	China
M_80	Sale Leader	Son La	10-200	10-20	11-20	US
M_81	Director	Son La	<10	<10	11-20	Iran
M_82	Director	Son La	10-200	10-20	11-20	EU
M_84	Sale Leader	Son La	200-300	20-100	>20	EU
M_88	Sale Leader	Son La	10-200	20-100	>20	Afganistan
M_89	Sale Leader	Son La	10-200	20-100	3-5	EU
M_94	Sale Leader	Bac Giang	200-300	10-20	6-10	China
M_95	Director	Bac Giang	200-300	10-20	11-20	Belarut
M_99	Director	Bac Giang	10-200	20-100	11-20	China
M_100	Director	Bac Giang	<10	<10	<3	China
M_107	Deputy Director	Bac Giang	<10	10-20	6-10	China
M_113	Sale Leader	Hai Duong	10-200	10-20	<3	Various markets
M_115	Sale Leader	Hai Duong	10-200	20-100	11-20	EU
M_119	Sale Leader	Hai Duong	10-200	<10	3-5	China
M_121	Sale Leader	Hai Duong	10-200	<10	3-5	China
M_123	Director	Quang Ninh	10-200	20-100	3-5	Various markets

EXTENDING THE DUNNING'S INVESTMENT DEVELOPMENT PATH MODEL TO EVALUATE THE DETERMINANTS OF VIETNAM'S OUTWARD FOREIGN DIRECT INVESTMENT

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Abstract

In the context of integration, in addition to increasing foreign capital inflows, Vietnamese enterprises are becoming more and more interested in outward foreign direct investment activities. This research expands the Investment Development Path model to assess the influence of some macroeconomic factors (GNI per capita, the proportion of expenditure on science and technology, FDI flows, USD to VND exchange rate, total import-export turnover) on Vietnamese enterprises' outward foreign direct investment (OFDI) flows. Using the 32-year dataset (1989-2020), the regression results depict that the proportion of expenditure on science and technology, the amount of FDI, GNI per capita had a positive impact on the capital OFDI of Vietnam. However, the growth rate of total import-export turnover harmed OFDI flows in the same period. Meanwhile, the difference variable of exchange rate USD to VND in the multiple regression model didn't have statistical significance. Based on regression model results combined with qualitative studies, the authors propose some policy implications to promote OFDI flows of Vietnam in the near future.

Keywords: *Investment Development Path, OFDI.*

1. Introduction

Vietnamese enterprises have started carrying out OFDI projects since the late 1980s. However, Vietnam's OFDI flows over the past 30 years have experienced many fluctuations in both registered capital and number of projects. Accumulated to the end of 2020, Vietnamese enterprises have invested abroad 1401 projects with registered capital was 21.46 billion USD. However, from 2015 to present, the OFDI capital flows of Vietnamese enterprises slowed down notably. In 2020, the registered capital was almost 819.7 million USD, which was 55% more than that of 2019 but still nearly equal to 24.3% compared to 2010. This is a new phenomenon that requires updated studies on determinants affecting

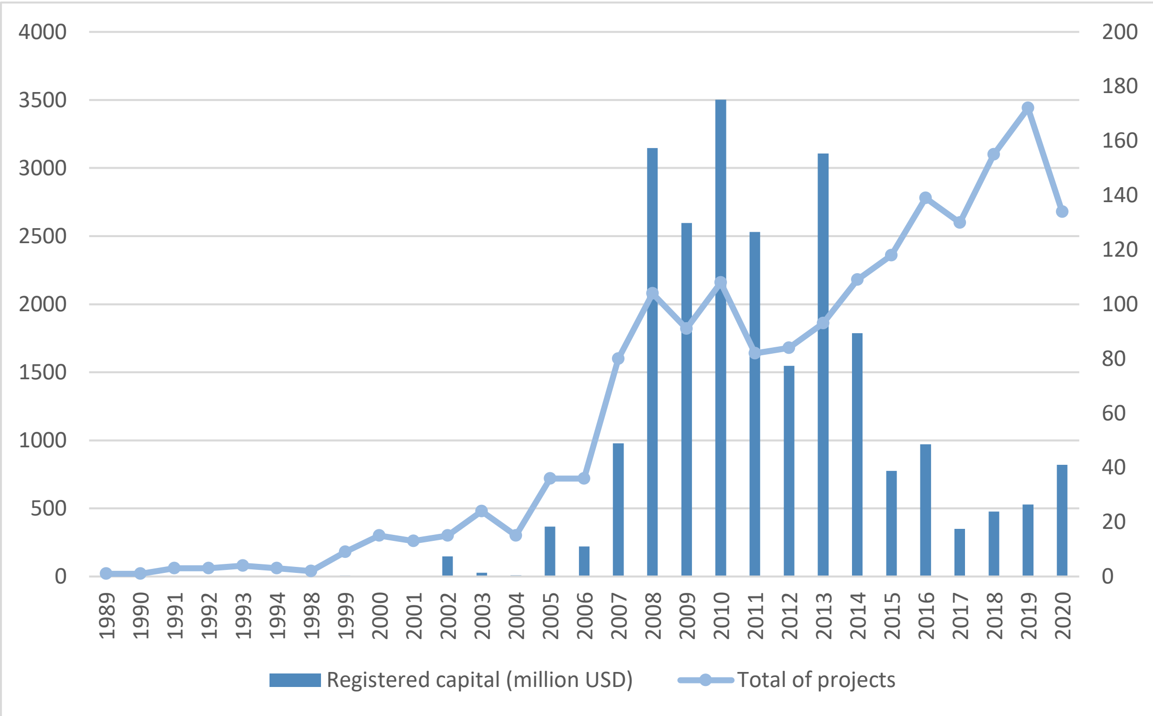
OFDI flows of Vietnamese enterprises. This research combines qualitative studies and the Investment Development Path model (IDP) to assess the influence of some macroeconomic factors on the OFDI of Vietnamese enterprises and propose policy implications.

Overview of Vietnam's outward direct investment

Accumulated to the end of 2020, Vietnamese enterprises have invested abroad in 1401 projects with the total investment of 21.46 billion USD, the average capital per project was 15.32 million USD.Outward foreign direct investment activities of Vietnamese enterprises can be divided into four stages:

Figure 1: Vietnam's outward direct investment in the period 1989 - 2020

(Accumulation of projects having effect as of 31.12.2020)



Source: Foreign Investment Agency, Ministry of Planning and Investment

Vietnamese enterprises have started carrying out OFDI projects since the late 1980s. However, in the period 1989-1998, the projects were spontaneous and experimental with a small scale of investment capital. There were only 17 registered projects with a registered capital of 13.6 million USD, the average capital per project was only 0.8 million USD. In this period, most of these projects were conducted by SoEs, focus on Laos and Cambodia in building health and educational infrastructure under agreements between the governments.

In the period 1999-2005, OFDI flows of Vietnamese enterprises experienced a significant growth not only in the number of projects but also in the scale of capital. Specifically, in this period, there were 127 new registered projects with the registered capital of 567.7 million USD, which were more than 7.47 times in total projects and 41.74 times in total investment capital in the previous period; the average capital was 4.47 million USD/project. This achievement was based on the Government's promulgation of Decree No.22/1999/ND-CP and other related legal documents, laying the "foundation" of the legal basis for outward investment activities. The large projects were mainly focused on processing and manufacturing; mining; agriculture, forestry and aquaculture.

The period 2006–2010 could be considered as the "booming" period of Vietnam's OFDI flows. Specifically, in only five years, Vietnamese enterprises have registered to invest in 419 projects, the registered capital was 10.477 billion USD, the average capital per project was 24.93 million USD. It was a remarkable growth in both scale and the number of projects. In which, there were 11 projects with the registered capital of over 100 million USD, such as a telecommunications network cooperation investment project in the Republic of Mozambique the registered capital of 493.79 million USD; Sekaman 1 with the registered capital of 441.6 million USD, the hydroelectric project Sekaman 3 with the registered capital of 273.1 million USD. Especially, the Long Thanh-Vientiane economic zone project with the registered capital up to 1 billion USD, was the largest OFDI project of Vietnam in this period. To have that outstanding development, it is necessary to mention the role of the project "Promoting Vietnam's investment abroad" approved by the Prime Minister in February 2009. In particular, Decree 78/2006/ND-CP guiding the implementation of the 2005 Investment Law brought new thinking: Investors and enterprises of all economic sectors have the right to invest abroad, have the right to autonomy, self-responsibility in business activities, minimizing unreasonable, unnecessary "approval" regulations that are contrary to the principle of freedom of business... This thinking has created favorable conditions for Vietnamese enterprises to invest abroad, enhancing international integration.

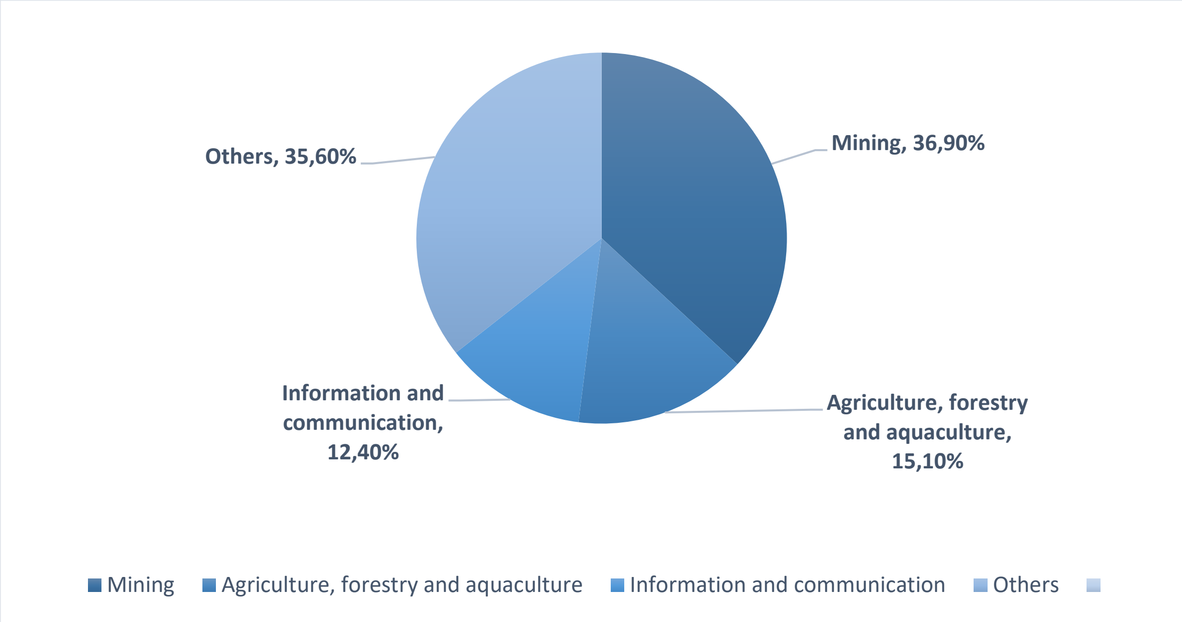
In the period 2011-2020, OFDI of Vietnamese enterprises fluctuated dramatically and tended to decline. The investment capital reached the peak of 3.1 billion USD in 2013, then dropped sharply to 350.1 million USD in 2017, equal to 11.3% that of 2013 before a slight recovery from 2018 to 2020. Since 2018, Circular 03/2018/TT-BKHDT guiding and promulgating a sample document for implementing outward investment procedures of the Ministry of Planning and Investment has had a positive impact on OFDI activities, the registered capital tend to increase but still slow. Notably, in this period, 241 projects had to stop operating before the deadlines with the capital of 2.42 billion USD(accumulated from 2011 to 2020). Thus, after the period 2006 - 2010 witnessed the "boom" of OFDI activities with the feature of "placeholder investment", the period 2011-2020 can be considered as a "restructuring" period, slowly but surely.

Regarding to OFDI by fields, the industry is the key sector which accounted for the highest proportion of investment from Vietnam to other countries with the investment capital of 10.94 billion USD, comprised up to 51% of the investment capital of Vietnamese enterprises. In which, mining accounted for 7.9 billion USD registered with 58 projects, represented 72.2% of the total OFDI capital in the industrial field and 36.9% of the total OFDI capital of Vietnam. Some notable large projects: PVEP's Bir Seba - Algeria mine project joint venture; PVEP's joint venture investment project to develop and exploit block Junin 2 in Venezuela; with the registered capital of 12.4 billion USD and capital contribution of 1.8 billion USD from the Vietnamese side. Hydroelectric projects also attracted investment capital of up to 1.5 billion USD, which was recorded as 6.98% of the total registered capital of all fields. By the end of 2020, there were nine investment projects in this field, mainly in the two markets of Laos and Cambodia. Lower Sesan 2 Hydropower (Cambodia) by EVN International Joint Stock Company was the most prominent, with the registered capital of 806.4 million USD, accounting for 50.6% of the total OFDI capital of the electric field. Notably, despite accounting for the largest proportion of accumulated investment capital, OFDI flows into the industrial sector are experiencing a sharp decline in recent years, when capital flows have shifted to the service and agricultural sectors. In 2020, Vietnam only had 27 new registered projects in the industrial sector, of which there was only one project in the mining field of Long Thanh Golf Business and Investment Joint Stock Company, deployed in Laos with the total investment capital of 6 million USD.

Regarding the agricultural sector, accumulated by the end of 2020, the registered capital reached 3.25 billion USD, accounted for 15.1% of the total registered OFDI capital. Investment projects in the agricultural sector were mainly in the two traditional markets of Laos and Cambodia with projects on planting and processing rubber, coffee, sugarcane, corn, etc. Notably, in recent years, OFDI flows in the agricultural sector are gradually shifting to large-scale projects, applying high-tech agriculture. Large corporations such as Vinamilk, Hoa Phat, or TH are investing to develop high-tech agriculture abroad. In 2018, TH Group inaugurated the first high-yield dairy farm within the framework of the complex project of dairy farming, high-tech milk processing , and some food projects with the total investment of 2.7 billion USD. In 2020, Vinamilk also increased capital for a high-tech cow farm investment project in Laos. Specifically, in August 2020, Vinamilk poured an additional 41 million USD into Lao-Jagro Development Xiengkhouang Co., Ltd, increased Vinamilk’s investment capital at Lao-Jagro from 25.4 million USD to 66.4 million USD. This combination is also known as the “resort” of organic dairy cows in Laos, which is part of Vinamilk’s long-term strategy to develop fresh milk material areas at home and abroad with a total expected investment is 500 million USD.

Figure 2: OFDI of Vietnamese enterprises by field

(Accumulation of projects having effect as of 31.12.2014)



Source: Foreign Investment Agency, Ministry of Planning and Investment

Service was the field that represented the highest percentage of projects, with 978 projects, accounting for 69.8% of the total number of OFDI projects (accumulated to the end of 2020). In particular, the information and communication segment was a bright spot in the general picture of OFDI in Vietnam. The most prominent is the success in the international market of Viettel Military Telecommunications Group - Top 15 largest telecommunications enterprises in the world in terms of users, Top 30 largest telecommunications enterprises in the world in terms of infrastructure. Currently, Viettel has invested in 10 countries(3 continents), focusing on mobile telecommunications services, especially several new services such as 4G, 5G, e-wallets, large information technology projects to serve corporate and government customers. Viettel's strategy is transforming from providing telecommunications infrastructure and services to provide digital infrastructure and services. In 2020, 10 overseas markets of Viettel grown significantly in both revenue and profit, sending home nearly 333 million USD.

2. Expanding the Investment Development Path model to assess macroeconomic factors affecting OFDI flows of Vietnam

Vietnam's foreign direct investment has had many fluctuations, developing rapidly in the stage 2006-2010 but quiet in the last six years. To analysis how Vietnam's macroeconomic factors affect OFDI of Vietnamese enterprises, this article uses the IDP (Investment Development Path) model, which was fomulated by Dunning (Dunning, 1988). The IDP model is widely used in research, assessing the impact of the development level in a capital-exporting country on its OFDI. According to the IDP model, OFDI and FDI of a country both positively depend on the level of development of that country (usually calculated as GNI per capita); based on that basis, the governments will choose their own Investment Development Path. Since each country's development path is unique (Bellak, 2001), GNI per capita is not a perfect measure of economic development. Therefore, some other variables are used, such as volume of FDI flows (Chen Jen Eem, 2019 and Bellak, 2001), trade volume (Sheng Ma, 2020 and Dunning, 2001), national institutions (Jiyong Chen, 2020 and Bevan, 2004), the level of science and technology (Saleh Shahriar, 2019 and Stoian, 2013)… In this study, macroeconomic variables are used to evaluate the factors affecting the OFDI flows of Vietnam (OFDI) are: GNICAP (gross national income per capita), RDSB (the state budget expenditure on science and technology), IFDI (FDI inflow into Vietnam), ER (exchange rate) and IE (import-export turnover/GDP). Some hypothesises are made as follow:

Hypothesis H1: OFDI has a positive relationship with the development of the economy, being measured by the growth rate of nominal GDP per capita.

The IDP model also indicates the positive relationship between the development of science, technology and OFDI. Science and technology will help private companies as well as state owned companies increase labor productivity, creating a competitive advantage and scale; thereby, which leads to the increase in the amount of OFDI. Therefore, a further hypothesis is given:

Hypothesis H2: OFDI has a positive relationship with the development of science and technology, being measured by the proportion of the state budget investing in science and technology (RDSB) (%)

The IDP model also concludes that the amount of inflow capital (IFDI) will enhance OFDI. This can be explained by the spillover effect of FDI, when FDI flows into one country, the domestic companies will have to raise the level of management and operational efficiency, which leads to relative advantages with other countries. Hence, this promotes OFDI activities, exploits new markets to increase profit. Therefore, author propose the third hypothesis:

Hypothesis H3: OFDI has a positive relationship with the IFDI capital.

Besides the basic IDP model with the above three factors, many scholars also propose to research the influence of some other macro factors such as the exchange rate, the openness of the economy on OFDI. Countries with stronger currencies often have more financial advantages than countries with weak currencies (Paulo ReisMourao, 2018). Therefore, Kyrkillis and Pantelidis (2003) argued that the revaluation of the domestic currency will increase the desire to invest abroad of domestic companies. Thus, the authors propose the hypothesis:

Hypothesis H4: OFDI has a positive relationship with the revaluation of the domestic currency (measured by exchange rate USD/VND)

Besides the exchange rate, the high openness of the economy will also contribute to the promotion of OFDI activities. The high openness of the economy will facilitate import and export companies to expose to and learn more from foreign markets as well as to know the relevant regulations and standards, to overcome the differences in language, culture and law, organizing overseas activities and marketing products in the international markets (Paulo ReisMourao, 2018). All of which play an important role in encouraging OFDI, especially it can become a more feasible strategy than export. Therefore, the authors propose the hypothesis:

Hypothesis H5: The openness of the economy has a positive effect on OFDI. capital flows

Table 1: Description of variables in the model

Variables		**Description**	**Data sources**	**Citation sources**
Dependent variable: OFDI (USD)		Annual registered OFDI	Ministry of Planning and Development	
Independent variables:				
Variables according to IDP basic model	The development of economy (GNICAP) (USD per capita)	GNI per capita	General Statistics Office	Saleh Shahriar et al (2019),
	The proportion of expenditure on science and technology over state expenditure (RDSB) (%)	% expenditure on science and technology	General Statistics Office, Annual figures of the Ministry of Finance	Saleh Shahriar et al (2019), Stoain (2013) Jiyong Chen, (2020)
	FDI flows into Vietnam (IFDI) (mln USD)	Annual registered FDI	Ministry of Planning and Development	Paulo ReisMourao (2018),
Extended variables	Economic openness	import-export turnover/GDP (IE (%))	World Bank	Sheng Ma (2020) Rosfadzimi (2013)

	Exchange rate (ER) (USD/VND)	World Bank	Chen Jen Eem (2019) Andreff et al (2014)

Source: collected by authors

3. Result

The data of the variables in the model is taken annually from 1989 to 2020. The data is in the form of time series so that it must be tested to determine the stationarity for the variables, then use the univariate regression to find the variables that affect OFDI. Then, put the statistically significant variables in the univariate regression model into the multiple regression model. The selected variables included in the multiple regression model are RDSBt-2, IFDIt, GNICAPt, D(ER)t, and D(IE)t.

Table 2: Correlation coefficients between independent variables

	RDSB	IFDI	GNICAP	D(IE)	D(ER)
RDSB	1,0000	-	-	-	-
IFDI	0,3362	1,0000	-	-	-
GNICAP	-0,3448	0,4855	1,0000	-	-
D(IE)	-0,1657	0,0335	0,0687	1,0000	-
D(ER)	-0,0396	-0,1849	-0,1685	0,0024	1,0000

Source: calculated in Eviews by the authors

Refer to Table 2, the correlation coefficients between the independent variables are all less than 0.7. This illustrates that the variables in the model do not have multicollinearity.

Table 3: Testing of model defects

	WHITE	BG	RAMSEY
F-statistic	4,212983	1,498556	0,035541
Prob	0,189594	0,198365	0,896582

Source: calculated in Eviews by the authors

According to Table 3, the White, BG, and Ramsey test show that the model is suitable, without defects such as variable variance, autocorrelation, or lack of variables; the functional form of the model is also appropriate.

Table 4: Result of regression model

Variable	Coefficient	Prob
C	-3528,1943	0,0008
$RDSB_{t-2}$	2120,1820	0,0015
$GNICAP_t$	0,6285	0,0122
$IFDI_t$	0,0384	0,0010
$D(IE)_t$	-8,3748	0,0785
$D(ER)_t$	0,1289	0,3119
Obs	30	
R^2	0,5352	
F-statistic	12,8849	
Prob(F-statistic)	0,000018	

Source: calculated in Eviews by the authors

The regression result in Table 4 shows that the ratio of state budget spending on science and technology with a 2-year lag, FDI inflows into Vietnam and gross national income per capita have a positive impact on OFDI; in contrast, the change in total import-export turnover/GDP hurts OFDI capital flows. The difference variables of the exchange rate in the multiple regression model is not statistically significant. With the regression model, it is easy to see the influence of investment in science and technology on the growth of OFDI. With a two-year lag, a 1% increase in budget spending on science and technology will increase the amount of OFDI capital by 2120.18 million USD. In fact, the leading enterprises in OFDI activities are also the leading enterprises in investment in modern science and technology such as Viettel, FPT, Hoang Anh Gia Lai, Vinamilk. In the meantime, the spillover effects of IFDI are still limited. With the increase of 1 million USD registered FDI into Vietnam, there was only 0.0384 million USD increase in OFDI respectively. It can be explained the technology spillover and the participation of Vietnamese enterprises in the value chain of FDI enterprises are still low. In fact, during the period 1989-2020, the amount of FDI into Vietnam mainly focused on manufacturing and processing, real estate. Meanwhile, OFDI capital is mainly invested in mining, hydropower, and agriculture. The difference in investment structure also limits the spillover effect of FDI on OFDI capital flows. About the economic growth factor, the GNICAP variable in the multiple regression model has a positive impact on OFDI capital. This indicates that the domestic economic growth, especially in the non-state sector in recent years has contributed to the promotion of OFDI capital flows. However, the result of the regression figure out a negative impact of the growth rate of total import and export turnover on OFDI capital flows. The reason is that, in the research period (1989-2020), Vietnam was still basically a trade deficit country. Hence, a large amount of foreign currency flowed abroad to serve the import of goods. Because the demand for foreign currency for imports is often high, the supply of foreign currency for OFDI activities is limited, which led to a negative effect on OFDI activities. Besides, the results in Table 4 show that the difference variable of the exchange rate in the multiple regression model is not statistically significant. This result shows that OFDI activities of Vietnamese enterprises are not directly affected by the fluctuation of the USD/VND exchange rate. This can be explained by the fact that Vietnam's USD/VND exchange rate from 1989 to 2020 was still strictly regulated by the government in the direction of "stable" and allowed fluctuations within a narrow range. The government's control of the exchange rate has led to relative independence between the exchange rate and the growth of Vietnam's OFDI capital inflows.

4. Conclusions

Despite a wide range of fluctuations,Vietnam's OFDI had a significant growth since the Decree 78 of the Government in 2006 regulating OFDI. In addition, Vietnam's economic development has also had a positive impact on Vietnam's OFDI. The increase in the government expenditure on science and technology and the IFDI of Vietnam, creating a technology spillover effect had a direct impact, promoting OFDI capital flows in Vietnam; meanwhile, the growth rate of total import-export turnover had a negative impact on OFDI capital flows. This leads to investment policies to promote science and technology in Vietnam, especially in key industries investing in other countries. . Promoting scientific research and the transfer of science and technology in key sectors such as information technology, telecommunications and high-tech agriculture,etc. will create competitiveness to help Vietnamese enterprises have enough scientific factors, management qualifications to carry out OFDI activities. The State needs to create more favorable conditions to help the enterprises in these fields have good competitiveness, and dominate target markets. Other recommendations for the Government of Vietnam are having more policies to promote FDI inflows into Vietnam, especially in manufacturing and processing industries; opening more international relationships; boosting the technical transfer of FDI enterprises in Vietnam.

5. References

1. Andreff (2003), *Multinational companies from transition economies and their outward foreign direct investment*, Russian Journal of Economics, Volume 3, Issue 4, December 2017, 445-474.

2. Bellak, C. (2001), *The Austrian investment development path*, Transnational Corporations, Volume 10, Issue 2, 107-134.

3. Bevan, A., Estrin, S., & Meyer, K. (2004), *Foreign investment location and institutional development in transition economies*, International Business Review, Volume 13, Issue 1, 43-64.

4. Carmen Stoian (2012), *Extending Dunning's Investment Development Path: The role of home country institutional determinants in explaining outward foreign direct investment*, International Business Review, 615-637.

5. Chen Jen Eem, Lee Chin, Law Siong Hook, and W. Azman Saini W. Ngah (2019), D*eterminants of Locational Choice of Malaysian Outward Foreign Direct Investment* http://doi.org/10.1007/978-981-10-8730-1_45

6. Dunning, J.H. (1988), *Incorporating trade into the investment development path: A case study of Korea and Taiwan*, Oxford Development Studies, Volume 29, Issue 3, 145-154.

7. Dunning, J. H. (2001). *The eclectic (OLI) paradigm of international production: Past, present and future*, International Journal of the Economics of Business, Volume 8, Issue 2, 173-190.

8. Jiyong Chen, Yishuang Liu, Wei Liu (2020), *Investment facilitation and China's outward foreign direct investment along the belt and road*, http://doi.org/10.1016/j.chieco.2020.101458

9. Liu, X., Buck, T., Shu, C. (2005), Chinese economic development, the next stage: outward FDI?, *International Business Review*, Volume 14, 2005, 97-115.

10. Miguel Fonseca, António Mendonca and José Passos (2016), *The paradigm of the Investment Development Path: Does it holds for Portugal? Evidence for the period 1990-2011*, Working Paper CEsA CSG 139, Lisbon University, Poturgal.

11. Pantelidis and Kyrkilis (2005), *A cross country analysis of outward foreign direct investment patterns*, International Journal of Social Economics, Volume 32, Issue 6, 510-519.

12. Paulo ReisMourao (2018), *What is China seeking from Africa? An analysis of the economic and political determinants of Chinese Outward Foreign Direct Investment based on Stochastic Frontier Models*, https://doi.org/10.1016/j.chieco.2017.04.006

13. Saleh Shahriar, Sokvibol Kea and Lu Qian (2019), *Determinants of China's outward foreign direct investment in the Belt & Road economies*, https://doi.org/10.1108/IJOEM-03-2019-0230

14. Sheng Ma, Xinxin Xu, Ziqiang Zeng, and Lin Wang (2020), *Chinese Industrial Outward FDI Location Choice in ASEAN Countries*, https://doi.org/10.3390/su12020674

15. Svetlicˇicˇ and M. Rojec (2003), Theoretical context of outward foreign direct investment from transition economies, trong *Facilitating transition by internationalization: Outward direct investment from european economies in transition*, Ashgate, 3-28.

PROVIDING INTERNATIONAL BANKING SERVICES – OPPORTUNITIES AND CHALLENGES FOR VIETNAMESE COMMERCIAL BANKS IN THE INTERGRATION PERIOD

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Abstract

Subject to the current trend of globalization and international trade market opening, providing international banking services to clients not only increases income but also affirms and enhances Vietnamese commercial banks' competitiveness. The opportunities that Vietnamese commercial banks receive from providing international banking services can be mentioned such as: expanding international correspondent banking network, improving competitiveness and improve management capacity by applying and developing products to meet international demand… However, banks also face many challenges. Taking advantage of opportunities and overcoming challenges will help commercial banks develop international banking services, thereby promoting the overall development of the entire banking system. Because of the above reasons, in this working paper, the author focuses on assessing the current situation of providing international banking services, recognizing the opportunities and challenges for Vietnamese commercial banks in the current economic integration period.

Keywords: *Competitiveness, international banking services, import-export, integration*

1. Introduction

In the context of economic integration, countries are trying to develop, open up and cooperate with other countries. The movement of goods between countries and the relationship between countries in transportation, insurance and payment has created the need to use international banking services. The process is to conduct payment activities between entities in different countries to form and develop international banking services, in which the bank is an intermediary bridge between the parties. According to Nguyen Van Tien (2007), international banking service is an important service of commercial banks, bringing significant revenue for banks. In particular, international payment is an important link in connecting and promoting the development of other business activities of the bank such as foreign currency trading, import and export financing, international guarantee and credit. According to Nguyen Thi Cam Thuy (2012), banking services are divided into two segments: domestic banking services and international banking services. International banking services are activities related to money transfer transactions beyond national borders to integrate and transact with other banks in the world (Le Van Tu, 2009). In which, international banking services include: international payment, card, guarantee, factoring, capital mobilization, import and export financing, foreign exchange business… The international banking services mentioned in this study are the banking services related to foreign currency provided by the Vietnamese banks.

Today, when a series of trade agreements come into force such as the Trans-Pacific Strategic Partnership Agreement (Comprehensive and Progressive Agreement for Trans-Pacific Partnership - CPTPP), the Free Trade Agreement between Vietnam and the European Union (EVFTA), … have promoted import and export activities of businesses, thereby promoting the use of international banking services at Vietnamese commercial banks. It is increasingly meaningful that commercial banks become a bridge for organizations, businesses and individuals to carry out business activities beyond national borders. Therefore, international banking services tend to increase in terms of revenue, profit as well as the number of customers and agency relationships, helping commercial banks establishes a foothold in the market. Implementing international banking services, the bank can monitor the business situation of import-export enterprises, facilitating effective management and coordination of import-export activities in the country according to the foreign policy that has been determined. At the same time, international service helps create a closed business chain for other services of the bank to have the opportunity to develop. However, with the presence of a large number of foreign banks with potential to participate in the domestic market, Vietnamese commercial banks have to face many challenges.

The provision of international banking services in Vietnam has recently attracted more attention to investment for development than ever before. However, commercial banks have only focused on expanding the scope and limiting operational risks without paying attention to the analysis and evaluation of the economic efficiency of this activity. Therefore, this issue was chosen to discuss in order to assess the opportunities and challenges of commercial banks.

2. Literature Review

There have been many domestic and foreign studies on international services in recent years. Some foreign studies mention solutions to develop international banking services at commercial banks to increase competition by focusing on strategies to attract customers. Research by Friederike Niepman (2014) mentions the significant cost factor that affects customers in using two main international payment instruments, which are letters of credit (L/C) and documents. With great value in export, the use of this payment instrument requires customers to choose a large and competent bank.

Some other studies mention that commercial banks can achieve higher benefit of scale when all their assets are fully exploited on a global scale (Nguyen Thi Cam Thuy, 2012). Economic integration has been creating conditions for banks and commercial banks to develop. According to Vu Thi Thu Hoa and Nguyen Thi Thanh Phuong (2018), the development of foreign trade finance is increasingly proving its important role and position in contributing to the success of the current Vietnamese commercial banks. Pham Huyen Trang (2016) also pointed out that international trade finance business increasingly accounts for around 20-30% of Vietnamese commercial banks. According to Le Van Tu (2009), international banking services strongly promote the import and export activities of the country and at the same time are a positive factor in stimulating the circulation of international investment capital flows into that country. Through international banking services, businesses and investors quickly grasp and master international financial practices, so that they can perform well and compete on the integration process with developed countries. Commercial banks have therefore sought all ways to improve competitiveness, market share and operational efficiency. Huynh Thi Huong Thao (2017) studies the impact of international banking services on the bank's operating system during a time of changes from regional and international partners.

However, commercial banks always face difficulties and challenges when participating in integration (Ho Nguyen Phuong and Nguyen Viet Trung, 2019). Established FTAs put competitive pressure on Vietnamese commercial banks at all three levels, country, enterprise and product (To Huy Vu, 2019). Vietnamese commercial banks must find ways to mitigate risks, handle challenges in order to strengthen internal resources, competitiveness and develop new factors while still ensuring the common goal of stabilizing the macro-economy and building flexible industry system to respond to global and regional economic fluctuations.

3. Results

3.1. Current situation in providing international banking services in Vietnam

Currently, Vietnam has international trade relations with more than 180 countries and territories, focusing on a number of partners such as the EU, the US, Japan, ASEAN and China, etc. Competitive pressure among commercial banks (Thoraneenitiyan and Avkiran, 2009) is therefore increasing, requiring commercial banks to continuously expand their interbank network, and attracting a large number of customers in different industries. Thus, the scope of international banking activities of Vietnamese commercial banks is wider. Therefore, taking care and maintaining customer relationships is more and more difficult, requiring banks to have reasonable strategies to meet the needs of the market and the wishes of customers in providing international banking services.

Table 1. Types of International Banking Services in Vietnamese commercial banks

Name of bank	Types of International Banking Services
Vietcombank	For Buyers: Letter of Credit (L/C Issuance, L/C Amendment, Bill of Lading endorsement/Delivery authorization/Shipping guarantee, L/C Settlement, UPAS/UPAS Plus L/C,…), Import Collection, Outward Remittance (T/T, Bank draft); For Sellers: Letter of Credit (L/C-L/C amendment advising, L/C confirmation, Document checking and forwarding,…), Export Collection (D/A-D/P, Collection export bills negotiation with recouse), Inward Remittance, Factoring.
BIDV	International payment service: Import-Export payment, Border Payment; Export financing: Factoring, discount of recouse for debt collection by L/C deferred payment, Discount bill of exchange with export documents, export finance; Import financing: UPAS, Letter of Credit service, Import finance secured by imported goods; Domestic L/C Financing.

(Sourse: vietcombank.com.vn, bidv.com.vn)

The market share of international banking services focuses on large commercial banks such as Vietcombank, BIDV, Vietinbank, Eximbank... Each bank has different size, strategy and competition policy in attracting customers to use international banking services. It can be said that, in recent years, Vietnamese commercial banks have always actively changed customer policies, diversifying the portfolio of products and services to meet the maximum needs of customers. Through the provision of international banking services to customers, the bank collects fees to offset the bank's expenses and generate revenue and profit for the bank. Depending on the type of international service, the business environment and the credibility of the customer, the applicable service fee schedule is different.

Therefore, in the context of foreign market integration, commercial banks are constantly looking for solutions to increase capital, improve financial capacity, and enhance the diversity of international banking services to be able to compete with foreign organizations through specific strategies as well as KPI planning.

In terms of organizational structure, commercial banks have built specialized departments to develop international banking services. Viettinbank has an International Financing Processing Center, Vietcombank has a Trade Finance Center, MB Bank has a Payment Center… Commercial banks have all realized that a specialized management model for international banking services to develop the scale of operations without being constrained by other activities. From there, specialized divisions set forth their standards, product plans, and working capital. In terms of market share, the commercial banks have access to different fields such as exporting rice, shrimp or processed products, to diversify international banking services according to international trading practices and customs. Vietnamese commercial banks have enhanced payment and import-export finance operations: money transfer, collection, L/C, pre- and post-delivery financing, etc. Banks have oriented towards a full package of import and export financing services to meet the maximum of clients' requirements.

Some results can be mentioned that, in terms of sales, in 2019, Vietcombank achieved international payment and trade finance sales of USD 85.4 billion, increasing by 9.03% compared to 2018. Vietinbank achieved $60.2 billion in sales. These figures can show that international transaction sales at leading commercial banks prove the importance of international banking services in the operation of Vietnamese commercial banks.

3.2. Opportunities and Challenges for Vietnamese commercial banks in providing international banking services in the intergration period

Integration and changes in the domestic market have made international banking increasingly important to both customers and banks. The increase in the number of customers in Vietnamese commercial banks shows that the demand for international banking services is increasing. Therefore, the provision of international banking services has created many opportunities for Vietnamese commercial banks, but also poses many challenges that banks have to face.

3.2.1. Opportunities

Firstly, with 13 FTAs that have been in effect since 1993, it has promoted the development of Vietnam's import-export activities of goods and services. According to the General Statistics Office, from 2016 to now, the trade balance of import and export of goods has been continuously in surplus. Total import-export turnover in 2020 reached USD 543.9 billion, of which goods export will reach USD 281.5 billion, up 6.5%, import reached USD 262.4 billion USD, up 3.6%. That result is thanks to the implementation of business integration and FTAs. With the current number of businesses at about 85,000, the demand for international banking services of Vietnamese commercial banks is very large. Therefore, integration helps Vietnamese commercial banks have a large number of customers, import and export enterprises using international services. Integration with FTAs has opened up many opportunities for Vietnamese commercial banks to access the international market in an equal and favorable manner, in order to strengthen cooperation and increase market share. According to the content negotiated in the financial sector in the Agreements, a service supplier of one country can provide financial services in the market of another country if it ensures that it is allowed to operate the service. Therefore, Vietnamese commercial banks expand their international interbank network to develop agency activities, open relationships with foreign banks through modern technologies such as SWIFT, Telex, NOSTRO and VOSTRO accounts…Within recent 5 years, Vietnamese commercial banks have actively exploited and expanded the foreign banking market, opening representative offices and branches as well as connecting agency relationships.

Table 2: The number of agents in foreign countries of Vietnamese commercial banks in 2020

TT	Name of bank	The number of agents
1.	BIDV	1700 agents in 122 countries and territories
2.	Vietinbank	1000 agents in 90 countries and territories
3.	Vietcombank	1800 agents in 176 countries and territories
4.	Agribank	1100 agents in 100 countries and territories
5.	MB Bank	700 agents in 80 countries and territories
6.	Sacombank	278 agents in 90 countries and territories
7.	DongAbank	250 agents in 60 countries and territories

(Sourse: Annual reports of banks)

In addition, commercial banks also have the opportunity to diversify activities and linkages. Vietinbank has had export support funds, export insurance funds, financial institutions such as SEK (Sweden), JBIC (Japan), Eximbank (USA), KEIC (Korea)... since 2010 (Phan Thi Hong Hai, 2010). Vietinbank is also the first Vietnamese bank to be selected by the Export Credit Company (CCC) of the US Department of Agriculture to participate in the GSM - 102 program implemented by the US Department of Agriculture to promote US agricultural exports by guaranteeing the US bank to lend to the importer's bank... along with many remarkable results and achievements of other banks. Vietcombank is "Vietnam's best foreign exchange service provider" awarded by The Asian Banker magazine in 2019.

Secondly, integration is to promote the competitiveness of Vietnamese commercial banks, helping to improve the operation of the commercial banking system. The change in the number of banks through restructuring in recent years when there was the intervention of the Prime Minister, led to a change in governance and operations of Vietnamese commercial banks. By 2020, the charter capital of the top 10 Vietnamese commercial banks including: BIDV, Vietinbank, Vietcombank, Techcombank, Agribank, VPbank, MB, Sacombank, ACB, SCB, in which the highest is BIDV, reaching VND 40,220 billion. The 10 banks with the highest profit after tax include Vietcombank, Vietinbank, Techcombank, VP Banh, MB, BIDV, ACB, HD Bank, VIB and TP Bank, up 14% over the previous year. The 10 most prestigious banks based on 3 criteria (1) Financial capacity and efficiency, (2) Media credibility and (3) Surveys on customer satisfaction including: Techcombank, VP Bank, ACB, TP Bank, HD Bank, Sacombank, VIB, SHB, OCB and MSB. It can be seen that, not only banks with large capital have the opportunity to expand and promote international banking services, but also small commercial banks also try to access and expand international banking products, in order to compete and attract customers. Although Eximbank has a charter capital of VND 12,355 billion in 2020, it has also been very active in diversifying the portfolio of international banking services, actively trading in foreign currencies as well as using Swap, Forward, and Option tools for transactions, or make payment, finance import and export and make money transfer via SWIFT system, pay L/C, D/A, D/P, T/T, P/O, etc...Eximbank has achieved Outstanding International Payment Quality Award (STP Ward) awarded by Bank of New York Mellon (USA) in 2020, or Excellent Bank for International Payments awarded by Wells Fargo in 2019,…VietAbank with charter capital of VND 3500 billion also diversified the international banking services portfolio in trade finance, system design and operation, developed the international banking department in depth, increased exploitation and cross-selling of digital banking products. to maintain the brand name of one of the banks with the most sustainable growth rate.

Thirdly, integration helps Vietnamese commercial banks improve their banking governance capacity following international standards, improve business activities to help commercial banks stand firm in the market. Commercial banks may face a number of risks such as market risk, operational risk, etc. when providing international banking services. Then, improving risk management capacity according to international standards will help limit risks in general and risks in providing international banking services in particular. Vietnamese commercial banks have focused on strengthening risk management skills, developing customer policies, approaching the 3 pillars of Basel II approved by the SBV in Circular 41/2016/NHNN and Circular 13 of the State Bank. This is a change that has a great impact on the operations of commercial banks. Which focuses on 3 pillars: (1) Regulation of minimum capital adequacy according to standardized approach, advanced approach for credit risk, operational risk and market risk; (2) Internal assessment of capital adequacy, thereby standardizing processes, risk measurement tools, capital endurance testing, capital planning according to market scenarios and monitoring; (3) Transparency and market discipline. The investment in capacity building and operation platform, digital banking transformation has been widely implemented. Nowadays, competition by technology has become a direct weapon for banks through digital banking services, especially in the field of payment for import and export enterprises. E-commerce activities are changing day by day and the trend of e-commerce is the key trend with modern technology application solutions.

Fourth, integration gives commercial banks the opportunity to access and develop a variety of products and services, to attract customers and promote customers to cross-buy other products and services. The provision of international banking services in the dynamic international market, with many participants, with more modern products and services is what VCB is aiming for. This not only increases income for Vietnamese commercial banks, but also increasingly affirms and enhances the competitiveness of banks in the face of the trend of opening up for integration and increasing competition. In addition to the difference in the form of distribution of international banking services in each Vietnamese commercial bank, the fees and policies for international banking services in each bank are also different. The lending taste of each commercial bank depends on the price policy, capital as well as the fields and strengths of the business. The international banking policy for export activities of rice, shrimp, fish, or processed and processed products that Vietnam commercial banks provides to import-export enterprises, although bringing different revenue but altogether these fields play an important role for the economy. Currently, with a large number of import-export enterprises, the development strategy of focusing on customers of import-export enterprises is particularly focused by commercial banks. Vietinbank has launched a product package for newly opened business customers (Combo 6 in 1 plus), SME credit card….Techcombank focuses on the corporate customer segment to help meet the growing financial needs of exporting enterprises. Therefore, right from 2013, 2014, with this strategy, Techcombank was the first official member in Vietnam of IFG (International Factors Group) providing comprehensive import-export packaging solutions, awarded “Award for achieving high electricity rate” by Citibank.

Fifth, integration gives Vietnamese commercial banks the opportunity to enhance the legal system to help commercial banks have a more favorable and clear operating platform. In addition to the basis of international banking activities, it is based on 3 groups: (1) International laws and conventions, (2) National laws and regulations of the State Bank of Vietnam (Civil Law, Law on Credit Institutions, and Ordinance on Foreign Exchange). , Circulars...) and (3) International practices and practices (Incoterms, UCP, URR, ...), the state's supplement, amendment and systematization of documents to implement international banking services such as: TT03/2012/TT-NHNN, TT32/2013/TT-NHNN, etc. are increasingly flexible, specific and in line with international practices, helping import-export enterprises to have a clearer legal basis in operating in the Vietnamese market. Moreover, the commercial banks have grounds to resolve legal conflicts in international trade relations, in accordance with the Vietnamese legal system, customs and development level of the country in expanding relations with foreign partners.

3.2.1. Challenges

Firstly, competitive pressure on Vietnam commercial banks is significant when participating in integration. The accession to WTO in 2007 has made the banking market more vibrant and competitive because of the presence of 100% foreign-invested banks: HSBC, ANZ, etc. Therefore, Vietnamese commercial banks are facing pressure from competition and forced to increase capital, cooperate with foreign banks to limit the loss of market share. It can be seen that the number of foreign banks and foreign bank branches has changed very clearly, which requires banks to face competitive pressure on capital, policy mechanisms, and services.

Table 3: The number and types of banks

Types of banks/Year	2013	2014	2015	2016	2017	2018	2019	2020
State owned commercial banks	5	5	7	4	4	4	4	4
Joint Stock commercial banks	33	33	28	31	31	31	31	31
Foreign banks and branches of foreign banks	58	54	50	51	49	49	61	61
Joint venture bank	4	4	3	2	2	2	2	2
Total	**100**	**96**	**88**	**88**	**86**	**86**	**98**	**98**

(Sourse: sbv.com.vn)

Moreover, the financial capability of Vietnamese commercial banks is still small compared to foreign banks, the assets and product portfolio are still simple, the quality is not high, the professional level and organizational structure are not really as good and professional as the other regions and the world.

Secondly, integration increases capital transactions and increases risks for Vietnamese commercial banks while the management mechanism is not really complete, lacks scientific and close coordination between departments in the bank. With the familiarity with traditional banking services in the country, the trend of integration and wide opening has made it impossible for commercial banks to prepare well and respond promptly to market changes and familiarize themselves with the foreign markets. While import-export enterprises are rapidly approaching and looking for overseas partners every day, the framework, mechanism, and professional qualifications to support import-export enterprises in Vietnamese commercial banks does not have a methodical and timely response. The standardization of processes, methods, and services for measuring credit risk, market risk and operational risk has not been well prepared and publicly disclosed by commercial banks. According to statistics from the US Federal Reserve, from 2013 to 2016, there were about 22,000 scams causing losses of more than USD 3 billion taking place in 79 countries. While in Vietnam, import-export enterprises tend to choose money transfer payment or direct payment, rarely use hedging methods and strict international banking services, high fees to pay through banks or credit institutions. International banking is characterized by being affected by many random factors, world political economy, so commercial banks are prone to face market risks and operational risks. Therefore, import and export enterprises have to face the risk of cybercriminals attacking through accounts, creating fake emails, and luring victims to send money to hacker accounts. Commercial banks also cannot measure all the risks to advise and protect import-export enterprises.

Third, the big requirements is for the inspection and supervision mechanism of the team, professional expertise in handling and consulting international banking services as well as good technology operation. When opportunities open up, banks actively provide international banking services, including small banks, while lacking in understanding of international law, limited in technology and professional skills of weak staff. Inspection and supervision work requires commercial banks to have sufficient capacity, understanding of international business practices and supervision standards in foreign partner markets. Challenges with legal pressures, international laws and conventions, national laws, international practices as well as regulations of the banking industry that require commercial banks to ensure sufficient resources (capital, technology, professional qualifications,…) to be able to ensure the best possible consulting and support for import and export enterprises.

4. Discussion and Conclusion

Faced with opportunities and challenges in providing international banking services, first of all, commercial banks need to propose to the Government and the State Bank to create a proper legal system and practices to have a basis for promotig the reform and improvement of banking operation. There should be a macro inspection and supervision mechanism based on the requirements and regulations of groups of laws and practices to serve as a foundation for the operation of Vietnamese commercial banks.

In addition, commercial banks themselves need to not only try their best to maintain traditional customer service, but also to evaluate and determine their capacity in taking advantage of opportunities to improve competitiveness, develop international banking services to support import-export enterprises. Vietnam commercial banks need to develop specific customer policies in order to diversify operations and use capital effectively in foreign trade finance. It is necessary to form and scientifically operate a specialized international banking business model and be included in the operating chain of the bank itself. Commercial banks also need to further improve risk management capacity, management of system operations to respond to risks at a timely manner. Commercial banks also need to be more active in business, taking advantage of specialized products and services to best serve the needs of import-export enterprises.

International banking services are increasingly affirmed in national economic relations in general and foreign economic activities in particular. Especially in the current integration context, each country places foreign economic activities in a priority position, so commercial banks need to recognize opportunities and challenges to have their own international banking development strategy.

5. References

1. Pham Huyen Trang (2016), *International Commercial Business: New Trends of Commercial banks,* Financial Review, Part 1, No 2-2016.
2. Vu Thi Thu Hoa and Nguyen Thi Thanh Phuong (2018), *Development of Foreign Trade financing activities at Vietnamese commercial banks,* Journal of Accouting and Auditing, No 5-2018.
3. Pham Thai Ha (2019), *Vietnamese commercial banks interational integration-opportunities and challenges*, Journal of Auditing Scientific Research.
4. Ho Nguyen Phuong and Nguyen Viet Trung (2019), *Banking in the process of extensive international economic intergration,* Banking Journal, No 21-2019.
5. To Huy Vu (2019), *The process of international economic intergration of the banking industry,* Banking Journal, No 2+3/2019
6. Nguyen Thi Cam Thuy (2012), *Developing international banking services for with Vietnamese commercial banks in terms of intergration, Thesis of doctoral degree in economics, Banking Academy.*
7. Huynh Thi Huong Thao (2016), *Research on the impact of international banking services on the performance of Vietnamese commercial banks, Thesis of doctoral degree in economics, University of Economics Ho Chi Minh City.*
8. Friederike Niepman (2014), *International Trade, Risk and The Role of Banks*, CESifo working paper Series No. 4761.
9. Website: *vietcombank.com.vn, bidv.com.vn, techcombank.com.vn,…*

THE DEVELOPMENT OF COMMERCIAL AGRICULTURE IN LAOS: CURRENT STATUS AND PROBLEMS TO BE SOLVED

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Abstract

In the last decade, Laos'agriculture has been commercialized faster and has gained given achievements. From a self-sufficiently agricultural country, Laos'has become one of the net exporters of agricultural products. However, commercial agriculture in the nation is still less competive due to poor irrigation and trasportation systems; small-scale production, limited agro- processing, week linkages bettween stakeholders within value chains, etc. Therefore, it would be neccessary for the country to upgrade agricultural and rural infrastructure; apply widenlly new technologies and GAP standards; improve skills of farmers through education and extention systems; strengthen the linkages within agricultural value chains; and improve continuously policies to facilitate commercialization of agricultural products.

Keywords: *Cash crops & livestocks, commercial agriculture, export, Lao PDR.*

1. Introduction

Agriculture is the mainstay of the economy of Laos (officially the Lao People's Democratic Republic - Lao PDR). In the early 21st century the sector generated nearly half the country's gross domestic product (GDP) and employed some three-fourths of the labor force. The expansion of land under cultivation has been impeded. The great majority of Laos's farmers are engaged in rice agriculture. Lowland farmers generally plant irrigated paddy fields, while upland dwellers cultivate rain-fed swiddens. Many farmers in the uplands practice subsistence agriculture. In years with "normal" harvests, Laos is self-sufficient in rice production. However, a shift toward market-based and commercial agriculture in the recent decade has been gaining momentum, propelled primarily by the government's modernization initiatives.

Unlike subsistence and nature-based agriculture, commercial agriculture is likely to result in welfare gains through the realization of comparative advantages, economies of scale, and technological dynamism (Gebremedhin and Jaleta, 2010). Policies for commercial transformation of smallholder agriculture are often aimed at promoting household market participation" (Gebremedhin and Jaleta, 2013).

This paper aims to overview development of commercial agriculture in the last decade in Lao PDR and disscuss key factors influencing this process as well as several recommendations to speed up the renovation in agricultural sector in the country.

2. Method

The study is mainly based on secondary data gathered from FAOSTAT and Laos' relevant agencies. Descriptive statistical methods and expert consultation were used to analyse the development of Laos' commercial agriculture, and to give comments and conclusions.

3. Results

3.1. Development of commercial agriculture in Laos in the recent decade

As shown in Table 1, in the 10-year period of 2010-2019, the area harvested of almost cash crops in Laos have been increasing while the annual growth rate in harvested area of food crops have reduced. The annual increase in area was especially high for cassava (14.55%), sugar cane (8.44%), tea (7.44%), and coffee (6.32%). The negative growth in area of food crops such as rice and maize reflected that there were transitions from the self-sufficiency to cash crops in the nation during the decade.

Table 1: Area harvested of main crops in Laos in the last decade (ha)

Year	Cassava	Coffee	Maize	Rice	Sugar cane	Taro	Tea	Tobacco
2010	19,940	50,595	212,745	855,114	15,355		2,415	8,355
2011	31,135	54,775	212,105	817,250	24,765		2,715	7,755
2012	43,975	56,875	196,815	933,767	20,490		2,705	6,975
2013	45,185	57,345	212,030	891,190	14,270		3,440	6,025
2014	60,475	70,330	243,385	957,836	34,070	12,000	3,990	6,250
2015	75,465	77,535	254,025	965,152	36,130	12,000	4,180	6,360
2016	75,810	77,900	258,910	973,327	36,180	17,180	4,200	6,880
2017	70,930	80,890	207,190	956,134	29,090	12,120	3,990	4,580
2018	71,010	82,980	165,620	848,174	30,555	12,385	4,195	5,670
2019	67,726	87,817	148,000	783,766	31,826	12,709	4,606	5,515
%/year	*14.55*	*6.32*	*-3.95*	*-0.96*	*8.44*	*1.15*	*7.44*	*-4.51*

Source: FAOSTAT Data accessed 2-4-2021 and calculated by the authors.

Thanks to intensive farming and application of new technology in cultivation, the yield of all crops has been increasing, especially in case of coffee with annual growth rate of 8.39%, tea (6.33%) and cassava (3.22%/year) (Table 2).

Table 2: Yield of main crops in Laos in the last decade (hg/ha)

Year	Cassava	Coffee	Maize	Rice	Sugar cane	Taro	Tea	Tobacco
2010	250,797	9,149	47,986	35,909	533,165		10,766	100,293
2011	238,699	9,495	51,684	37,513	493,438		13,186	103,598
2012	241,246	15,355	57,185	37,367	515,215		14,695	108,330
2013	277,567	16,051	57,260	38,315	606,258		17,747	94,199
2014	269,501	16,150	58,033	41,786	540,201	112,500	19,887	101,368
2015	315,706	17,531	59,689	42,501	558,720	112,500	15,060	99,119
2016	317,900	17,535	59,958	42,625	558,043	109,275	17,381	97,093
2017	321,028	18,642	57,557	42,251	606,528	111,691	19,198	77,762
2018	320,945	18,611	59,273	42,264	600,401	119,750	19,201	95,247
2019	333,506	18,890	48,446	43,865	619,169	121,681	18,706	102,821
%/year	*3.22*	*8.39*	*0.11*	*2.25*	*1.68*	*1.58*	*6.33*	*0.28*

Source: FAOSTAT Data accessed 2-4-2021 and calculated by the authors.

The increase in production of cash crops were rather high in the decade as a result of improved farming practices associated with expanded cultivating areas (table 3). After 9 years since 2010, cassava production increased more than 4.5 times in 2019 (with annual growth rate of 18.24%), coffee production increased about 4 times (with annual growth rate of 15.24%), sugar cane production increased about 2.5 times (with annual growth rate of 10.25%), and tea production increased nearly 4 times (with annual growth rate of 14.24%). Most of the increases in these crops were geared toward exports to China, Thailand, and Vietnam where with improving transport connections, are becoming increasingly viable markets.

Table 3: Production of main crops in Laos in the last decade (tonnes)

Year	Cassava	Coffee	Maize	Rice	Sugar cane	Taro	Tea	Tobacco
2010	500,090	46,290	1,020,875	3,070,640	818,675		2,600	83,795
2011	743,190	52,010	1,096,235	3,065,760	1,222,000		3,580	80,340
2012	1,060,880	87,330	1,125,485	3,489,210	1,055,675		3,975	75,560

2013	1,254,188	92,045	1,214,085	3,414,560	865,130		6,105	56,755
2014	1,629,805	113,580	1,412,440	4,002,425	1,840,465	135,000	7,935	63,355
2015	2,382,478	135,925	1,516,250	4,102,000	2,018,655	135,000	6,295	63,040
2016	2,410,000	136,600	1,552,360	4,148,800	2,019,000	187,735	7,300	66,800
2017	2,277,050	150,795	1,192,525	4,039,779	1,764,390	135,370	7,660	35,615
2018	2,279,030	154,435	981,680	3,584,700	1,834,525	148,310	8,055	54,005
2019	2,258,702	165,888	717,000	3,438,000	1,970,566	154,644	8,616	56,706
%/year	*18.24*	*15.24*	*-3.85*	*1.26*	*10.25*	*2.75*	*14.24*	*-4.25*

Source: FAOSTAT Data accessed 2-4-2021 and calculated by the authors.

Figure 1 below shows increasing in area of some cash crops such as coffee, tobaco, cassava, vegetables and sugarcane in the 23-year-period of 1995-2018. Cutivation of coffee, tobaco, cassava, vegetables, sugarcane were mainly in the southern provinces while banana and maize were mainly in the north provinces of Laos.

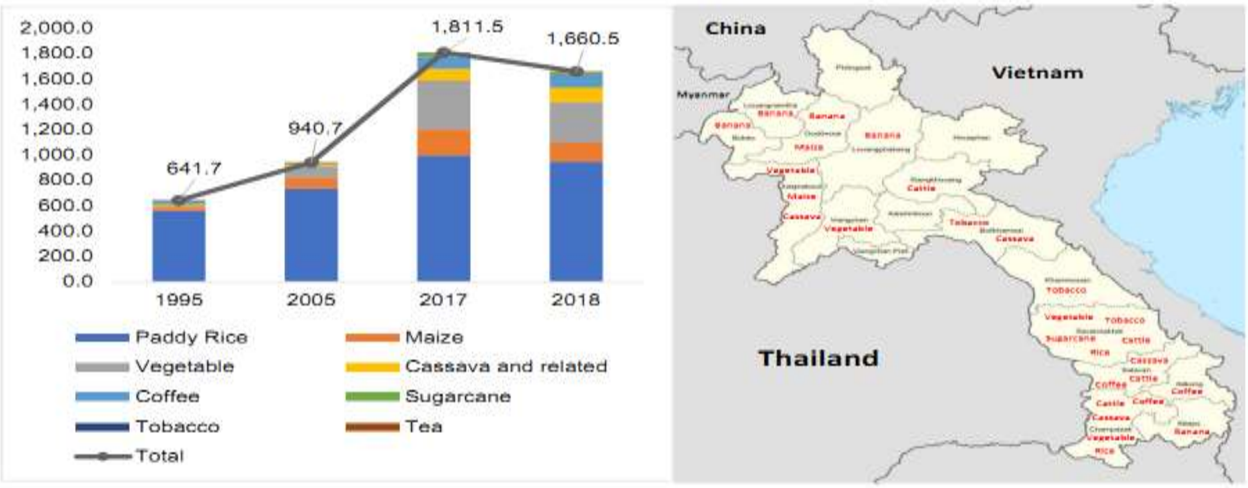

Figure 1: Allocation and cultivating areas of main crops in Lao PDR
Source: Lao's Ministry of Agriculture and Forestry (MAF, 2019)

There are also opportunities for Lao PDR in trading livestock products with its neighboring countries, especially China and Vietnam, where with high rates of economic growth, increasing prosperity, and growing market demand for protein. Moreover, further land conversion opportunity exists in the Lao PDR to expand both cash crops and livestock production. The livestock sector growth is especially rapid. Table 3 and table 4 illustrate that there was notably significant growth for goat, chicken, pig, and cattle population as well as production.

Table 3: Growth in population of major livestocks in the last decade (head)

Year	Buffalo	Cattle	Chicken (000')	Goat	Pig
2010	177,000	206,000	24,500	101,000	2,200,000
2011	178,000	215,000	26,200	119,000	2,120,000
2012	177,000	236,000	28,100	122,000	2,235,000
2013	177,000	239,000	30,000	129,000	2,360,000
2014	172,132	242,509	31,349	135,509	2,526,542
2015	176,569	249,688	32,951	152,870	2,650,005
2016	173,191	257,581	33,620	156,270	3,007,215
2017	176,844	265,964	35,294	164,775	3,147,575
2018	180,390	273,812	37,435	173,436	3,114,474
2019	183,763	280,937	39,531	180,770	3,093,720
%/year	*0.42*	*3.51*	*5.46*	*6.68*	*3.86*

Source: FAOSTAT Data accessed 2-4-2021 and calculated by the authors.

Livestock are particularly important in the more poverty-prone Northern provinces, where there is less land available for cropping due to the mountainous terrain. Some 89% of farm households own one or more types of livestock, and where possible, many households will have fishponds. Smallholder farmers dominate livestock production, accounting for approximately 95% of national herd. The feeding of animals includes (1) fallow cropland; (2) communal areas along roads and rivers, and areas around fields and villages; (3) dedicated grazing land; (4) secondary forests; and (5) other uncropped communal lands. Crop by-products such as rice straw are also fed to ruminants.

Table 4: Growth in production of major livestocks in the last decade (tonnes)

Year	**Buffalo**	**Cattle**	**Chicken**	**Goat**	**Pig**
2010	19,470	25,750	19,600	1,414	59,671
2011	19,580	26,900	20,960	1,666	58,178
2012	19,470	29,500	22,480	1,708	60,765
2013	19,470	29,900	24,000	1,806	64,372
2014	18,947	30,544	25,168	1,897	69,293
2015	19,460	31,828	26,465	2,141	73,438

2016	19,086	32,479	27,002	2,189	82,757
2017	19,475	33,571	28,334	2,308	86,863
2018	19,851	34,597	30,040	2,430	86,190
2019	20,208	35,533	31,707	2,532	85,855
%/year	***0.41***	***3.64***	***5.49***	***6.69***	***4.13***

Source: FAOSTAT Data accessed 2-4-2021 and calculated by the authors.

Commercial livestock production has developed around major towns and cities such as Vientiane, supplying meat, eggs, and milk to the urban population. Significant cross-border livestock trade is expanding to China and Vietnam since 2014 (Table 5 and Table 6) with further potential growth if reproductive and survival rates continue to improve, ensuring livestock health and easing the sale and transport of stock. Current livestock trade is significantly underreported with cross-border movement of livestock mostly avoiding international border gates.

Table 5: Laos' export quantity of main cash-products in the last decade (tonnes)

Year	Bananas	Cassava	Cassava dried	Coffee, green	Coffee, roasted	Cattle	Chicken	Pig
2010	12460	0	0	17088	0	0	0	0
2011	11910	0	0	25008	0	0	0	0
2012	14641	0	0	20535	0	0	0	0
2013	15253	0	0	31480	0	0	0	0
2014	50344	16375	100334	22140	561	9	10	0
2015	75196	30232	218823	17102	104	218	4	22
2016	275608	59858	435882	23069	246	60	0	6
2017	212997	71362	685496	29265	918	766	0	0
2018	129666	72233	548186	25695	461	355	64	0
2019	53615	358921	529764	26155	3073	1614	60	442
%/year	*17.60*	*85.42*	*39.48*	*4.84*	*40.51*	*182.31*	*43.10*	*111.71*

Source: FAOSTAT Data accessed 2-4-2021 and calculated by the authors.

Laos' export of agricultural products has rapidly increased in the last decade, especially with presence of cassava, coffee roasted, cattle and chicken since the year of 2014.

Annual growth rates of agricultural export in terms of quantity and value were very high in 5 recent years, typically by 182%/year and 145.33%/year for cattle.

Table 6: Laos' export value of main agro-products in the last decade (1000 USD)

Year	Bananas	Cassava	Cassava dried	Coffee, green	Coffee, roasted	Cattle	Chicken	Pig
2010	1758	0	0	33424	0	0	0	0
2011	2270	0	0	72350	0	0	0	0
2012	2922	0	0	63259	0	0	0	0
2013	3106	0	0	72589	0	0	0	0
2014	34804	15065	20156	63165	2876	37	31	0
2015	54759	27826	28506	57079	986	1258	8	92
2016	197813	62203	50373	63317	2217	227	0	29
2017	167864	87233	94927	87156	4494	2575	0	0
2018	112167	75932	79682	84326	3217	1853	180	0
2019	14024	16235	74098	54767	9551	3288	90	639
%/year	***25.95***	***1.51***	***29.74***	***5.64***	***27.13***	***145.33***	***23.76***	***62.34***

Source: FAOSTAT Data accessed 2-4-2021 and calculated by the authors.

The production and export of agricultural products are considered crucial for livelihood improvement of Lao people since the majority of them are dependent on agriculture as the main source of income. However, the export of agricultural products is relatively small compared with that of the non-agriculture which is driven by electricity and copper concentrate or ores. Its share was 16% of the total export during 2012-2018 (Figure 2). Nevertheless, the export of agriculture products increased strongly with an average 25.4% annual growth during 2012-2018. Among exporting products, the export of banana and live animal were the most promising with high market demand in China and Vietnam. In 2018, the main commercial agriculture and forestry for export were banana, rubber, tobacco, coffee bean, cassava, and sugar. Meanwhile, the export of banana and rubber has surpassed the previous longstanding export champions such as coffee and wood product that used to be the top agricultural exports in 1990s and 2000s.

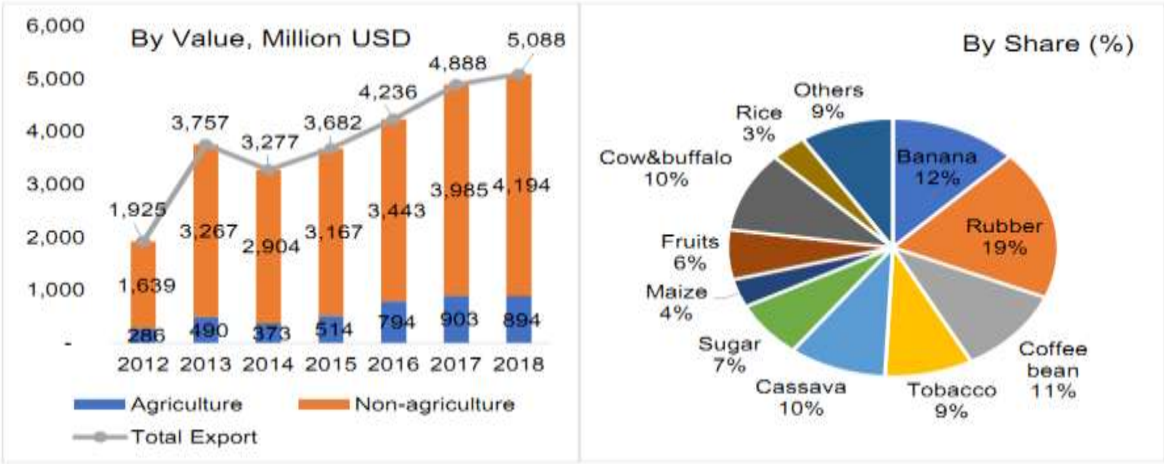

Figure 2: Laos' agricultural export in total export during 2012-2018

Source: Lao PDR's Ministry of Industry and Commerce (MoIC, 2019)

Overall, major markets for Lao agriculture exports are Vietnam, China, and Thailand (Table 7). Vietnam is the main market for various agro-products except banana (China), maize (China), and tea (Thailand). Nonetheless, Chinese market has a potential to grow in the future, with an outstanding demand to import 50,000 cattle from Lao PDR and 50,000 tons of rice since the mid of 2019. For other crops such as sugarcane, the negotiations are still underway.

Table 7: Major markets for Lao agricultural export by share (%) during 2014-2018

Importers	Banana	Live Animal	Maize	Cassava	Tea	Rubber	Rice	Tobacco	Coffee
Thailand	4.80	0.00	20.10	0.50	78.00	0.60	9.10	5.70	9.30
China	93.50	16.20	41.60	25.50	9.00	43.80	27.80	2.60	1.40
Vietnam	1.60	83.80	34.90	66.60	2.90	52.80	51.20	66.90	50.10
	-	-	3.20 (PH)	3.70 (TW)	4.10 (FR)	1.60 (MAL)	6.60 (BE)	13.70 (SG)	8.10 (BE)
	-	-	-	-	-	-	-	3.60 (HK)	13.10 (JP)
Others	0.00	0.00	0.00	3.70	5.90	1.10	5.30	7.50	31.10
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Lao PDR.'s Ministry of Industry and Commerce (MoIC, 2019)

(Note: PH=Philippines, TW=Taiwan, FR=France, MAY=Malaysia, BE=Belgium, SG=Singapore, HK=Hong Kong, JP=Japan)

These production increases, often aimed at export markets, demonstrates that, development of commercial agriculture played a major role in improving Laos' farmer households' living standards as well as reducing poverty in the rural area. Table 8 showed that after 20 years since 1992-1993, the poverty rate in Laos' rural area reduced from 51.8% to 28.6 % in 2012-2013. At the ending of 2019, the poverty rate in Lao's rural area was only 23.8%.

Table 8: Laos' Poverty Incidence, from 1992–1993 to 2019 (%)

	1992–1993	1997–1998	2002–2003	2007–2008	2012–2013	2013*	2019*
Rural	51.8	42.5	37.6	31.7	28.6	31.4	23.8
Urban	26.5	22.1	19.7	17.4	10	7.9	7.0
Vientiane	33.6	13.5	16.7	15.2	5.9	2.5	5.0
North	51.6	47.3	37.9	32.5	25.8	31.0	20.7
Central	45	39.4	35.4	29.8	23.3	23.5	21.5
South	45.7	39.8	32.6	22.8	29.2	29.9	17.7
National	46	39.1	33.5	27.6	23.2	24.6	18.3

Source: P. Warr, S. Rasphone and J. Menon, 2015

and (*) Lao Statistics Bureau and World Bank. 2020.

3.2. Some factors impeding development of commercial agriculture in Laos

Firstly, physical constraints arise from the Lao PDR's geographic characteristics and climate such that: (a) rugged mountainous terrain reduces the amount of arable land and soil quality in many areas, and makes the provision of infrastructure expensive, particularly for transport; (b) limited availability of water during the dry season reduces the area of land that can be irrigated; (c) the dispersion of population with long travel times between settled areas, largely over hilly and mountainous terrain, increases travel costs, consequently limiting access to socioeconomic opportunities and services; and (d) vulnerability to climate instability and natural disasters, especially severe floods during the rainy season, exposes the country, its population, and cropland to catastrophic climate events.

Secondly, socio-economic constraints include (a) a production base oriented to subsistence agriculture practiced by farmers who lack experience and basic technical, production, and market skills; (b) low productivity and low market prices and competition from neighboring countries; (c) underdeveloped value chains for cash crops and livestock; (d) limited access to agriculture inputs due to cost and logistical constraints; (e) limited access to irrigation facilities; (f) poor physical access that leads to postharvest losses and increased cost to move and process outputs; (g) insecure land ownership and property rights, which reduces investment in, and protection of, land and water resources; and (h) lack of access to financing for agriculture and agribusiness, which hampers investment and trade.

Thirdly, capacity constraints include (a) poorly educated farmers with low levels of literacy and numeracy, who lack access to training on improved practices; (b) poorly defined and inconsistently applied policies, rules, and regulations, creating uncertainty in the market; (c) limited institutional capacity of government agencies to address infrastructure, trade, and economic challenges; (d) limited capacity of financial institutions to provide services in support of agriculture; (e) inefficient practices throughout the input and output value chains; (f) the inability of farmers and agribusinesses to meet technical and Sanitary and Phytosanitary standards (SPS), compromising food safety and reducing opportunities for export; and (g) shortfalls in government budgets needed to support the sector.

3.3. Some recommended solutions to speed up the development of agribusiness in Laos

(1) Improving agricultural and rural infrastructure

Figure 2 above indicates only few agricultural products such as banana, cassava, vegetable and rubber are produced in the North with easy access to the railway while more products such as rice, sugarcane, tobacco, cattle, vegetable and coffee are produced in the Central and Southern parts of the country. More market opportunities would be obtained if the Laos-China railway is linked with better transport infrastructure from the South. The construction of Laos-China railway started in the end of 2016 and expected to be completed by December 2021. Improving rural transportation systems in the Central and Southern parts, therefore, is very necessary to enable agricultural products access easily to potential market of China. Cross-border logistics would also be developed to facilitate regional trade. Besides that, irrigation systems need to be constructed and upgraded reasonably to expand cultivating area and improve agricultural yield and production.

(2) Applying widenlly new technologies and Good Agricultural Practice (GAP) standards

To enhance the compatitiveness of agricultural products in the regional and international markets, together with develop larger-scale agricultural production and improve products'quality by applying new inputs, it is necessary for Laos to enforce standards and regulations on agricultral practice, and guarantee food safety through compliance with basic SPS standards and GAPs. Strenthening agricultural research as well as transfering research results of the new knowledge and technologies to farmers should be more supported by Lao's government in the comming years.

(3) Improving skills of farmers through education and extention systems

According to the World Bank (2018), the Lao PDR's average nationwide adult literacy rates are 50% for women and 67% for men, and these figures are lower in rural and remote areas. Inadequate education is a contributing factor for all poverty subgroups. Most farmers lack basic literacy and numeracy skills, which are essential to operate effectively in modern commercial agriculture. Therefore, three major issues to deal with to improve skill of farmers in the longterm are: (i) increasing the number of people being educated and trained, (ii) upgrading the quality of training and relevance to modern commercial agriculture, and (iii) delivering better training programs to those that need it through improvement of agricultural extension.

(4) Developing the linkages within agricultural value chains

Main stakeholders in agricultural value chains include input suppliers, farmers, traders, processors, exporters, transport companies, shipping companies. Laos' agricultural business shares characteristics with other countries in Sub-Mekong region in terms of weaknesses or constraints including (1) high production cost, (2) low productivity and quality, (3) weak forward and backward linkages among all actors, and (4) limited access to finance (Leelawath, 2019). Most of agro-products were produced and exported in form of raw.materials, thus, Lao PDR only gains a small fraction of benefit in the value chain of agricultural business. Expanation of contract famings; encouragement of private investment in value-added processing of agro-products; and improvement of linkages between all partners within agricultural value chains by creating the mechnism of reasonable benefit sharing are priority solutions to speed up Laos' high value and commercial agriculture.

(5) Improving continuously policies to facilitate developmen of commercial agriculture

The Lao PDR's Agricultural Development Strategy to 2025 and Vision 2030 emphasizes the encouragement of international trade of non-rice agriculture products, the recognition of the need to improve and ensure food quality both for national consumption and export. In order to implement the strategy, it is neccesary to legalize land tenure and improve regulation on land manangement, encourage private sector to invest in agricultural production and procesing for export by renovating trading policies, especially in better sharing information of the annual quota available to traders and producers and develop technical assistance from international communities in penetrating internatinal markets.

4. Conclusion

In the last decade, Laos'agriculture has been commercialized faster and has gained significant increases in terms of cultivated areas, yields and productions of cash crops & livestocks. Thanks to this process, from a self-sufficiently agricultural country, Laos has become one of the net exporters of agro-products. However, commercial agriculture in the nation is still less competive due to many difficulties expecially poor irrigation and rural trasportation infrastructures; small-scale production, limited agro- processing, and week linkages bettween stakeholders within agricultural value chains. Therefore, in the comming years, it would be neccessary for the country to upgrade agricultural and rural infrastructure; apply widenlly new technologies and GAP standards; improve skills of farmers through education and extention systems; strengthen the linkages within agricultural value chains; and improve continuously policies to facilitate commercialization of agricultural products./.

5. References

1. FAOSTAT. http://www.fao.org/faostat/ (accessed 2-4- 2021).

2. Gebremedhin, B. and M. Jaleta, 2010, *Commercialization of smallholders: Is market participation enough*. Paper presented at the Joint 3rd African Association of Agricultural Economists (AAAE) and 48th Agricultural Economists Association of South Africa (AEASA) Conference, Cape Town, South Africa.

3. Gebremedhin, B. and M. Jaleta, 2013, *Policy Imperatives of Commercial Transformation of Smallholders: Market Orientation Versus Market Participation in Ethiopia*. 2013 AAAE Fourth International Conference, September 22-25, 2013, Hammamet, Tunisia, African Association of Agricultural Economists.

4. Lao PDR's Ministry of Agriculture and Forestry (MFA), 2019, Statistics Year Book 2018.

5. Lao PDR's Ministry of Industry and Commerce (MoIC), 2019.

6. Lao Statistics Bureau and World Bank, 2020, *"Poverty Profile in Lao PDR: Poverty Report for the Lao Expenditure and Consumption Survey 2018-2019."*

7. Lao PDR's MAF, 2015, *The Agricultural Development Strategy to 2025 and Vision 2030.*

8. Leelawath, Watcharas, 2019, *"Toward Inclusive Growth of the GMS."* presented at the Global Center for Mekong Studies (GCMS) Workshop on Building Mekong-Lancang, p 6.

9. P. Warr, S. Rasphone, and J. Menon, 2015, *Two Decades of Rising Inequality and Declining Poverty in the Lao People's Democratic Republic*. ADB Economics Working Paper Series. No. 461. Manila: ADB.

10. World Bank, 2018, *Education Statistics* (accessed 9 December 2018).

CURRENCY MANIPULATION - EXPERIENCE FROM SWITZERLAND AND LESSONS FOR VIETNAM

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Abstract

Currency manipulation is a trade imposition by the U.S. Government in general and the U.S. Department of Treasury in particular for trading partners with the U.S. This shows signs of intentionally creating a competitive advantage for commercial gain. A bilateral trade surplus with the U.S, a current account surplus, and continuous one-way foreign exchange activity for a period of time are the conditions set out by the U.S. Treasury Department in the Omnibus Trade and Competitiveness Act of 1988. Every year, the U.S. Secretary of the Treasury issue a report analyzing the exchange rate policies of trading partners to promptly prevent unfair trade competition. In December 2020, the U.S. Treasury Department released a study that included a list of economies engaging in currency manipulation, including Vietnam. However, in the report on April 2021, the U.S. Treasury Department concluded that there was not enough evidence to prove that Vietnam manipulated the currency to create a competitive advantage in trade. Switzerland was labeled as a currency manipulator and was removed from the list in the same period as Vietnam (December 2020 - April 2021). By gathering the existing data sources, this paper researched the case of Switzerland, clarifying why this economy hit the mark in all 3 criteria of currency manipulation as well as what the Government and Central Bank of Switzerland carried out to remove the currency manipulation label, thereby giving lessons for Vietnam.

Keywords: *current account, currency exchange rates, currency manipulation, trade balance.*

1. Introduction

1.1. The necessity of the research

After more than 25 years of normalizing relation, bilateral economic and trade relation between Vietnam and the United States have made great progress. Vietnam is one of the most important trade allies of the U.S., and the U.S. is Vietnam's main export market.

However, The U.S. Treasury Department accused Vietnam of currency manipulation on December 16, 2020. If the U.S. applies specific sanctions, such as imposing taxes on billions of dollars of Vietnamese goods exported to the U.S. market, the Vietnamese economy will suffer from heavy economic losses. Therefore, although the currency manipulation label was removed in April 2021, Vietnam still needs to be proactive in the future to avoid falling into the currency manipulation trap and remove the label soon in case of being blacklisted again.

This paper systematized the theoretical basis of currency manipulation, the criteria for evaluating a currency manipulator set forth by the U.S. Treasury Department. In addition, the authors focused on processing and analyzing the data as well as experiences from the Swiss case, including the violation of the U.S. Treasury Department's criteria, the main causes leading to this behavior. Thereby, it provided conclusion about whether Switzerland intended to manipulate the currency or not. Finally, this paper drew on necessary experiences for Vietnam.

1.2. Theoretical basis of currency manipulation

Currency manipulation is the U.S. Treasury Department’s decision for countries that may engage in "unfair monetary policies" to achieve unfair competitive advantages in foreign trade.

According to Brad W. Setser and Dylan Yalbir (2020), currency manipulation was one way that countries can shift patterns of trade in their favor. By purchasing foreign currency in the market, they can artificially change the price of its imports and its exports. In fact, they do so to boost their exports, otherwise they might have trouble generating the demand their economies need to grow.

Michael W. Klein (2015) indicated that currency manipulation was the effort to keep exports cheap by intervening in the foreign exchange market, and it was hard to define and even harder to prove this behavior. Then, to some extent, any country that has a fixed exchange rate - such as France, Germany, Greece, and China - is, by definition, a currency manipulator.

As mentioned by Matthew Johnston (2020), currency manipulation was an effort to tinker with the value of a nation's currency in relation to foreign currency exchange rates to boost exports in international trade or reduce its debt interest burden.

Currency manipulation appraisal requirements were first adopted by the U.S. Treasury Department in the Omnibus Trade and Competition Act of 1988 and later amended in the Trade Facilitation and Trade Enforcement Act of 2015.

In which, the criteria for assessing currency manipulation include:

(i) The bilateral trade surplus with the US of at least 20 billion USD in 12 months

(ii) Current account surplus greater than 2% of GDP

(iii) One-way and long-lasting intervention in the foreign exchange market, as demonstrated by net purchases of foreign currencies for at least 6 months greater than 2% of

GDP in 12 months

However, the three criteria set forth by the U.S. Treasury Department is not a solid basis to determine whether a country is a currency manipulator. As noted above, for the U.S, the term "currency manipulation" is used to define a country's intervention in the foreign exchange rate, which reduces the value of its domestic currency relative to the U.S. Dollar (nominal or actual value) to boost exports, especially to the United States.

In fact, there is no international economic-financial theory that can confirm the "correct exchange rate" between two currencies, as well as the criteria to determine this exchange rate. A country’s monetary policy depends on many specific factors of the economy, such as the level of development, average income, and the composition of the respective basket of goods.

2. Method

The authors used qualitative method through descriptive statistics; systematic observation, meta-analysis, and comparison. Secondary data was used as a basis to explain why Switzerland was accused of manipulating and how it removed the label. On this basis, recommendations are given to Vietnam for avoiding currency manipulation-related risks in the future. The secondary data was collected and aggregated from actual data in US Department of Finance's reports and financial statements of the Swiss National Bank. In addition, data was also gathered from official reports, websites, and scientific works related to the research topic.

3. Results

3.1. Overview of Swiss economy

Switzerland is one of the most stable economies in the world. Its main trading partners are also major economies such as the U.S., France, Germany, Italy, Russia, the UK and Austria. One of the reasons why Switzerland attracts a large amount of FDI is due to the monetary security policy and the political stability. That has made Switzerland an ideal destination for investors.

However, in recent times, with the spreading of the pandemic, there has been a surge in safe-haven capital flows into Switzerland, putting pressure on the Swiss Franc to appreciate and leading to a domestic deflationary trend. The Swiss National Bank (SNB) has used a variety of instruments to counteract upward pressure on the Franc and limit negative effects on inflation and economic growth. Switzerland undertook a large-scale one-way intervention in the second half of 2019 and particularly in the first six months of 2020, considerably greater than the previous period, to fight Franc's appreciation and reduce the possibility of deflation, as the SNB's policy interest rate was substantially negative at the time. The most obvious expression is in the USD/CHF exchange rate. Whereas the COVID-19 pandemic has wreaked havoc on Swiss business, the U.S. Dollar is gradually recovering after continuously falling in price in December. The USD Index has surpassed the level of 90, trading around 90.4.

According to a report by the U.S Treasury Department, Switzerland meets all three criteria in the Trade Facilitation and Trade Enforcement Act of 2015, therefore it is included in the list of currency manipulators. As a result, the U.S Treasury Department conducted an advanced analysis of Switzerland's international trade and strengthened its bilateral commitments with signatories to the Trade Promotion and Enhancement Act 2015.

3.2. Criteria for making Switzerland as a currency manipulator

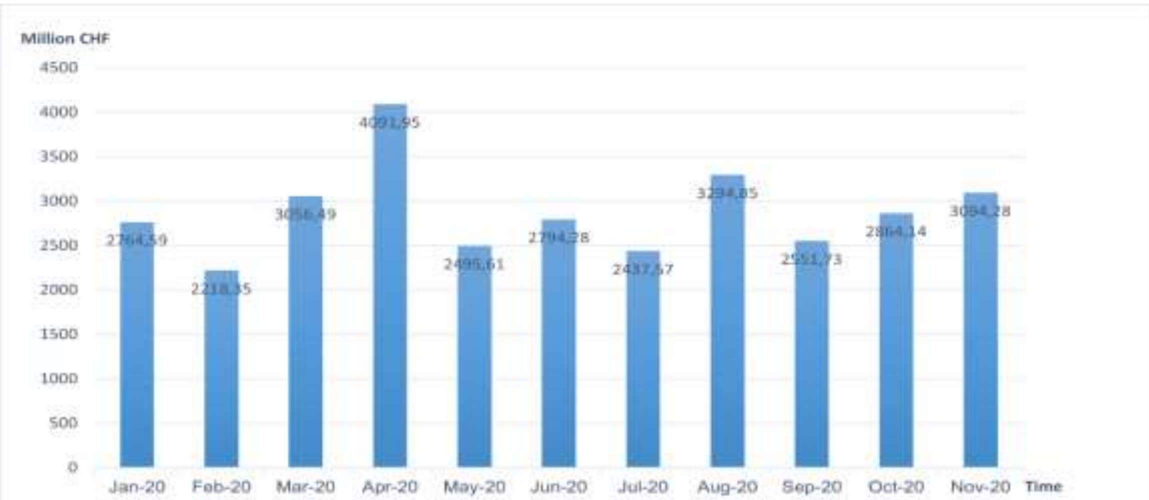
➢ **Trade surplus with the U.S.**

According to the December 2020 report of the U.S. Treasury Department, Switzerland's goods trade surplus with the United States is expected to hit $57 billion in 2020, up from $27 billion in 2019. According to the U.S. Treasury Department, Switzerland's trade surplus in goods with the US in the first 10 months of 2020 was 51.1 billion USD, exceeding 20 billion USD, one of the criteria for assessing a currency manipulator.

Switzerland's trade surplus with the U.S. increased to CHF 3.1 billion in November 2020, and peaked the highest level since August 2020. Higher sales of chemical and pharmaceutical products, machinery and electronics, watches and metals pushed exports up 4.8 percent month on month to CHF 18,8 billion. Exports to China, Japan, the U.S., the European Union, and the UK rose. Meanwhile, imports rose by 4.2 percent to CHF 15.7 billion, with chemical and pharmaceutical goods, machinery and electronics, metals, and automobiles accounting for the majority of the rise. Imports from the EU, the UK, China, Japan, and the U.S. have risen. The trade surplus rose to CHF 31.7 billion in the first 11 months of the year, which was upward from CHF 23.7 billion in the same timeframe last year.

Figure 1: Trade balance of Switzerland – U.S. 2020

(Unit: Million CHF)



Source: Federal Customs Administration

➢ **Current account surplus**

Switzerland has had significant current account surpluses for many years, with the surplus hitting 10.9 percent of GDP in 2019. For the four quarters leading up to June 2020, the current account surplus decreased slightly but stayed high, at 8.8% of GDP. While the criterion set forth by the U.S. Treasury Department was a current account surplus greater than 2% of GDP, Switzerland, therefore, violated the criteria and was placed on the U.S. Treasury Department's currency manipulation watch list.

Other factors were high per capita wages, a strong prime-saving-age and ageing population, a high household savings rate (almost double the developed economy average according to OECD data), small domestic investment options, calculation problems, and a large net foreign investment status (NIIP), in which returns further lift the income balance. Despite major downward adjustments due to adjustments in foreign profits, Switzerland's current account surplus has averaged over 8% of GDP since 2010, though it has decreased since the global financial crisis (when it reached nearly 15 percent of GDP). The structure of the current account has changed since the global financial crisis, with primary income and services trade surpluses diminishing and the goods surplus expanding due to merchant and the pharmaceutical industry (U.S. Treasury Department, 2021).

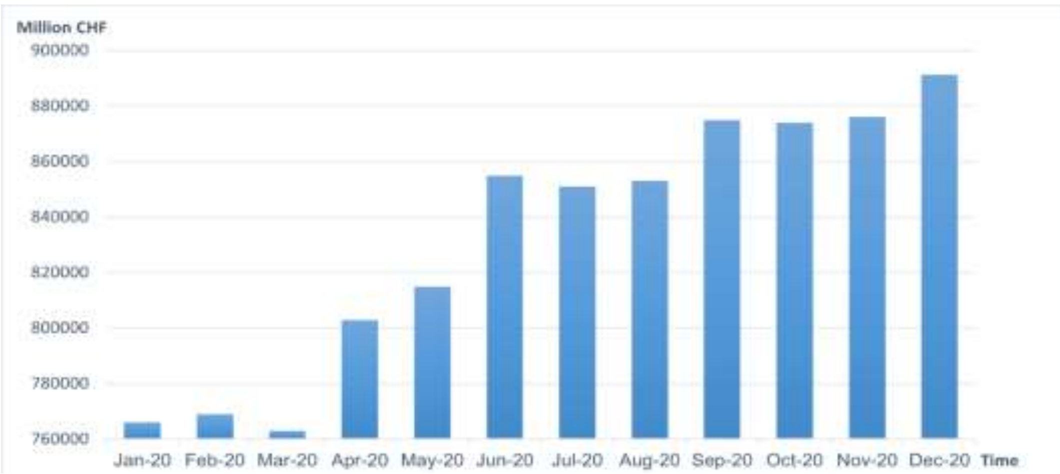
➢ **One-way intervention in the foreign exchange market**

The SNB announced in September 2020 that it would begin publishing the number of foreign exchange market operations quarterly (compared to its previous annual disclosure). In 2020, the SNB spent $115 billion on currency interventions (109.7 billion francs, or 15.3 percent of GDP). The U.S. Treasury Department reported that SNB net foreign acquisitions totaled $112 billion between January and December 2020. (or 14.9 percent of GDP). The U.S. Treasury Department reports that SNB net foreign sales totaled $103 billion (or 14% of GDP) between July 2019 and June 2020, above the U.S. Treasury Department's criteria of 2% of GDP.

Switzerland's foreign currency reserves were $1 trillion at the end of December 2020, which increased from $798 billion at the end of 2019. Gold and highly valued sovereign bonds, which make up a smaller part of the SNB's reserves portfolio, have also risen.

Figure 2: Foreign exchange reserves of Switzerland 2020

(Unit: Million CHF)



Source: Swiss National Bank

3.3. Causes of Switzerland's violation of the three currency manipulation criteria

The U.S. Treasury Department acknowledged that the Swiss economy is "special" and the way Switzerland conducts monetary policy is also constrained by the low domestic wealth.

Switzerland is a small, flexible economy under various foreign influences, so exchange rate fluctuations can have a noticeable effect on inflation. During a period of economic fluctuations and impacts from the COVID-19 pandemic, the Swiss Franc became a safe haven for investors around the world. Big haven inflows will place significant appreciation pressure on the Franc in periods of increased regional and global danger, and sustained appreciation would weigh on domestic inflation. The exchange rate would be affected if the SNB changes interest rates or intervenes in the foreign exchange market. The sudden appreciation of the Swiss Franc causes the Swiss economy to experience many negative effects, which is the problem of deflation, which is a vicious cycle of economic contraction.

The Franc's safe-haven symbolism means it is appreciated during times of economic and political uncertainty. The demand for the Swiss Franc as a labor-market value-added safe haven boosted its value in the foreign exchange market considerably. Since the high currency value makes foreign imports cheap in Switzerland, it harms domestic exporters and the Swiss tourism industry by making Swiss-made goods and services costly. Global investors' rush to the safe-haven Swiss Franc, which has lifted the currency's value, has taken a toll on Switzerland's economy, which is heavily dependent on exports and tourism.

The exchange rate of CHF and USD is also significantly affected by the EUR/CHF rate. EUR/CHF has fallen to its lowest level since early 2017 on concerns that the U.S. Treasury Department is closely monitoring SNB intervention on a large scale. Against a backdrop of global risks and political tensions along with monetary stimulus measures by the ECB have increased the value of the Franc against the Euro and lifted other Swiss exchange rates. Those factors have reduced the cost of Swiss imports and, in turn, the consumer price index, keeping the SNB from hitting its target.

- **Trade surplus with the U.S.**

The COVID-19 pandemic has skewed trade flows and widened U.S. deficits with trading partners. Since October 2020, the number of infections in Europe and the United States has risen exponentially, and efforts to deter the disease's dissemination have been implemented, putting a damper on economic growth. Although the exceptional financial uncertainty that resulted from the COVID-19 crisis in the first half of 2020, the intervention was made in the sense of an extraordinarily broad current account surplus and an increasing bilateral trade surplus with the United States, and it helped to save the Franc from appreciating on an actual, trade-weighted basis.

Despite maintaining a large and increasing commodity trade surplus with the United States, Switzerland still has a trade deficit in services from this partner for many years. The extraordinarily high rise in the goods surplus in 2020 can be traced in part to a spike in private Swiss gold exports to the U.S. as the COVID-19 pandemic intensified and U.S. buyers boosted gold bullion purchases in the first half of the year. Notably, Swiss gold exports to the U.S. increased to $15.4 billion in 2020, up from $1.2 billion in 2019. The bilateral services trade deficit between Switzerland and the United States was $21 billion in 2020, down from $22 billion in 2019. Except for 2020, the U.S. trade deficit with Switzerland has been closer to equilibrium in recent years when services data were included.

- **Current account surplus**

The criteria set by the U.S. Treasury Department do not match the economic characteristics of Switzerland. Switzerland's current account surplus is larger than the violation criterion because this country has a surplus of goods to the U.S. but may have a trade deficit in U.S. services. The high current account surplus is due to the high savings rate, not the undervalued Franc.

Switzerland was one of the first European countries to be affected by COVID-19, prompting the government to declare a national emergency in mid-March 2020. In April 2020, the number of active and new cases fell sharply but began to rise again in June as officials relaxed public health and accessibility constraints. The number of new COVID-19 cases began to rise in October, with new infections dramatically above spring 2020 highs. As a result, the Swiss Federal Council reintroduced multiple containment and lockout policies, which were eventually eased as COVID-19 cases began to decrease beginning in March 2021. However, the recent increase in cases has put a stop to any further reopening. Switzerland has greatly loosened macroeconomic policy in order to mitigate the economic effects of the pandemic. Switzerland's traditionally strict monetary stance has resulted in a strong and stable current account surplus. The U.S. Treasury Department reported that Switzerland has announced fiscal stimulus totaling approximately 11% of GDP since the start of the COVID-19 crisis, including both overt and indirect interventions, but less than half of the funds made available have been used so far. Partially compensating unemployed workers and providing assistance to impacted enterprises are examples of direct fiscal interventions. These initiatives are combined with broader indirect fiscal measures such as debt subsidies for small to medium-sized enterprises and startups, as well as the indefinite postponement of small business social security payments. Taxes and other fees to the federal government would be deferred by the involved businesses. However, the acceptance of bridge loans under the federal guarantee scheme, as well as freelance business funding, has fallen short of expectations.

Switzerland has long been one of the world's most prosperous, productive, and creative economies. Switzerland has the fourth-highest GDP per capita in the OECD, thanks to its strong labor productivity and high job rates. Switzerland has a strong and prosperous banking market, making it a major global financial center. Over the last two decades, the Swiss authorities have a tradition of prudent macroeconomic management, especially a cautious fiscal policy stance that has prioritized debt reduction and a highly competitive corporate tax system. That has made Switzerland a destination for multinational businesses, contributes to Switzerland's global leadership in a number of high-value-added industries. Over the last four decades, these trends have led to steady, and sometimes incredibly high, current account surpluses.

- **One-way intervention in the foreign exchange market**

The Swiss National Bank tends not to issue bonds to limit the budget deficit. Therefore, instead of issuing bonds, the Swiss National Bank switched to foreign exchange intervention to stabilize the macro-economy and help the economy avoid deflation.

To mitigate the impact of COVID-19 on activity, restrict Franc appreciation, and fight deflationary threats, the SNB eased monetary policy substantially in 2020 through a variety of interventions. In the first half of 2020, as a global reserve currency issuer, Switzerland was under increased pressure from safe-haven inflows as a result of the COVID-19 crisis. To combat Franc inflation and deflationary pressure, the SNB raised its foreign exchange purchases considerably in the spring of 2020 and greatly increased its participation in foreign exchange markets.

The Swiss National Bank has maintained a zero-inflation policy for several years, along with this country's political neutrality makes the Franc a strong and exceptionally stable currency. Since Switzerland has a very low inflation rate, also negative at the moment, the SNB has long retained its readiness to engage more forcefully in the foreign exchange market to prevent deflation. The inflation forecast remains unclear in the current scenario. The outlook for 2020 is bleak (-0.7 percent). Next year's inflation rate is expected to be high (0.0 percent) and marginally positive in 2022. (0.2 percent). The conditional inflation projection is based on the premise that the SNB's policy rate will continue at -0.75% for the duration of the forecast. To improve the inflation rate, the bank has no choice but to depend directly on monetary intervention. The reason for the intervention is to adjust the inflation rate transparently.

3.4. Switzerland's measures to remove the label of currency manipulator

Switzerland has interfered in foreign exchange markets on a regular basis to save the Swiss Franc from appreciating too much toward the U.S. dollar. The Swiss National Bank refuted the charge while promising to keep intervening in the currency market to prevent the Franc from being too powerful.

The SNB targets stable inflation in the future, Switzerland is still fighting deflation and the threat of outright deflation, which could make the Franc stronger. Despite Switzerland's reputation as a currency manipulator, the SNB is adamant about not changing monetary policy and is prepared to participate in the foreign exchange market.

Under the 2015 Act, the U.S expanded its bilateral contribution to Switzerland in early 2021. The U.S. Treasury Department is in talks with Swiss officials about taking concrete steps to fix the root causes of Switzerland's external deficit.

According to a December 2020 report released by the U.S. Treasury Department, Switzerland violated all three criteria for assessing a currency manipulator. As a result, the

U.S. Treasury Department conducted advanced analysis and intensified bilateral negotiations with Switzerland. In early 2021, the U.S. Treasury Department began to strengthen its bilateral engagement with Switzerland and further discuss with Swiss authorities the causes of imbalances in the economy leading to microfinance. violated the currency manipulation criteria, and offered a solution for Switzerland.

The Omnibus Trade and Competition Act of 1988 was introduced to examine whether countries manipulate currencies intending to facilitate unfair trade competition. However, in the April 2021 report, for the case of Switzerland, after a period of data analysis and strengthening of bilateral commitments, the U.S. Treasury Department concluded that there was not enough evidence to allege. Switzerland is a currency manipulator for unfair trade gain.

4. Discussion and Conclusion

In summary, researchers have systematized the theoretical basis of currency manipulation and the criteria to evaluate a currency manipulator set forth by the U.S. Treasury Department. In addition, this paper analyzes collected data and studies experience from Switzerland - a country that was labeled a currency manipulator by the U.S. Treasury Department. From the case of Switzerland, several measures can be drawn for Vietnam to be proactive in the future, to avoid falling into the currency manipulation trap, and to remove the label soon in case of being labelled:

Firstly, balancing and adjusting the exchange rate to be compatible with the actual situation of the economy.

This is an important action to stabilize Vietnam's macro policies such as stabilizing inflation, developing the economy, and limiting the one-way impact on the currency market. Currently, Vietnam is anchored under the central exchange rate mechanism - applying a fixed exchange rate with a change of ±2%.

In order to be flexible and proactive in adjusting exchange rates, the government should pay attention to the following factors:

*Interest rates of VND and USD***:** This interest rate affects the equivalent strength value of the two currencies. Currently, depositing USD in Vietnamese banks has a 0% interest rate, which means that the depositor will not have any profit from this deposit. As for VND savings in banks, there are many different interest rates, at the time of research in 2021, this interest rate will be around 5-6%/year. This is an attractive thing for assets denominated in VND, reducing the psychology of speculative hoarding in foreign currencies. From there, the State Bank of Vietnam will be flexible and maintain in stabilizing the exchange rate.

Foreign exchange reserves of the State Bank of Vietnam: The State Bank of Vietnam would be able to maintain a stable USD/VND exchange rate, eradicate black markets for foreign currency exchange, and effectively satisfy market demand and supply if it has sufficient foreign exchange reserves. The State Bank of Vietnam would be able to balance the exchange rate and the power of the VND by applying pressure to sell foreign exchange. 92 billion USD is the number of foreign exchange reserves in the first 8 months of 2020. By March 2021, this number has reached 113 billion USD. Maintaining high foreign exchange reserves and trade surplus are good conditions for exchange rate stability, however, increasing foreign exchange reserves and trade surplus may bring Vietnam closer to the currency manipulation trap. Therefore, the State Bank of Vietnam should propose proactive and flexible measures according to the general situation of the market.

The problem of inflation targeting expectations: Because the U.S. is the country with the leading economy in the world, the U.S. dollar is a strong currency, accounting for nearly 90% of currency transactions in the world. But expected inflation here is the level of inflation that makes the economy the most dynamic, making people believe in the strength of their national currency. The State needs to come up with macroeconomic policies, balance inflation so that VND does not lose value, maintaining a stable USD/VND exchange rate.

*Import and export status***:** Vietnam's trade surplus with the United States exceeds monetary criteria; but, given the current state of the economy, increasing exports will help stabilize the price ratio, but only to a small extent until Vietnam is placed on this list again.

Secondly, actively collaborating in the process of explaining and negotiating

If once again labelled a currency manipulator, Vietnam will have one year to negotiate on currency manipulation before there are official U.S. trade sanctions. Therefore, the Government needs to coordinate with the U.S. Treasury Department to provide information and evidence to prove that Vietnam is not a currency manipulator. Although Vietnam is no longer on the list of currency manipulators, the negotiation will help strengthen the relationship between the two countries. Diplomacy is always an important measure in all disputes, helping to neutralize adverse situations and come together to agree to take common action. This is a job that reflects Vietnam's goodwill to exchange and cooperate in trade negotiations, bringing the two countries' bilateral relationship closer, co-operating for mutual development. Vietnam needs to tell the U.S. Treasury Department that the operating goal of the State Bank of Vietnam is stabilizing the macro economy and following the market's trend, not a proactive move to devaluation to achieve unfair commercial advantages. Because Vietnam's policies are flexible and anchored to the market, not coercive, they will indirectly weaken the national currency. At the same time, the expansionary monetary policy reduces the domestic interest rate, stimulates the economic market, creates more job opportunities, develops markets such as securities and foreign exchange, and increases circulation leading to the growth of the economy. These are all reasonable actions of the State Bank, indirect intervention in exchange rates is allowed but not intended to spark a war on currency manipulation. Therefore, we have confidence in the policy and guidance of the state, which is completely in line with and follows the market principle.

Thirdly, preventing foreign goods disguised as Vietnamese goods for export

Under the influence of the U.S.-China trade war, there appeared a situation where Chinese goods disguised themselves as Vietnamese goods to export to other markets in order to evade taxes, typically taking the Made in Vietnam label to import into the U.S. avoid 25% tariffs due to trade sanctions. This is an act that causes great damage to Vietnam's goods and import-export reputation, this action needs to be coordinated by authorities and businesses to denounce. Vietnam needs to tighten the stages in the management of import and export of goods, and at the same time propose measures to strictly handle acts of disguise, aiding Chinese goods into Vietnam to label domestic goods. The export of goods that are not from our country may lead to a violation of the free trade agreement (FTA) signed previously. Management levels need to proactively propose measures and regulatory corridors so as not to cause damage to goods before being applied with trade remedies from abroad.

Fourthly, increasing imports from the U.S.

In addition, it is necessary to take measures to increase the import of goods and services from the U.S., especially specific groups of U.S. goods such as agricultural products, aircraft, energy, pharmaceuticals, production equipment, etc. technology. These are goods that the U.S. has abundant supply, competitive prices while being essential to the Vietnamese economy. In fact, Vietnam has signed a contract to buy U.S. aircraft worth billions of dollars along with projects in the field of energy and LNG (Liquefied Natural Gas). In addition, Vietnam focuses on overcoming limitations in technology, trade in services, expanding integration opportunities for Vietnam and easier access to U.S. goods. Vietnam needs to show its importance to bilateral trade relations between the two countries. If the same product has the same commercial value, Vietnam should increase imports of high-quality goods from the U.S. to create trade opportunities and expand connection opportunities for Vietnamese businesses.

5. References

1. Brad W. Setser & Dylan Yalbir (October 7, 2020), *Tracking Currency Manipulation,*
2. (https://www.cfr.org/article/tracking-currency-manipulation)
3. Carlo Piovano (2020), *US brands Vietnam and Switzerland as currency manipulators,*
4. (https://www.pbs.org/newshour/economy/us-brands-vietnam-and-switzerland-as-currency-manipulators)
5. Matthew Johson (November 24, 2020), *Quantitative Easing vs. Currency Manipulation,*
6. (https://www.investopedia.com/articles/investing/090915/quantitative-easing-vs-currency-manipulation.asp)
7. Michael W. Klein (May 22, 2015), *What You May Not Know About China and Currency Manipulation.* (https://www.wsj.com/articles/BL-WB-55432)
8. Saleha Mohsin & Liz Capo Mccormick (2020), *US tags Switzerland currency manipulator, keeps China on watch,* (https://themalaysianreserve.com/2020/12/18/us-tags-switzerland-currency-manipulator-keeps-china-on-watch/)

9. Switzerland launches investigation into top global banks for currency manipulation (2020)

10. (https://www.dw.com/en/switzerland-launches-investigation-into-top-global-banks-for-currency-manipulation/a-17532455)

11. Thomson Reuters (December 16, 2020), *US Calls Switzerland, Vietnam Currency Manipulators in Trump Trade Shot*, (https://money.usnews.com/investing/news/articles/2020-12-16/asian-countries-switzerland-at-risk-in-us-treasurys-currency-report)

12. US Department Of The Treasury (April 16, 2021), *Treasury Releases Report on Macroeconomic and Foreign Exchange Policies of Major Trading Partners of the United States.* (https://home.treasury.gov/news/press-releases/jy0131)

13. US Department Of The Treasury (December 16, 2020), *Treasury Releases Report on Macroeconomic and Foreign Exchange Policies of Major Trading Partners of the United States*, (https://home.treasury.gov/news/press-releases/sm1212)

14. US Treasury labels Switzerland, Vietnam as currency manipulators (2020).

15. (https://www.cnbc.com/2020/12/16/us-treasury-labels-switzerland-vietnam-as-currency-manipulators.html)

STUDY OF FACTORS AFFECTING MICRO-BARRIERS THAT HINDERS THE DEVELOPMENT OF PRIVATE ENTERPRISES. CASE STUDY OF VIETNAM

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Abstract

Private enterprises in Vietnam as well as in other countries play the important role in economy, but they have actually encountered several barriers in their development at both micro and macro levels in fact. Inquires of these barriers is meaningful in making policy recommendations to remove barriers to private enterprise development in countries where the State/Government is considered a major actor. This study focuses on evaluating factors affecting the micro-barrier system that hinder the development of private enterprises in Vietnam to answer two research questions: which factors influence micro-barriers that hinder the development of private enterprises in Vietnam and what is the degree of influence of those factors? The study applies quantitative research methods to measure the impact of factors on the micro-barriers system that hinder private enterprise development based on the survey sample of 392 private enterprises in Vietnam, which are mainly small and medium-sized private enterprises (most affected by micro barriers). Research findings indicate that state management policies; legal and tax systems, expanding scientific research and technological innovation activities are the main factors affecting the micro barriers that hinder the development of private enterprises in Vietnam. These results could become the experiences for other countries like Vietnam.

Keywords: *Tectonic government; Tectonic state; Innovative government; Remove barriers; Private enterprises; Barriers to businesses*

1. Introduction

Both economists with a free market perspective and economists with modern perspectives agree that the role of the state as a regulatory actor is a natural need of the market (Leach, Raworth, & Rockstrom, 2013). Therefore, creating a healthy development environment for economic sectors is both a task and a goal of the State/Government when intervening in a market economy. How the state/government (depending on the political institutions of each country) intervenes in the economy is usually a topical question; especially in recent years, when economies are increasingly dependent on each other in bilateral and multilateral trade relations, this questions becomes even more important.

In Vietnam, despite significant achievements in socio-economic development since the introduction of the "Doi Moi" (Renovation) strategy and policy in 1986, Vietnam continues to face many development challenges. Per capita income is below the national expectation, leading to a high risk of falling into the middle-income trap. Productivity growth has slowed down in recent years, and social and environmental problems in economic development are emerging, such as environmental pollution, social evils and increasingly extensive inequalities, weak economic and governance institutions were honestly admitted by the Party and Government of Vietnam (Congress, 2016). In order to achieve the objectives, set out in the 5-year socio-economic development plan 2020-2025 with a vision to 2035, Vietnam needs to accelerate its institutional improvement and more effective access to opportunities, and actively participate in solving global challenges if they do not want to lag behind other economies in the region and the world.

In addition, Vietnam has acknowledged that the market economy can only mature when it is led by the private sector, competition and deeper integration into the global economy. This is a significant stage that all economic models must go through. The way the Government intervenes in a market economy to promote the development of the private sector, especially private enterprises, is a topical issue not only for Vietnam but also of many other developing countries. It is strong development of private enterprises that can drive the national economy to break from a developing economy to a developed one. Therefore, the case study of Vietnam is not only meant to be a typical representative for a developing country desiring to become a developed country, choosing to encourage the development of private enterprises economy with small and medium-sized enterprises as key players; but also marks a great transformation of the role of the state/government in the economic development of a specific economic model (socialist-oriented market economy).

Many researchers studying Vietnam's economy think that this is a dynamic and emerging developing economy in Southeast Asia and Asia with an increasingly important role in the international arena, but there are significant barriers that hinder the development of private enterprises at both micro and macro levels (OECD, 1995). At the micro level, (OECD, 1995) or (Wang, 2016) identifies possible barriers as banking system and financial/credit market (Department of Enterprise Development, 2017); competitive pressures under market mechanism (VCCI & USAID, 2018); slow growth of the input market (CIEM, 2017); limited confidence among workers; the lack of governance capacity and poor cooperation in application research (Kiều, 2012); limited trust in entrepreneurs and poor establishment of entrepreneurship culture as well as uniformity in organizational structure are micro barriers to the development of private enterprises (Chung, 2017; Kazemi, 2013). The study of these barriers for each economy is important in making policy recommendations to remove barriers to private enterprise development in countries where the role of the State/Government is considered as a key factor. Therefore, the purpose of the study is to assess the factors affecting the micro-barrier system that hinders the development of private enterprises in Vietnam. To achieve the purpose of the research, the research needs to answer two research questions: which factors influence micro-barriers that hinder the development of private enterprises in Vietnam and what is the degree of influence of those factors? The study used the method of measuring the level of the impact of micro-barrier factors on the development of private enterprises based on the survey sample of 392 Vietnamese private enterprises nationwide, mainly private small and medium enterprises (the type of enterprise most affected by micro barriers).

2. Theoretical framework

There are many studies that address the barriers to private enterprise development in developing countries, especially small and medium-sized private enterprises. The most extensive study, Wang (2016) used the cross-country data obtained from the World Bank's Enterprise Survey of 130,000 businesses in 135 countries and the multivariable regression model investigating barriers to small and medium-sized enterprises in developing countries. The study found five main factors affecting businesses including access to finance, tax rates, competitive pressure, electricity prices, and political factors. The two most influential factors are access to finance and competition. Also study of (EBRD, 2005, 2009, 2012, 2014 and 2020) of the Egyptian economy analysed and identified major barriers affecting private sector development in the country as difficult access to finance; policy instability and vulnerability in macroeconomic shocks; limited support for private enterprise development by the legal system; lack of market-driven competitiveness in the real estate and energy sectors; weakness of domestic value chains; and financial institutions. The study also identifies barriers by sector such as energy, banking and finance, industry, and agribusiness.

In addition, the research of Amentie, Negash, and Kumera (2016) using Ethiopian interdisciplinary data and the sampling method combined with descriptive statistics identified nine major and moderate factors influencing the development of small and medium enterprises in Ethiopia, including micro barriers such as competitive pressure, high interest rate, debt payment problem of customers, unavailability of raw materials, weaknesses of the banking system and unavailability of corporate credit systems; and the market’s low demand for enterprise products. Agreeing with the above study, Adewale (2015) when studying business development barriers in the printing industry in Nigeria based on the interview method showed that poor infrastructure and limited finance, weak management ability and the absence of supporting information as well as low entrepreneurial spirit greatly hinder the development of enterprises in the industry. Even if credit is available to small and medium-sized businesses, it is still difficult to access and use this credit flow (Salami., 2003).

Continuing to explore in-depth the internal factors of the enterprise itself as a barrier to private enterprise development, Kazemi (2013) conducted a survey of Iranian biotechnology product manufacturers and found five main groups of barriers related businesses themselves: limited trust and encouragement for employees, the absence of corporate culture with poor cooperation, solidarity and cultural diferences; lack of confidence in entrepreneurs; weak business skills and coordination in the organizational structure as well as poor corporate governance. The research also emphasized the importance of building a startup culture that significantly affects the development of private enterprises. Levy (1992) in his study of the furniture industry in Tazania shows that the lack of credit financing in the market makes it difficult for both large and small enterprises to develop. Meanwhile, in Sri Lanka, small and medium enterprises have difficulty accessing the inputs that are the advantages of state-owned corporations. With the ambition to find out if access to finance is a major constraint for small and medium enterprises in most countries, (EBRD, 2005, 2009, 2012, 2014 and 2020) conducted a survey about business environment and enterprise performance in many countries around the world. Research findings show that in countries with underdeveloped capital markets, the central bank tends to prioritize loans for state-owned enterprises or large enterprises designated by the Government instead of promoting capital for small and medium enterprises. Agreeing with the above conclusion, Chavis, Klapper, and Love (2011) use world bank business survey data to conduct research and find that 31% of businesses consider credit access as the main concern; even the financial barrier causes more serious effectons on small and medium-sized private enterprises than larger firms and this barrier is more impactful than other factors (Beck & Torres, 2007).

Studies into the development of private enterprises and the private sector in Vietnam in recent decades generally conclude that private enterprises are facing many development barriers. Sơn (2017) states that there are many points of disagreement between the perception of private economic thinking and the development prospect of this economic sector. There is not even a clear definition of private enterprises, which makes it difficult for statistical and research activities. Sơn (2017) pointed out that difficulties in accessing private credit are still seen. Only 40% of operating enterprises are able to access bank loans. Many private businesses find it difficult to meet lending regulations of credit institutions because they are not transparent and fully aware of their financial situation. Chung and Phan (2018) also believed that private enterprises have high average business costs that reduce competitiveness such as transportation and personnel costs; or the slow and inconsistent development of the input market and the production auxiliary market (CIEM, 2017) has caused significant obstacles for the development of Vietnamese private enterprises. Kiều (2012) argued that barriers to corporate governance are also the reason why the private sector has not yet reached its full potential.

To sum up, studied micro-barriers that can impede the development of private enterprises in Vietnam are shown in the following table:

Table 1: Micro barriers restricting the development of Vietnamese private enterprises

Abbreviation	Barriers restricting enterprise development (micro level)	Literature
RCMI 1	Banking system and financial/credit market	Amentie et al. (2016); Levy (1992); Chavis et al. (2011); (Beck & Torre, 2007); VCCI and USAID (2018)
RCMI 2	Competitive pressure in the market mechanism	Wang (2016)
RCMI 3	Input	Kiều (2012); Levy (1992)
RCMI 4	Absence of workers' confidence	Kazemi, 2013); Adewale (2015)
RCMI 5	Lack of cooperation, governance capacity	Kazemi (2013); Adewale (2015); Kiều (2012);
RCMI 6	Lack of confidence in entrepreneurs and entrepreneurship culture	Kazemi, 2013); Adewale (2015)
RCMI 7	Lack of uniformity in organizational structure of enterprises	(Kazemi, 2013)

Source: Theoretical Framework

3. Method

3.1. Samples

Samples of the study were selected based on the convenient method, one of the non-probability sampling approaches. According to the convenient sampling method, selected subjects were accessible objects (Tho & Trang, 2009). The survey subjects of this study are managers and employees in enterprises. According to Tho (2011), in EFA, sampling is usually based on (Congress, 2016) minimum size and the number of measurement variables in the analysis. Hair, Anderson, Tatham, and Black (1998) suggests that in order to use EFA, the sample size should be at least 50, preferably 100 and the observed/measurement ratio should be 5:1, meaning that a measurement variable needs at least 5 observations. In this study, the total number of observed variables is 42, so the minimum number of samples to achieve is 210. For multivariable regression analysis: the minimum sample size to achieve is calculated by the formula of 50 + 8*m (m: number of independent variables) (Tabachnick & Fidell, 1996). Thus, in order to identify the factors affecting business development barriers, the study conducted in-depth interviews and used 400 structured questionnaires for management leaders and workers in private enterprises in Vietnam. The findings were from 400 questionnaire samples collected. Of which 392 were valid, 3 were invalid, 4 were incomplete, and 1 was rated at the same score.

3.2. Data analysis method

In this study, the authors applied the Structural Equation Modelling (SEM) with SPSS 22.0 software and AMOS version 22.0, with 4 steps: analysing Cronbach's Alpha, Exploratory Factor Analysis (EFA); Confirmatory Factor Analysis (CFA), and Structural Equation Modelling (SEM), specifically as follows:

Step 1: Evaluation of the reliability of the scale. Cronbach's Alpha (CA) was used to evaluate the reliability of the scale for each observed variable belonging to the factor groups. Peterson Peterson (1994) (Peterson) suggests that any factor with CA less than 0.6 should be excluded from the research model. According to (Nunnally, Bernstein, & J.C., 1994), observed variables with a total correlation coefficient less than 0.3 are considered as garbage variables, which were also excluded.

Step 2: Exploratory Factor Analysis (EFA). The EFA allows describing the correlation between the impact variables, referred to as "factors". EFA is used in cases where the relationship between observed and latent variables is unclear or uncertain. EFA is thus conducted in a discovery manner to determine the range and degree of relationship between observed variables and the underlying factors. The number of basic factors depends on the research model in which they are bound by rotating orthogonal vectors so that correlation does not occur. EFA discovery factor analysis is useful in the initial empirical step or test extension. Meyers, Gamst, and Guarino (2016) reported that in the EFA, the Principal Component Analysis extraction method with Varimax rotation is the most commonly used method. A condition for EFA analysis is to meet the following requirements: Factor load coefficient > 0.3; $0.5 \leq KMO \leq 1$; Bartlett test has statistical significance (Sig. < 0.05); percent total variance > 50%.

Step 3: Confirmation factor analysis (CFA). The affirmative factor analysis (CFA) is appropriate when researchers have some knowledge of the underlying variable structure. In which the relationship or hypothesis (derived from theory or experiment) between the observed variable and the base factor is accepted by the researchers before conducting statistical testing. Thus CFA is the next step of EFA to test whether there is a prior theoretical model that underlies a set of observations. CFA is also a form of SEM. In CFA development, the observed variables are also indicator variables in the measurement model, because they "upload" the conceptual basis theory. The factor analysis asserts that CFA accepts the hypotheses of the researchers, determined by the relationship between each variable and one or more factors. Indicators for measuring the suitability of the model with data include Chi squared (CMIN); Chi square adjusted according to degrees of freedom (CMIN / df); Comparability index (CFI); Tucker & Lewis index (TLI); and Root Mean Square Error of Approximation (RMSEA). According to Hair Jr. et al. (1998), if 1 < CMIN / df < 3, the model is considered to be a good fit. (Tho, 2011) suggested that if the model receives CFI values, TLI ≥ 0.9; RMSEA ≤ 0.08, and P > 0.5, the model is suitable for the data.

Step 4: Structural equation modeling (SEM). Structural equation modeling (SEM) helps test a set of regression equations at the same time. In this study, the SEM model was implemented with the aim to identify the influencing factors and the degree of influence of each factor on the micro-barriers that limit the development of private enterprises.

4. Results

4.1. The results of the reliability testing of scales by Cronbach's Alpha

To ensure the reliability of the scale, the author evaluated the reliability of the scale through Cronbach's Alpha for each group of observed variables of different factor groups; if any factor had a small Cronbach's Alpha coefficient more than 0.6, it would be excluded from the research model (Peterson, 1994) and observed variables with a correlation coefficient less than 0.3 were considered as garbage variables, also removed from the scale of individual factors (Nunnally et al., 1994).

According to Table 1, Cronbach's Alpha results for "Micro barriers limiting the growth of private enterprises" showed that the CA coefficient was 0.870; observed variables had a coefficient of 0.6 < CA < 0.870, and the correlation number of the total variable was greater than 0.3. To conclude, variables RCMI1; RCMI2; RCMI3; RCMI4; RCMI5; RCMI6; RCMI7 were qualified to move on to the next step. Cronbach's Alpha results for "Competitiveness in production - business areas" showed that the CA coefficient was 0.853, the observed variables had a coefficient of 0.6 < CA < 0.853, and a large correlation coefficient of the total variables was higher than 0.3. So variables CTDB1; CTDB2; CTDB3; CTDB4 met the requirements to continue to the next step. Cronbach's Alpha results for "Increasing support for scientific research and technological innovation activities" showed that the CA coefficient was 0.850, the observed variables had a coefficient of 0.6 <CA

<0.850, and the correlation number of the total variable was greater than 0.3. So the variables KHCN1; KHCN2; KHCN3; KHCN4 were qualified to be taken to the next step. Cronbach's Alpha results for "Expanding cooperation and international integration" showed that the CA coefficient was 0.925, the observed variables had a coefficient of 0.6 < CA and a correlation coefficient of the total variable was greater than 0.3. So the variables HTHN1; HTHN2; HTHN3 met the requirements to move to the next step.

Table 2: Results of assessing the reliability of the scale

No	**Observed variables**	**Abbreviation**	**Coefficient of correlation of total variables**	**Cronbach's Alpha**
1. Micro barriers limiting the growth of private enterprises - RCMI **Cronbach's Alpha: 0.870**				
1	Banking system and financial/credit market	RCMI1	.515	.869
2	Competitive pressure according to market mechanism	RCMI2	.619	.855
3	Input	RCMI3	.653	.851
4	Lack of confidence among workers	RCMI4	.756	.836
7	Lack of cooperation, governance capacity	RCMI5	.652	.851
8	Lack of confidence in entrepreneurs and entrepreneurship culture	RCMI6	.681	.847
9	Lack of uniformity in organizational structure of enterprises	RCMI7	.653	.851
2. Competitiveness in production and business areas - CTDB **Cronbach's Alpha: 0.853**				
10	Favorable policy creates a healthy	CTDB1	.637	.836

	competition in the area, giving priority to the Private Enterprise			
11	Policies to protect local businesses with tax support	CTDB2	.713	.805
12	Policies to protect local businesses with price and fee subsidies	CTDB3	.713	.805
13	Policies to protect local businesses by supporting long-term land lease	CTDB4	.714	.804
3. Increasing the support for scientific research and technological innovation activities **Cronbach's Alpha: 0.850**				
14	The impact of science and technology innovation policies on the development of enterprises	KHCN1	.707	.803
15	The impact of payment methods on the development of businesses	KHCN2	.795	.765
16	The impact of information sharing methods on enterprise development	KHCN3	.670	.817
	Infrastructure's impact on the development of the business	KHCN4	.595	.846
4. Expanding cooperation and international integration - HTHN **Cronbach's Alpha: 0.925**				
17	Impacts of science and technology innovation policies on the development of enterprises with international commitments to the development of enterprises	HTHN1	.881	.865
18	The impact of international integration on the development of	HTHN2	.887	.859

	enterprises			
19	Effective implementation of multilateral and bilateral commitments to the development of the business	HTHN3	.782	.942
5. State management policy - CSQL **Cronbach's Alpha: 0.835**				
20	Transparency of state management policies	CSQL3	.698	.771
21	Consistency in understanding and applying policy regulations	CSQL4	.719	.751
22	The impact of tax policies and tax incentives on the development of enterprises	CSQL5	.674	.794
6. Law and tax - PLT **Cronbach's Alpha: 0.806**				
23	Impact of domestic laws on the development of enterprises in the area	PLT1	.587	.861
24	Impact of tax barriers on the development of businesses in the area	PLT2	.723	.686
25	Open policy creating favorable conditions for production and business units to develop in the area	PLT3	.717	.686

Source: Analyses of data from authors

Cronbach's Alpha results for "Macro barriers limiting the development of private enterprises" showed that the CA coefficient was equal to 0.840, the observed variables had a coefficient of 0.6 < CA < 0.840, and the correlation number of the total variable was greater than 0.3. So the variables RCMA1; RCMA2; RCMA3; RCMA4; RCMA5; RCMA6; RCMA7 were qualified to go to the next step. Cronbach's Alpha results for "State management policy" show that the CA coefficient was 0.633. CSQL1 variable was eliminated because of CA factor > 0.633. After removing CSQL1, the author ran the SPSS for the second time, the CA factor was 0.708, the variable CSQL7 was eliminated because the CA factor was greater than 0.708. After removing the CSQL7 boundary, the author re-ran SPSS for the third time, CA = 0.732. CSQL6 variable was rejected because it had CA factor> 0.732. After removing CSQL6, the author re-ran SPSS for the fourth time, the CA coefficient was 0.763, the variable CSQL2 was eliminated because the CA factor was greater than 0.763. After removing CSQL2 variable, the author reran the SPSS 5 times, CA = 0.835 and found that the observed variables all had a coefficient of 0.6 < CA < 0.835, and had a total correlation coefficient greater than 0.3. To conclude, variables CSQL3; CSQL4; CSQL5 were satisfactory to take on next step. Cronbach's Alpha results for "Law and Tax" showed that the CA coefficient was 0.806 and the observed variables had a coefficient of 0.6 < CA <0.806, and a total correlation coefficient greater than 0.3. So the variables LTPL1; LTPL3; LTPL4 met the requirements to move to the next step.

4.2. Explore factor analysis (EFA)

The EFA factor analysis method belongs to a group of interdependence techniques, which means that there are no independent and dependent variables, but it is based on the correlation between variables. EFA is used to shorten a set of k variables into set F (F < k) of more meaningful factors. The basis of this reduction is based on the linear relationship of the factors with the measurement variables. According to (Hair et al., 1998), loading factor (load factor) is an indicator to ensure the practical significance of EFA. KMO coefficient calculated by principal axis factoring method, the Promax rotation, is greater than 0.5, and the factor analysis is appropriate for the research data. The process of eliminating measurement variables to conduct EFA discovery factor analysis of the study was carried out. In addition to basing on Cronbach's Alpha reliability index, the study also based on two principles to eliminate variables: (i) The measurement variables converge on the same factor, the factor loading must be larger. 0.5. (ii) "Distinctive Value" is ensured: The measurement variables belong to this factor and must be distinguished from other factors.

The results of testing the appropriateness of the exploratory factor analysis model:

Table 3: KMO and Bartletl's Test results of CFA model

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.860
Bartlett's Test of Sphericity	Approx. Chi-Square	8113.876
	df	595
	Sig.	.000

Source: Analysis of data from authors

The KMO measure (Kaiser-Meyer-Olkin) analyzed the factor of the study with the value 0.860 satisfying the condition of $0.5 \leq KMO \leq 1$, and led to the conclusion that factor analysis was appropriate with the actual data. Testing the correlation between measurement variables (Bartletl's Test) with hypothesis H0 resulted in the correlation of zero. Bartletl's Test results were Sig. = 0.000 <0.05, and the conclusion was that measurement variables correlated with each other in the factor group. Testing the % cumulatative variance showed that in the table of Total Variance Explained, the criteria to accept cumulative variance was > 50%. The results of EFA analysis for the independent variables of the rotated factor matrix showed that the loading factor of the measurement variables was all qualified when loading factor was ≥ 0.5 and after factor analysis, there were 8 factors with 35 measurement variables. The indicators of the first CFA model all met the criteria to assess the suitability of the model (Table 3). Regression values of variables in each factor were in the range of 0.5 -1 (Hair et al., 1998).

Table 4: Regression values for each factor for the measurement variables

Variables			Estimate
TVRC1	←	TVRC	.706
TVRC2	←	TVRC	.806
TVRC3	←	TVRC	.741
TVRC4	←	TVRC	.840
TVRC5	←	TVRC	.696
TVRC7	←	TVRC	.836

Source: Analysis of data from authors

4.3. Structural equation modeling (SEM)

Structural equation modeling (SEM) was the next step of factor analysis, helping to research and test a set of regression equations at the same time. The SEM model specified the relationship between latent variables and measurement variables. It also indicated the relationship between predictive latent variables that researchers were interested in. In this study, the SEM was applied with the aim to identify the influencing factors and the degree of influence of each factor on "Micro barriers limiting the growth of private enterprises"; "Macro barriers limiting the development of private enterprises"; "Prospected outcome of removing government barriers to private enterprises". The SEM model was analyzed starting with the original proposed research model, then adjusted for a better model.

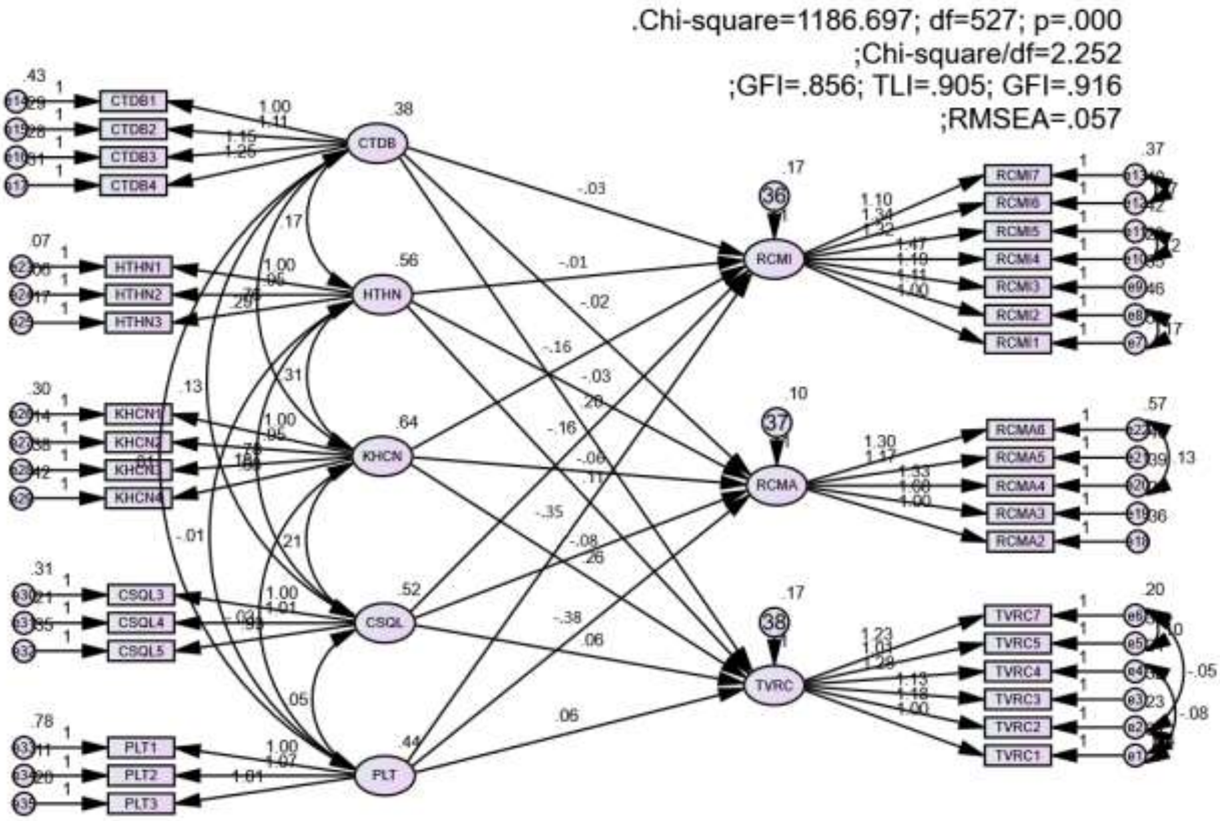

Figure 1: Results of testing the theoretical model

Source: Analysis of data from authors

CFA test by AMOS software was based on the principle of adjusting relationships with MI> 4 (MI-Indice Modification, which is the adjustment coefficient corresponding to the change of $\chi 2$ on a degree of freedom) but the adjustment had to be in line with the theoretical basis and had the practical value. After the adjustment, the CFA results showed that the indicators evaluating the suitability of the theoretical model were significantly improved as shown in Figure 1 ($\chi 2$ / df = 2,252; GFI = 0.916; TLI = 0.9095 ; CFI = 0.862; RMSEA = 0.054). Therefore, this model was suitable for real data. Moreover, the regression coefficients between factors "Micro barriers restrict the development of private enterprises"; "Macro barriers limiting the growth of private enterprises"; "Prospected outcome of removing government barriers to private enterprises in the next 5 years" and the impact factors of "State management policies", "Laws and taxes", "Expanding international cooperation and integration", "Increasing support for scientific research and technological innovation activities", "Competitiveness in production and business areas" were all smaller than 1 and different from 0 in a statistically significant way (Table 4). Therefore, it can be concluded that the measurement components "Macro barriers limit the growth of private enterprises"; “Micro barriers limit the growth of private enterprises”; “Prospected outcome of removing government barriers to private enterprises in the next 5 years” with independent factors achieved discriminant value (Tho, 2011).

Table 5: Regression values

			Estimate	S.E.	C.R.	P	Label
RCMI	<---	CTDB	-.025	.058	.436	.003	par_36
RCMI	<---	HTHN	-.014	.042	.345	.030	par_37
RCMI	<---	KHCN	-.163	.050	3.227	.001	par_38
RCMI	<---	CSQL	-.164	.045	-3.661	***	par_39
RCMI	<---	PLT	-.352	.057	6.203	***	par_40

Source: Analysis of data from authors

Based on P-Value in Table 4, it can be seen that all the hypotheses are satisfactory, that is, independent variables had an effect on the dependent variable. The research results showed that factors affecting" Micro barriers limiting the growth of private enterprises" were as State management policy: -0.164, Law and tax: - 0.352, International cooperation and integration: -0.014, Science and technology: -0.163, Competitiveness in production - business areas: -0.025. The above results showed that the independent variables had counter effect or negative impacts on factor "Micro barriers limiting the growth of private enterprises", in other words when the government creates, improves and invests in the following factors: State management policies; Law and tax system; Expanding international cooperation and integration; Increasing support for scientific research and technological innovation activities; Competitiveness in production and business areas, barriers can be removed, thereby promoting the development of enterprises (in micro level).

5. Discussion and Conclusion

The research has synthesized and analyzed micro-barriers that limit the development of private enterprises, including banking system and financial/credit market; competitive pressure under the market mechanism; Source of inputs; Lack of confidence among workers; Lack of cooperation, governance capacity; Lack of confidence in entrepreneurs and entrepreneurship culture; and Lack of uniformity in organizational structure of enterprises. The analysis results show that the factors affecting the micro barriers that limit the development of private enterprises such as State management policies, Legal system and taxation, Expanding international cooperation and integration, Increasing support for scientific research and technological innovation activities and Competitiveness in production - business areas all have counter or negative impacts on the factor "Micro barriers limit the development of private enterprises". In other words, when the government creates and supports the development of private enterprises, including good state management policies; transparent and consistent legal and tax system; strengthened international cooperation and integration; increased support for scientific research and technological innovation activities; and increased support for businesses to improve competitiveness in production and business areas, barriers will be removed, thereby promoting the development of private enterprises better.

In order for the private sector to grow, the Government of each country needs to continue its administrative reform, creating a favorable business environment for businesses to develop. At the same time, the Government needs to improve its mechanisms and policies to encourage and facilitate strong development of the private economy; develop policies to support the development of small and medium-sized enterprises and start-ups; and develop legal regulations related to business investment, avoiding overlapping, causing difficulties for private enterprises. In doing so, micro-barriers that limit the development of enterprises will be gradually removed, paving the way for more sustainable development of private enterprises in the future.

This study was conducted in Vietnam, a strongly growing economy in Southeast Asia thanks to drastic reforms of the Vietnamese government in managing and operating the economy for a favorable environment for the private sector. Therefore, the study can be considered as a meaningful lesson of experience of Vietnam for other countries in the region and in the world with similar conditions. Apparently, changing the factors of micro barriers to the development of private enterprises requires a strong innovation of the government role, and the tectonic government is a direction with a lot of advantages. The study also provided similar findings to previous studies on tectonic government in the countries.

6. References

1. Adewale, A. M. (2015). Entrepreneurial Development Barriers in Developing Nation - Case Study of the Nigerian Printing SMEs.

2. Amentie, C., Negash, E., & Kumera, L. (2016). Barriers to Growth of Medium and Small Enterprises in Developing Country: Case Study Ethiopia. *J Entrepren Organiz Manage, 5*, 190-194.

3. Beck, T., & Torres, A. D. (2007). The Basic Analytics of Access to Financial Services.

4. Chavis, L. W., Klapper, L. F., & Love, I. (2011). The Impact of the Business Environment on Young Firm Financing. *25*, 486–507.

5. Chung, T. K. (2017). The private sector's role in Vietnam's economic development model for the period 2016-2020 with a vision to 2035. (80), 4-13.

6. Chung, T. K., & Phan, T. N. (2018). The Motivational Role of the Private Economy in Vietnam's Economic Development. *Retrieved 20/12/2019 from: http://tapchitaichinh.vn/tai-chinh-kinh-doanh/tai-chinh-doanh-nghiep/vai-tro-dong-luc-cua-kinh-te-tu-nhan-trong-phat-trien-kinh-te-viet-nam-134872.html*.

7. CIEM. (2017). Developing the private economy and restructuring the economy in the context of Industrial Revolution 4.0. *Report No. 18. Central Institute for Economic Management. Information – Documentation Center*, Retrieved 20/12/2019 from: http://www.ciem.org.vn/Content/files/2018/vnep2018/CĐ2018%2020-Phát%2020triển%2020kinh%2020tế%2020tư%2020nhân%2020và%2020cơ%2020cấu%2020lại%2020nền%2020kinh%2020tế%2020trong%2020điều%2020kiện%2020CMCN%2204_2010-converted.pdf.

8. Congress, V. C. P. (2016). Evaluation of the implemention of the 2011-2015 economic development and socio-economic development directions and missions for 2016-2020. *Proceedings of The 12th Vietnam Communist Party Congress*, Retrieved 20/12/2019 from: http://tulieuvankien.dangcongsan.vn/ban-chap-hanh-trung-uong-dang/dai-hoi-dang/lan-thu-xii/bao-cao-danh-gia-ket-qua-thuc-hien-nhiem-vu-phat-trien-kinh-te-xa-hoi-2015-nam-2011-2015-va-phuong-huong-1599.

9. EBRD. (2005, 2009, 2012, 2014 and 2020). The EBRD Transition Report. *Retrieved 20/12/2019 from: https://www.ebrd.com/where-we-are/egypt/overview.html*.

10. Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). Multivariate Data Analysis.

11. Kazemi, A. (2013). Studied barriers to entrepreneurship in industrial companies (Case study: Iranian companies producing biotechnology products. *European Journal of Experimental Biology, 3*, 484-489.

12. Kiều, N. M. (2012). Financial risk management. Hochiminh City Open University and Fulbright Economics Teaching Program, Finance Publishing House.

13. Leach, M., Raworth, K., & Rockstrom, J. (2013). Between social and planetary boundaries: Navigating pathways in the safe and just space for humanity. *World Social Science Report*.

14. Levy, B. (1992). Obstacles to Developing Indigenous Small and Medium Enterprises: An Empirical Assessment. *The World Bank Economic Review, 7*, 65-83.

15. Meyers, L. S., Gamst, G., & Guarino, A. J. (2016). Applied Multivariate Research: Design and Interpretation.

16. Nunnally, Bernstein, I. H., & J.C. (1994). A catastrophe model for developing service satisfaction strategies. . *Psychometric theory*.

17. OECD. (1995). Participatory Development and Good Governance.

18. Peterson, R. A. (1994). A meta-analysis of Cronbach's Coefficient Alpha. *Journal of Consumer Research, 21*, 381-391.

19. Salami., C. A. T. (2003). Guidelines and Stackholders responsibilities in SMIEIS. Seminar on Small and Medium Industries Equity Investments Scheme *(SMIEIS)*, 50-65.

20. Sơn, N. H. (2017). Developing the Private Sector in Vietnam: Barriers and solutions, the article is based on a Scheme: Some theoretical and Practical issues in renovating incentive mechanisms and policies and facilitated private economic development.

21. Tabachnick, B. G., & Fidell, L. S. (1996). Using Multivariate Statistics. *(3rd ed.)*.

22. Tho, N. D. (2011). Research Methodology in Business.

23. Tho, N. D., & Trang, N. T. M. (2009). Local Attributes and Business Satisfaction, Scientific Research in Business Administration.

24. VCCI, & USAID. (2018). Vietnam's Provincial Competitiveness Index 2017.

25. Wang, Y. (2016). What are the biggest obstacles to growth of SMEs in developing countries? An empirical evidence from an enterprise survey. *Borsa Istanbul Review, 16*, 167-176.

RESEARCH ON FACTORS AFFECTING PROFESSIONAL SKEPTICISM OF INDEPENDENT AUDITORS: EVIDENCE IN VIETNAM

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Abstract

The study investigates the key factors included knowledge and experience, workload, time pressure and incentives that affect the professional skepticism of independent auditors in Vietnam. The authors have utilized quantitative and qualitative analyses in combination with a logistics regression model and other available analytical tools for conducting the research in SPSS software. All statistics processed in the paper were based on 90 independent auditors in 2021. The results reveal that factors like knowledge and experience, incentives positively affect the professional skepticism, while workload and time pressure negatively impacts PS. The findings suggest Vietnamese law-makers should regulate annual training courses for auditors to enhance their professional ability and reasonably encourage the auditor's motivation while it is necessary to minimize workload and time pressure for auditors in order to maintain and improve the audit quality. This implication could be applied for other firms in Vietnam and for enterprises in other countries.

Keywords: *Independent auditors, Professional skepticism, Vietnam*

1. Introduction

Over years, a lot of research has been conducted to define the term "professional skepticism" properly and figure out how to measure factors affecting professional skepticism in auditing. One of the prominent studies is the Nelson study (2009) that provided comprehensive models on professional skepticism in auditing and emphasized the significance of implementing an appropriate level of professional skepticism when carrying out the auditing process. Based on that study, Hurrt (2010) had developed the scale of professional skepticism of independent auditors. Various studies have provided a significant information source in professional skepticism, such as Robinson et al Robinson et al (2015), Quadackers et al (2014), Hurtt (2010), Nelson (2009) and Hurtt et al (2013.

Most of the research related to professional skepticism is conducted in developed countries such as Australia, The US, Britain where they have a closely established audit system. In Vietnam, Phan Thanh Hai et al (2018), Nguyen Thi Phuoc (2018), Tong Thanh Tien (2018), Nguyen Vinh Khuong (2018), (2020), Tran Khanh Lam, Le Thi Tuyet Nhung (2020) research have mentioned some factors affecting professional skepticism in Vietnam and Ho Chi Minh City. However, previous researches only concentrate on the analysis of different factors influencing the nature of professional skepticism of general auditors and show general theories to improve the PS of auditors, there are no studies which introduced the specific policies to maintain, develop and apply professional skepticism for various objects in the case of Vietnam. Therefore, in this study, the authors will analyze factors influencing three main characteristics of PS.

Based on the topic of the published studies, the author classifies previous studies around the PS topic into three main research directions as follows: Firstly, the publications focus on the purpose of doing research. Clearly, the concept of PS of auditors is based on psychological theories. However, both angles are less volatile, so the publications under this topic focus on analyzing the components of PS and comparing these components under different perspectives to build the scale. Secondly, the publications focus on identifying factors that influence PS. This is the topic of most interest because PS is considered as a factor affecting the quality of Auditors' work (Hurtt et al., 2013; Nelson, 2009). Claims under this topic can consider factors affecting PS according to the grouping patterns of factors. Two models that systematically synthesize the publication on this issue in the leading journal in the auditing field: A Journal of Practice & Theory including Hurtt et al (2013); Nelson (2009). Thirdly, the statements focus on considering the influence of PS or other concepts in the audit, such as the behavior of the auditor.

The author inherits two formal synthesis claims on the subject of factors influencing previous auditors' PS since they are both closely related to the subject and no other synthesis research is currently available. Nelson's (2009) model divides variables into three categories: traits, knowledge, and incentives. Hurtt et al (2013) developed a model based on Nelson (2009) that included four classes of factors: auditor characteristics, proof characteristics, consumer characteristics, and external influences. Following that, the author, inheritance, and re-classification of the factors influencing PS according to the subjects that specifically affect the auditor's PS, such as the auditor's characteristics such as expertise and experience, the assigned workload, and time pressure from businesses or customers, as well as policy incentives.

Professional Skepticism (PS): When the auditor has a doubt about anything during the audit process, particularly when gathering audit evidence to support a mistake or material misstatement, skepticism is required (McMillan & White, 1993). This is due to the fact that audit work necessitates the collection of appropriate, genuine, and relevant evidence to support an audit opinion. The attitude raises concerns, which show the auditors' ongoing distrust and suspicion of any audit findings. Hurtt (2010) identified six skepticism characteristics in the audit community, including questioning mind, suspension of judgment, looking for information, knowing interpersonal relationships, self-determination, and self-confidence.

Knowledge & Experience of independent auditors (KT): Since the majority of auditors have never witnessed fraud in their careers, Griffith et al. (2012) suggested that knowledge is directly related to PS, mainly 21 by assessing knowledge related to gathering additional evidence. The auditor's ability to influence PS: Castro (2013) claim that experience has no effect on PS; Grenier (2014) thinks that technicians with in-depth knowledge of the customer's business will have a high PS; Kim and Trotman (2014) conclude that the auditor responsible for the results will have a high degree of skepticism and the less experienced auditor has a higher PS than the more experienced auditor. Conclusion of Peecher et al (2010) that if auditors are trained to change cognitive thinking processes or biases affect the PS level of auditors. Besides, instead of asking auditors to focus on acting based on their skepticism, other publishers have considered training auditors to form many different ways of thinking to help the auditor build the level of skepticism. Carpenter et al (2013) found that auditors increased their ability to perceive fraud risks after completing a course in investigative accounting.

Workload of independent auditors (CV): Prior study has backed up questions about the potential implications of excessive workloads. Sweeney and Summers (2002) assessed hours employed, position stressors, and career burnout among 142 auditors, tax accountants, and consultants from a national firm before the busy season began and again at the end of the busy season in a public accounting environment. Fogarty et al., (2000) investigated the association between work and task traits, burnout, and job outcomes in a cross-sectional sample of 188 AICPA participants. Almer and Kaplan (2002) build on the work of Fogarty et al. (2000) by looking at how fluid work conditions affect task tension and burnout.

Time Pressure of independent auditors (TP): Many auditors accept that in times of pressure to complete the audit and the number of working hours required during the busy season creates a willingness to accept customer-modified financial information to accomplish the goal (Hurtt , 2013; Glover, 1997). When stress increases, initial performance increases, as stress continues to increase, performance begins to decline. Currently, very little is known about the relationship between time pressure and PS. Enlightenment Coram et al. (2004) concluded that under time constraints, auditors are more likely to engage in quality-degrading activities, such as accepting suspicious information or performing less audit procedures.

Incentives of independent auditors (DL): Motivation is described as the psychological processes that create the initiation, direction, intensity and persistence of behavior (Klein, 1989). Motivation improves when employees work with clear goals (Locke, 1997). In particular, discussion clearance can enhance motivation to improve performance by providing more specific information about audit tasks, reducing task uncertainty, increasing task performance. duties (Earley, 1988; Sullivan, 1988). The company's performance evaluation and incentive system is an important component of the internal quality control that rewards actions based on the auditor's skepticism towards the firm's interests.

The topic's overall research objectives are to investigate the factors influencing professional skepticism of independent auditors in Vietnam. Therefore, the thesis is divided the general objectives into specific research objectives as follows: clarifying factors including knowledge & experience, workload, time pressure, incentives; which affect PS of independent auditors; and determining the level of influence of each factor including: knowledge & experience, workload, time pressure, incentives to PS of independent auditors.

2. Method

2.1. Data collection

The author collected data from the auditors currently working directly in the auditing firms in Vietnam via online questionnaires through Google Forms and video call-in interviews or by removing duplicate and inhomogeneous elements. Finally, SPSS Statistics 20 software is exploited for regression analysis and descriptive statistics.

2.2. Sampling method

In this research, the sample is chosen according to the convenient sampling method by selecting non- probability samples. Independent auditors selected to survey are individuals who are working in Vietnam and directly participating in the audit. The formula for determining the minimum sample size for research to achieve reliability. The size of the sample applied in the study is based on the requirements of Exploratory Factor Analysis (EFA) and multivariate regression: Technique 1: For exploratory factor analysis EFA: According to Hair, Anderson, Tatham and Black (1998), the minimum sample size is 155 samples. The sample size (157) should be larger than the standard to avoid losses during the survey. Technique 2: the minimum sample size is 82 samples for 4 independent variables (Tabachnick and Fidell, 1996). Therefore, 157 respondents satisfy both above formulas and 90 official respondents used in regression analysis are sufficient.

2.3. Regression model

The author used regression with the dependent variable as professional skepticism (PS) to assess the effect of variables on independent auditors' professional skepticism. The factors described in the exploratory analysis (EFA) above are the independent variables affecting. The following is regression model:

$$PS = \beta_0 + \beta_1 KT + \beta_2 CV + \beta_3 TP + \beta_4 DL$$

Where as, **PS** refers to Professional skepticism; **KT** presents Knowledge & Experience of independent auditors; **CV** indicates Workload on independent auditors; **TP** shows Time Pressure on independent auditors; **DL** shows Incentives of independent auditors. The values βi (i = 1:4) are regression coefficients, which represent the impact of each independent factor on the dependent variable's fluctuation. When the regression coefficients are significant (as determined by measuring the significance of the regression coefficient) and the *m* is large, the regression model is considered suitable. Professional skepticism includes 3 characteristics: Questioning mind (G1), Suspension of judgment (G2), Search for knowledge (G3). Therefore, in this study, we use 3 sub-regression models to reflect the influence of the independent variables on each characteristic of professional skepticism.

$$G1 = \beta_{0a} + \beta_{1a} KT + \beta_{2a} CV + \beta_{3a} TP + \beta_{4a} DL$$

$$G2 = \beta_{0b} + \beta_{1b} KT + \beta_{2b} CV + \beta_{3b} TP + \beta_{4b} DL$$

$$G3 = \beta_{0c} + \beta_{1c} KT + \beta_{2c} CV + \beta_{3c} TP + \beta_{4c} DL$$

2.4. Scale of variables

Researchers designed a questionnaire with 31 observations including 1 dependent variable and 4 independent variables, using the 5-level Likert scale (Score 1: Absolutely disagree, Score 5: Absolutely agree). Dependent variable is Professional Skepticism. Model HEP measured professional skepticism by six characteristics. In this study, the research team decided to measure the professional skepticism with 12 items according to three main characteristics of PS (a questioning mind, suspension of judgment, search for knowledge).

Independent variables are variables that affect the dependent variable, in other words, the dependent variable is determined by the independent variable. In this research, there are four (4) variables considered four factors that are knowledge & experience (H1) with 5 observations, workload (H2) with 5 observations, time pressure (H3) with 5 observations and incentives (H4) with 4 observations. The scales of variable are inherited from previous studies by Nelson (2009); Hurtt et al (2010, 2013), Arumega Zarefar et al (2016), Brazel (2018), HEP Model (Hurtt, Eining, and Plumlee, 2003), Durtschi & Fullerton, (2004), Noviyanti (2008) and Supriyono (2014), Nguyen Vinh Khuong (2018).

3. Results

3.1. Descriptive Statistical Analysis

The table below illustrates the general information related to the demographic information of independent auditors such as gender, working experience, working position, level of education and professional qualification.

Table 1: Demographic information of respondents

Working position					**Education degree**		**Professional Certificate**	
Junior / Assistant	**Senior**	**Manager**	**Director**	**Partner**	**Bachelor**	**Master**	**Yes (ACCA, CPA, ICAEW,...)**	**No**
11	37	25	9	8	74	16	70	20
12.22	41.11	27.78	10.0	8.89	82.22	17.78	77.78	22.22

	Gender		**Working experience**			
	Female	**Male**	**Less than 5 years**	**from 5 years - 7 years**	**from 7 years - 10 years**	**Over 10 years**
Observation	42	46.67	45	27	10	8
Percentage (%)	48	53.33	50	30	11.11	8.89

3.2. Reliability Analysis - Cronbach's Alpha

The Cronbach's Alpha coefficient for all items is higher than 0.6. The Corrected Item-Total Correlation of each observed independent and dependent variable is greater than 0.3 except for KT1. As a result, the study's scale only remained 30 observations for subsequent EFA review.

Table 2: Cronbach's Alpha

Variables	Symbol	Number of observed variables	Cronbach's Alpha	Cronbach's Alpha if Item Deleted
Dependent variables				
Professional skepticism	PS	12	0,881	
Independent variables				
Knowledge & experience	KT	5	0,635	0,704 (KT1)
Workload	CV	5	0,793	
Time Pressure	TP	5	0,747	
Incentives	DL	4	0,715	

3.3. Exploratory factors analysis

The KMO coefficient computed from the sample is 0.798 greater than 0.5, according to the Table of KMO and Barlett's test results (Table 3). The Bartlett test has a p-value of 0.000 <0.05, % of variance > 50%, the factor loading is greater than 0.5 and the coefficient Eigenvalue > 1. Thus the criteria for using the EFA discovery analysis show that the factors are consistent with the data set of the study. As a result, the survey sample size is sufficient for factor analysis. The correlation between observed factors is zero in the overall statistically significant since the P-value (Sig.) determined from the sample is 0.00 less than a significance level of 0.05, according to Barlett's test with the hypothesis H0 (or 5 percent).

Table 3: Rotated Component Matrixo

	Component		
	1	2	3
PS7	0.812		
PS4	0.774		
PS8	0.729		
PS5	0.701		

PS6	0.665		
PS9		0.788	
PS12		0.754	
PS11		0.735	
PS10		0.734	
PS2			0.860
PS1			0.718
PS3			0.572

The analysis results show that with 12 items to evaluate professional skepticism of independent auditors and three main factors can be extracted. According to the calculation results from the sample, these 12 factors explain 64.346% of the variation of the data set.

3.4. Pearson Correlations

The results of correlation analysis revealed that all independent variables influencing the dependent variable PS were statistically significant at the 5%. Many of the Sig values have a high correlation with the independent variables (KT, DP, CV, DL).

Table 4: Pearson Correlations

	PS	**KT**	**TP**	**CV**	**DL**
PS	**1**				
KT	.482**	**1**			
TP	-.432**	-.218*	**1**		
CV	-.499**	-.123	.426**	**1**	
DL	.365**	.097	.213*	.003	**1**

The author team used the Pearson coefficient of correlation to analyze the correlation between quantitative variables. In the table above, the coefficients of correlation indicate the relationship between the variables, which is rational in both sign and level. Specifically, the values of coefficient of correlation (KT, DL) are greater than 0; The coefficients of correlation are positive which show the positive relationship. The coefficients of correlation (CV, TP), on the other hand, are less than 0; the coefficients of correlation are negative, suggesting a negative relationship.

3.5. Regression Analysis

The value of determination coefficient Adjusted R Square is 0.585, which shows the regression model of the relationship between the four main factors to the PS which can explain 58.5% of the variation of the PS. In the F-test in the ANOVA table, an observed F value of 32.305 with a P-value (Sig.) of 0.000 is less than the significance level of 0.05. The regression model is suitable to describe the relationship between factors to the PS of independent auditors.

Table 5: Coefficient

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	3.101	.345		8.982	.000		
KT	.261	.055	.337	4.758	.000	.931	1.075
CV	-.212	.049	-.329	-4.340	.000	.810	1.234
TP	-.196	.051	-.303	-3.815	.000	.738	1.354
DL	.255	.046	.398	5.602	.000	.925	1.081

Based on the P-value values corresponding to each independent variable in Table 5 it can be seen that all the independent factors have P-value values less than the significance level of 0.05. It can be said that, with the sample, there is enough evidence to reject the H0 hypothesis. The sign of the regression coefficients reflects the impact of independent factors on dependent factors. The values of βi of these two factors (KT, DL) have positive signs, indicating that these factors have a positive impact on the PS, according to the survey results. Otherwise, these two variables (CV, TP) have negative βi values, meaning that they have a negative effect on the PS. The standardized regression coefficient (Beta) is used to evaluate the impact of each independent factor on PS. The DL factor has a standardized regression coefficient of 0.398, which is higher than the KT factor's standard regression coefficient, indicating that the DL factor has a greater effect on the independent auditors' PS. The VIF of variables affecting less than ten shows that there is no multi-collinear phenomenon. The regression equation of the PS: ***PS = 0.337KT - 0.329CV - 0.303TP + 0.398DL***

About sub - regression model: The values of βi of these knowledge and experience variables (KT) and the incentives (DL) have positive signs, indicating that they have a positive effect on the PS. However, the other independent variables (CV, TP) indicate that they influence negatively on the PS. B2 = -153<0 indicates that when CV increases by 1 unit, the professional skepticism - PS decreases by 0.153 units; standardized β of the CV variable affects 15.3% on the level of PS. B3 = -0.271<0 indicates that when TP increases by 1 unit, the professional skepticism - PS decreases by 0.271units; standardized β of the TP variable affects 27.1% on the level of PS. The effect of each independent factor on Questioning mind is measured using the standardized regression coefficient (Beta). VIF of factors affecting less than 10 proves no multi-collinear phenomenon. The regression equation of three characteristic of the PS:

$$G1= 0.34KT - 0.153CV - 0.271TP + 0.286DL$$

$$G2= 0.196KT - 0.229CV - 0.303TP + 0.378DL$$

$$G3= 0.301KT - 0.313CV - 0.283TP + 0.312DL$$

All independent variables both have an impact on the three features of the PS. The sign of the regression coefficients reflects the impact of independent factors on dependent factors. According to the survey results, the βi values of these two factors (KT, DL) have positive signs, suggesting that these factors have a positive effect on the PS. The standardized regression coefficient (Beta) is used to evaluate the impact of each independent factor on three characteristics. VIF of factors affecting less than 10 proves no multi-collinear phenomenon.

Research hypothesis testing results: All of the hypotheses that include knowledge and experience, workload, time pressures and incentives are initially accepted. It turns out that H1 and H4 have a positive impact on professional skepticism while H2 and H3 have a negative influence on professional skepticism.

Independent sample T-Test: Independent Samples T-Test is used to compare mean values of male and female groups with professional skepticism. Because of the sig value = 0.816 > 0.05, so we conclude that there is no significant difference in the mean of the two populations. In other words, between the two gender groups of auditors, there is no evidence to show a difference in professional skepticism. Specifically, in the mean column in the Group statistic table below, the average value of professional skepticism for men is 3.5749 and for women is 3.5545. Moreover, the authors use independent Samples T-Test to compare the mean of two groups of certified and non-certified auditors affecting professional skepticism. The table indicates that there is no substantial difference in the mean of the two populations because the Sig value = 0.379 and F = 0.782 in Levene's Test for Equality of Variances > 0.05. In other words, there is little distinction between the two groups of independent auditors who have gained and have not gained the qualification certificate in terms of professional skepticism

Table 6: Independent Samples Test

Group Statistics - PS				
		Mean	**Std. Deviation**	**Std. Error Mean**
Gender	**Male**	3.5749	.41932	.06052
	Female	3.5545	.39787	.06139
Professional Certifications	**Yes**	3.5619	.42179	.05041
	No	3.5775	.36159	.08085

Table 7: Independent Samples Test

Independent Samples Test										
		Levene's Test for Equality of Variances		**t-test for Equality of Means**		**t-test for Equality of Means**				
PS		**F**	**Sig.**	**t**	**df**	**Sig. (2-tailed)**	**Mean Diffe-rence**	**Std. Error Difference**	**95% Confidence Interval of the Difference**	
									Lower	**Upper**
Gender	Equal variances assumed	.055	.816	.236	88	.814	.02039	.08652	-.15154	.19232
	Equal variances not assumed			.236	87.403	.814	.02039	.08621	-.15095	.19173
Qualifi-cation certific-ate	Equal variances assumed	.782	.379	-.150	88	.881	-.01560	.10384	-.22195	.19076
	Equal variances not assumed			-.164	35.181	.871	-.01560	.09528	-.20899	10

4. Discussion and Conclusion

4.1. Conclusion

Through linear regression results, two factors, Knowledge & experience and Incentives have positive impacts while workload and time pressure have been negative influences on the professional skepticism of independent auditors.

Previous researches indicated that PS is affected by knowledge in both positive and negative ways in audit practice, specialization in fundamental Nelson (2009), Griffith et al. (2012), Peecher et al (2010) and Carpenter et al (2013) found that auditors increased their ability to perceive fraud risks after completing a course in investigative accounting. Otherwise, a lot of previous research results showed opposite sides of opinion, such as Castro (2013), Kim and Trotman (2014) conclude that the less experienced auditor has a higher PS than the more experienced auditor, Phan Thanh Hai et al (2018), also indicated that knowledge and experience despite their influence, have not yet reached the level of confidence in the significance level. Applying to the Vietnam situation, many audits are usually being carried out in particular months of the year, in a peak season, auditors have to work for more than one job at the same time, therefore, experienced trained auditors have higher probability to discover misstatements and tend to have advantages when communicating with clients about their doubtful issues. On top of that, auditors may not only raise their abilities to acknowledge every detailed problem, detect misstatements and combined evidence, but also they are not easily being disturbed by inappropriate information in order to find out misstatement as soon as possible.

Related to incentives, the result pointed out that this factor has a positive influence on professional skepticism of independent auditors which is agreed with previous studies such as motivation is described as psychological processes creating initiation, direction, intensity and persistence of behavior (Klein, 1989), (Locke, 1997), (Sullivan, 1988), and most of the PS related statements in the audit examined in Nelson would inspire auditors to select a higher degree of suspicion due to personal motivation. On the other hand, Phan Thanh Hai et al (2018) which have the same research subject in Vietnam which showed incentive of auditing firms, have not yet reached the level of confidence in the significance level, despite their influence. The findings of this research are in line with the majority of previous studies around the world. The company's performance evaluation and incentive system is an important component of the internal quality control that rewards actions based on the auditor's skepticism towards the firm's interests, namely contribute to effective audit (Baiman, 1990; IAASB, 2009).

However, workload and time pressure have been negative influences on the professional skepticism of independent auditors. In previous research, there are many controversial results on the impact of time pressure on professional skepticism, whether it is positive and negative. Typically, Nelson indicates time has a positive effect on PS as well as Phan Thanh Hai's research, they indicate that time and both workloads have a positive impact on professional skepticism. In the study, the results confirm that time pressure has a negative impact on PS. Time pressure is a common problem in the working environment (Glover, 1997) and arises from the conflict between completing an effective but timely audit. Audits and the number of working hours required in the busy season creates a willingness to accept financial information modified by customers' target achievement (Hurtt, 2013; Glover, 1997). Time pressures cause performance degradation and cause joint stress practice for the auditor (McDaniel, 1990), also Kelley and Margheim (1990) found that when faced with high time pressure, 31% of auditors would reduce audit steps than usual. Low and Tan (2011) argue that the difference between time restriction be informed and random time pressure. When confronted with a sudden increase in time pressure, the auditor is more likely to rely on previous year's audit procedures, which means the auditor is less likely to show PS as Disclosure Coram et al (2004). Similarly, workload factor, according to Nasution and Fitriany (2012); Murtisari and Ghozali (2006), the pressure of employment that results in excess jobs will decrease job satisfaction and performance auditor.

4.2. Recommendation

Firstly, for practicing partnerships: Recruitment policies may affect professional skepticism by evaluating knowledge and personal traits. Auditing firms need to emphasize the significance of assessing professional skepticism in the employment process in order to select the auditors whose professional skepticism is suitable with the policy of the corporate. The auditing firm must create a working environment as well as a sense of solidarity among auditors and leaders to foster professional skepticism. Consequently, the training policies play a key role in determining PS in knowledge, skills, and personal incentives of auditors. There should be a reduction in the amount of time it takes to complete tasks and reduce the amount of time it takes to record progress. Until conducting the end-of-fiscal-year audit, auditing companies should conduct interim audits during the year.

Secondly, for governmental agencies, especially the Ministry of Finance and association of chartered auditors: Propagating and strictly enforcing the administrative penalties clauses of the Government's Decree No. 41/2018 / ND-CP dated March 12, 2018 on the sanctioning of administrative irregularities in accounting and independent audit, thus raising awareness about auditing laws; at the same time, deterring auditors from breaking the rule; Arranging daily workshops, instruction, or knowledge sharing sessions relating to professional skepticism so that auditors can exchange and gain realistic experiences.

Finally, for universities and training institutions: Universities should expand their training courses of professional skepticism in combination with professional Independent Audit certification to facilitate the improvement of professional qualifications and skills for independent audit professions. Using advanced management practices to be able to deeply participate in the international market in the integration process. The Government agencies, entities and universities should coordinate based on the roadmap, plan and apply international practices in accordance with the conditions of Vietnam for the development of Vietnam's Independent Audit.

5. References

1. Carolyn Kousky and Roger M. Cooke (8/2009), *Climate Change and Risk Management: Challenges for Insurance, Adaption, and Loss Estimation*, AIG Climate Change and the Insurance Industry, Discussion paper.

2. Aghazadeh, S. and Joe, J.R., 2017. *How Management Confidence Influences Auditors' Testing.* Available at SSRN 2623537.

3. Baiman, S., 1990. *Agency research in managerial accounting: A second look.* Accounting, Organizations and Society, 15(4), 341-371.

4. Brazel, J. F., Jackson, S. B., Schaefer, T. J., & Stewart, B. W. (2016). *The outcome effect and professional skepticism.* The Accounting Review, 91(6), 1577-1599.

5. Brazel, J. F., Leiby, J., & Schaefer, T. R. 2018. *Do Rewards Encourage Professional Skepticism?.* Available at SSRN 3111466.

6. Brazel, J.F., Jackson, S.B., Schaefer, T.J. and Stewart, B.W., 2016. *The outcome effect and professional skepticism.* The Accounting Review,91,(6),1577-1599

7. Brazel, J. F., Gimbar, C., Maksymov, E., & Schaefer, T. J. 2018. *The Outcome Effect and Professional Skepticism: A Replication and a Failed Attempt at Mitigation.* Behavioral Research in Accounting.

8. Carpenter, T., Durtschi, C., & Gaynor, L. M., 2002. *The role of experience in professional skepticism, knowledge acquisition, and fraud detection.* Working paper.

9. Dung, P.V. (2015). *Factors affecting the audit quality of Vietnamese auditing firms towards enhancing competitiveness in international integration conditions, Doctoral dissertation,*

10. Fogelin, R.J., 1994. *Pyrrhonian reflections on knowledge and justification: Oxford University Press on Demand.*

11. Fleeson, W., 2007. *Situation-based contingencies underlying trait- content manifestation in behavior.* Journal of Personality,75,(4),825-862.

12. Forsman, L. and Johnson, M., 1996. *Dimensionality and validity of two scales measuring different aspects of self-esteem.* Scandinavian Journal of Psychology,37,(1),1-15.

13. Francis, J.R., 2004. *What do we know about audit quality?* The British

accounting review,36,(4),345-368.

14. Johari, R. J., Ridzoan, N. S., & Zarefar, A. (2019). *The Influence of Work Overload, Time Pressure and Social Influence Pressure on Auditors' Job Performance.* International Journal of Financial Research, 10(3), 88-106.

15. Grenier, J.H. 2010. *Encouraging Professional Skepticism in the Industry Specialization Era: A Dual-Process Model and an Experimental Test.* Dissertation at the University of Illinois.

16. Grenier, J.H., 2017. *Encouraging professional skepticism in the industry specialization era.* Journal of Business Ethics,142,(2),241-256.

17. Griffith, E. E., Hammersley, J. S., & Kadous, K., 2015. *Audits of complex estimates as verification of management numbers: How institutional pressures shape practice.* Contemporary Accounting Research, 32(3), 833- 863.

18. Hurtt, R. Kathy, Eining, M., and Plumlee, D. (2003)*A model and literature review of professional skepticism in auditing. Professional Skepticism: A Model with Implication for Research, Practice and Education.* Working Paper University of Wisconsin.

19. Hai, P.T. (2019). *Independent audit of Vietnam in the international economic integration process* (In Vietnamese: Kiem toan doc lap Viet Nam trong tien trinh hoi nhap kinh te quoc te, NXB Da Nang).

20. Hai, P.T., Toan, L.D & Quy, L.N.D. *Research on factors affecting professional skepticism and audit quality: Experiment in Vietnam.*

21. Hardies, K., & Janssen, S. (2017). *FAR Research Project: Professional skepticism: a trending concept in need of understanding.* Maandblad Voor Accountancy en Bedrijfseconomie, 91, 274.

22. Hurtt, R., Eining, M. and Plumlee, D., 2012. *Linking professional skepticism to auditors' behaviors: Working paper.* Baylor University, and The University of Utah.

23. Hurtt, R. K. (2010). *Development of a scale to measure professional skepticism.* Auditing: A Journal of Practice & Theory, 29(1), 149-171.

24. Hurtt, R. K., Brown-Liburd, H., Earley, C. E., & Krishnamoorthy, G. (2013). *Research on auditor professional skepticism: Literature synthesis and opportunities for future research.* Auditing: A Journal of Practice, 32(Supplement 1), 45-97.

25. Hurtt, K., Eining, M.M. and Plumlee, D., 2008. *An experimental examination of professional skepticism*. Working paper.

26. Khuong, N. V. (2020). *Factors influencing career skepticism and audit quality: Research in Vietnam*

27. Khuong, N.V. (2018). *Evaluate the scale of career skepticism in auditing financial statements in Vietnam, Journal of scientific research auditing, 124 (02), 12-30.* (Danh gia thang do thai do hoai nghi nghe nghiep trong kiem toan bao cao tai chinh tai Viet Nam, Tap chi nghien cuu khoa hoc kiem toan).

28. Minh, M., & Khuong, N. V. *Research on the relationship between professional skepticism and the independence of auditors. Journal of scientific research, 101* (Nghien cuu ve moi quan he giua thai do hoai nghi nghe nghiep va tinh doc lap cua kiem toan vien).

29. Ministry of finance, 2015, *Vietnam Auditing Standards System*

30. McDaniel, L. S., 1990. *The effects of time pressure and audit program structure on audit performance.* Journal of Accounting Research, 28(2), 267- 285.

31. McMillan, J.J. and White, R.A., 1993. *Auditors' belief revisions and evidence search: The effect of hypothesis frame, confirmation bias, and professional skepticism.* Accounting Review, 443-465.

32. Nelson, M. W. (2009). *A model and literature review of professional skepticism in auditing.* Auditing: a journal of practice & theory, 28(2), 1-34.

33. Nolder, C. and Kadous, K., 2014. *The Way Forward on Professional Skepticism Conceptualizing Professional Skepticism as an Attitude.* Working paper.

34. Popova, V., 2013. Exploration of skepticism, client-specific experiences, and audit judgments. Managerial Auditing Journal,28,(2),140-160.

35. PCAOB, 2012. *Maintaining and Applying Professional Skepticism in Audits.* PCAOB Washington, DC.

36. Phuoc, N.T. (2018). *The professional scepticism of the auditors. Journal of Accounting and Auditing, 174, 21-29* (Thai do hoai nghi nghe nghiep cua kiem toan vien).

37. Quadackers, L., Groot, T. and Wright, A, 2014. *Auditors' Professional Skepticism: Neutrality versus Presumptive Doubt.* Contemporary Accounting Research, 31, 639–657.

38. Robinson, S.N., Curtis, M.B. and Robertson, J.C., 2013. A person situation approach to the examination of professional skepticism: consideration of time pressure and goal framing.

39. Robertson, J.C., 2010. *The effects of ingratiation and client incentive on auditor judgment. Behavioral Research in Accounting,22,(2),69-86.*

40. Suryandari, N. N. A., & Yuesti, A. (2017). *Professional scepticism and auditors ability to detect fraud based on workload and*

FOREIGN DIRECT INVESTMENTS AND SPILLOVER EFFECTS IN VIETNAM

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Abstract

Foreign direct investment (FDI) plays an important role in developing countries in general and Vietnam in particular. It not only provides a large source of investment capital, increase density contribution to growth in GDP, but also affects the process of restructuring the economy, contributes to solving the problem about employment in the economy. In addition, FDI enterprises are also factors that promote export activities as well as bring spillovers to the economy on changes in technology or modern management skills to the host country. However, attracting FDI does not always create positive spillover effects, but there are still some limitations. That reduces the efficiency of the FDI sector, or does not make full use of this resource in terms of productivity growth and economic efficiency. Therefore, researching and evaluating the spillover effects of FDI on the economy in order to offer solutions to promote the efficiency of the FDI sector is a necessary issue in the current period.

Keywords: Foreign direct investment, Spillover effects, FDI

1. Introduction

Today, developing countries are competing fiercely to attract foreign investors by offering different fiscal incentives in the expectation of improving productivity through technology spillover from foreign direct investment (FDI) to domestic enterprises. Local governments have used the different investment strategies in a bid to obtain more FDI. And FDI attraction depends on the existence and magnitude of the positive spillover effects from that FDI capital. Empirical studies on the evidence surrounding FDI spillover effects have not reached consensus. The further research is therefore need to determine the impact of FDI on the development of the social economy in a country.

Most empirical studies on the spillover effects of FDI have tend to bring about positive effects of the FDI sector on the domestic economy through a classical production model which measures the productivity of local firms. Empirical studies of spillovers have not found effective interactions between local firms and foreign firms. This paper examines the spillover effects of the FDI sector on the domestic sector in Vietnam in the past period.

2. Literature Review

2.1. Spillover effects from FDI

The role of FDI in the spillover of skills, knowledge and technology has been recognized in many studies in the regional development literature . In researches of many authors as: Martin and Ottaviano (1999), Lucas (2001), Baldwin and Martin (2004), and Audretsch and Feldman (2004)) have combined theory of endogenous growth and models position to consider the impact of spillovers to the development economy. They point out that firms location is important for stronger growth and spread in certain gaps. More specifically, they show that the spillover of knowledge or technology which occur through a variety of mechanisms, such as skill acquisition , competition and production integration are more likely to materialise and be more efficient when the companies are located in close proximity.

An important influence of geographic proximity lies in the concept of industrial zones and industrial clusters (Porter, 2000). Driffield and Girma (2003) and Driffield (2006) argued that cluster give rise to agglomerate externalities because the local market is specialized for labor and intermediate goods. Geographic proximity may also aid in the diffusion of knowledge between companies, for example making communication less expensive. The roles of geographical distance has also gained attention in the FDI literature. Baltagi, Egger, and Pfaffermayr (2007) and Blonigen, Davies, Waddell and Naughton (2007) found that the space of interdependence has a significant effect on the distribution of FDI between neighboring countries . Blonigen et al. (2007) pointed out that spatial econometrics can provide useful techniques that can be applied to many countries as well as regions within a given country to explain spatial interdependence. Driffield (2006) publishes the first study to incorporate spatial modeling in the study of spillover FDI . The results show that conflicting findings in previous studies on the spillover effects of FDI were due to the failure in capturing spatial dependence. This is demonstrated by using the estimation model which allows detecting the spatial dependence among firms in examining the spillover effects of FDI.

2.2. Social interaction and spillover

Social interaction refers to specific types of externalities, in which the actions of a reference group, usually family, neighbours, friends or colleagues, influence an individual's preferences (Scheinkman, 2002). The main theoretical discussion on this issue can be found in Topa (2001), Manski (2000), Jackson (2009) and Easley and Kleinberg (2010). They propose three specific forms of social interaction; namely the binding interaction, the expectation interaction, and the preferred interaction which have positively impact productivity. According to experience, social interactions have been noted in a number of studies from different economists. In the literature on economic growth and technology transfer, Antonelli and Scellato (2013) found that a company's productivity is significantly affected by localized social interaction, both in terms of spillover and creative response.

Vietnam's recent experience in attracting FDI and achieving rapid economic growth has generated great interest to many researchers. Most studies focused on considering the determinants of FDI (Nguyen & Nguyen, 2007 ; Pham, 2002 ; Vu, Le & Vo, 2007). Others investigated the contribution of FDI to job creation, poverty reduction and economic growth (Pham, 2003). Some studies on the spillover effects in Vietnam include Nguyen, Nguyen, Vu, and Nguyen (2006), Tran (2001), and Anwar and Nguyen (2014) about the current situation of foreign direct investment (FDI) in Vietnam.

3. Results

3.1. Foreign Direct Investment (FDI) in Vietnam

After more than 30 years of attracting FDI, Vietnam became one of the successful countries after all of government efforts to attract FDI with policy system which were consistent, but flexible, suitable for each period of development of the country. FDI has proven its important role through not only direct effects but also indirect effects in the economy.

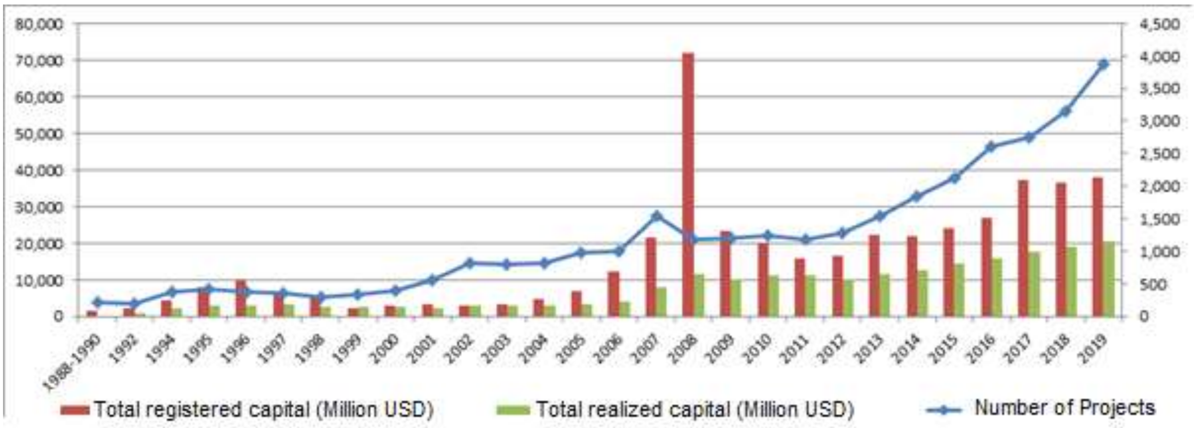

Figure 1: FDI growth rate between 1988 and 2019

Source: Foreign Investment Department - Ministry of Planning and Investment

In early years of attracting FDI, from 1988 to 1990, although it was a difficult period in the beginning of innovation, Vietnam attracted 213 FDI projects with a total registered capital of nearly 1.8 billion USD. However, after that, with the gradual changes, Vietnam increasingly integrated with the development of the world and the region. Vietnam had joined regional and international trade organizations such as ASEAN, WTO ... or bilateral and multilateral free trade agreements to integrate deeper into the international playing field. In addition, the Government has continuously revised and supplemented the Law of Investment and in 2005 has agreed on a common investment law with many changes in decentralization of investment licensing and project management. In 2014, Law of Investment Law was born and replaced the 2005, which continued the open policy in accordance with the economic capacity and the purpose of attracting FDI in each phase of the country. Beside policy corridors, Vietnam also changed and prepared both hard and soft infrastructure which created a pull point to attract FDI and promote FDI effectively as for investment, management qualifications, or quality human resources ... In 2019, the Law of Public Investment was born that showed a new direction in investment in general and foreign direct investment in particular.

During 30 years of FDI attraction, the average growth rate of Vietnam is 1,000%, was showed that Vietnam was one of the attractive destinations with foreign investors. In the early years of attraction, the growth rate increased with slight fluctuations. From the 2000s, the growth rate started to increase gradually, especially in the period from 2006 to 2008, when the capital flowed to Vietnam which had a growth rate 3 times. This was time that Vietnam officially became a member of the International Trade Organization WTO (2007). However, after that, dueing to the impact of the world economic crisis (2008), the growth rate of FDI had gradually decreased. However, Vietnam appeared a number of large million-dollar projects such as Nui Phao Mineral Mining and Processing Joint-Venture Company with USD 147 million or Thanh Cong Investment and Development Company with 114,58 million USD. It may be said that in this period, Vietnam had significantly improved the investment - business environment, and had flexible policies to suit the world's development flows. Therefore, big investors from developed countries such as the US, Japan, Korea ... started to come and pour capital into Vietnam. In 2018, summarizing 30 years of investment attraction, FDI accounted for 55% of industrial production, 70% of revenue from exports, 18% of tax revenue, creating 3.7 million jobs. The year 2019 was again an important step when the highlight of FDI disbursement at a record high of 20.38 billion USD. Currently, by the end of 2019, the total newly registered, adjusted and contributed capital and purchased shares of foreign investors had reached 38.02 billion USD, up 7.2% over the same period in 2018. Total projections valid projects were 30,827 valid projects with a total registered capital of 362.58 billion USD. Implementation of capital projects accumulated foreign direct investment estimated at 211.78 billion US dollars, by 58,4 % of the total registered capital in force. In 2020, due to the influence of Covid epidemic in the first months of the year, the situation of attracting FDI had decreased significantly. In the first three months of the year, "the total newly registered, adjusted and contributed capital and purchased shares of foreign investors reached 8.55 billion USD, equaling 79.1% as compared to the same period in 2019".

About investment field: until now, FDI had invested in 19/21 sectors in the sub-sector system of the national economy of Vietnam, in which FDI enterprises still prioritized investment in the field of processing and manufacture industries which accounted for the highest proportion with 214.2 billion USD or 59.1% of total investment capital. The following was the business areas of real estate with 58.4 billion (accounting for 16.1% of total investment); then production and distribution electricity with 23.65 billion USD (accounting for 6.5% of total investment capital).

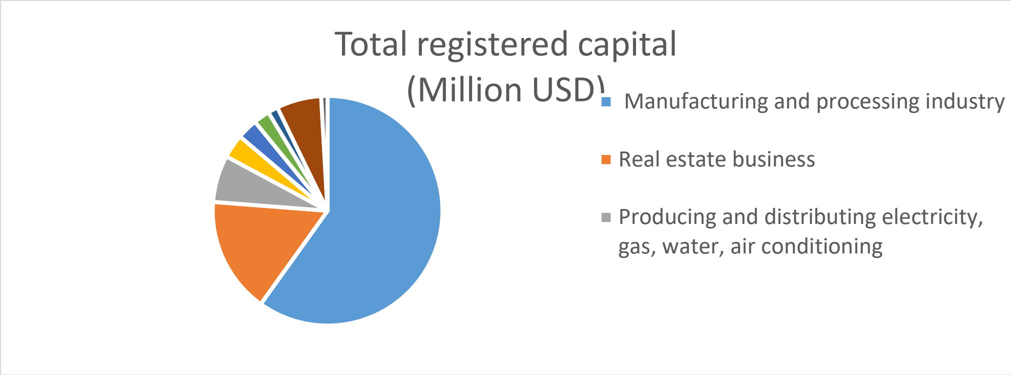

Figure 2: FDI by investment field

Source: Foreign Investment Department - Ministry of Planning and Investment

About foreign investors: by the end of 2019, Vietnam had welcomed investors from 135 countries and territories. In which, Asian countries were the the largest proportion of FDI to Vietnam, the first by South Korea with a total registered capital of 67.71 billion USD (accounting for 18.7% of total investment capital); followed by Japan and Singapore, Taiwan, Hong Kong.

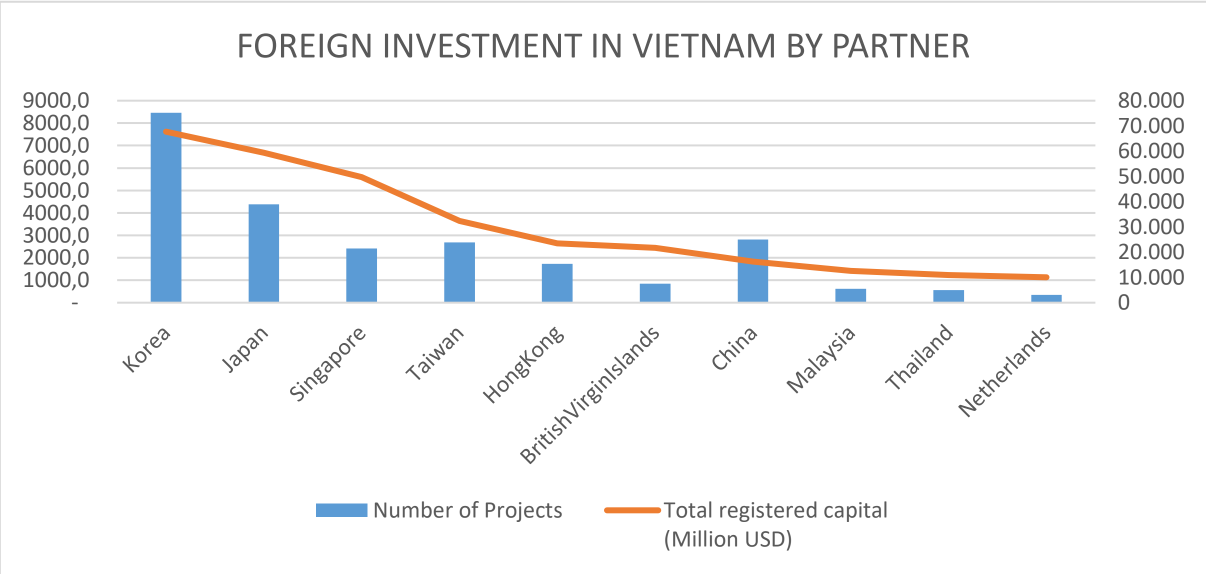

Figure 3: FDI by major foreign investors

Source: Foreign Investment Department - Ministry of Planning and Investment

About investment locations: FDI had been present in all 63 provinces and cities nationwide. FDI was still looking to cities that were political and economic centers of the country such as: Ho Chi Minh City, Hanoi, Hai Phong ... And Ho Chi Minh City was still the leading province in attracting foreign investment with 47.34 billion USD (accounting for 13.1% of total investment capital); followed by Binh Duong with 34.4 billion USD (accounting for 9.5% of total investment capital); Hanoi with 34.1 billion USD (accounting for 9.4% of total investment capital).

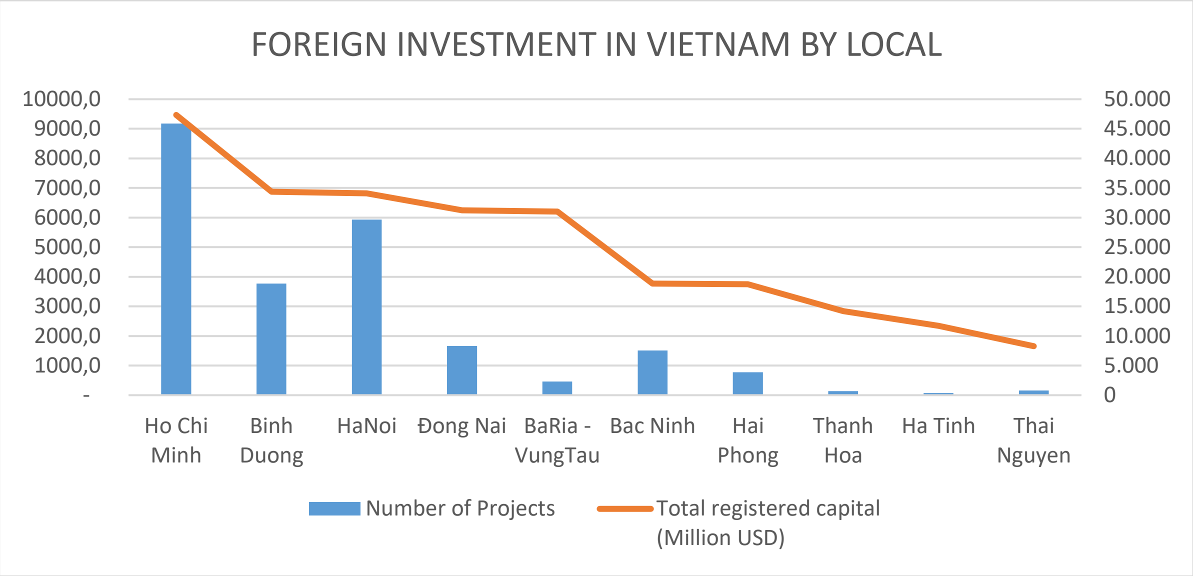

Figure 4: FDI by localities

Source: Foreign Investment Department - Ministry of Planning and Investment

Despite the impressive results of FDI, Vietnam had gradually realized that it was necessary to have strategic policy change to maintain competitiveness in ASEAN and ensure sustainability FDI inflows received and accelerated FDI with higher added value to achieve development goals. The Government of Vietnam wisely judged about 5-6 years ago that the quality of FDI which needed to be improved in terms of value-added enhancement and spillover benefits, as reflected in Resolution No. 103. / NQ-CP issued by the Prime Minister at the end of August 2013. Over 30 years with many changes, efforts moving towards a complete environment have brought remarkable results with Vietnam.

3.2. Spillover effects of FDI in the Vietnamese economy

Currently, the spillover effects in Vietnam are done most through 4 ways, which are: labour movement, technology dissemination & transfer, production linkage and competition.

Labour movement

Positive effects were created when the employmees was trained on skills, qualifications and absorb the knowledge or technology from FDI enterprises, then they moved from FDI to sector in domestic firms. When employees used the knowledge, skills there and applied to the domestic enterprises, it meaned generate spillover effect was positive for investment-receiving countries. These employees could set up their own companies or work for domestic enterprises in the same industry in which FDI enterprises are operating.

Technology transfer

This is considered as an important positive spillover effect of the FDI sector. Currently, the commonly indicator which was used to measure technology absorption from FDI enterprises, was the education level or the professional qualifications of the labour force and the technology innovation of the business through indicators for activities of R&D. FDI enterprises' ability absorbed new technology was also an important factor creating spillover effects. The parent companies were the places that created new technologies, so the higher the absorption of new technologies by subsidiaries, the more beneficial spillover effects were.

Over the past years, FDI enterprises had stimulated and encouraged domestic enterprises to innovate and improve their technological capacities. FDI enterprises created opportunities for domestic enterprises to acquire the most favorable scientific and technological achievements. Many modern technological lines of many industries such as information technology, light industry, agriculture ... had been put into production, thereby increasing labour productivity and enhancing commodity competitiveness of Vietnam on the world market.

Production association

Spillover effects were created mainly through production association. In the production linkage, there were two forms such as: vertical linkage and horizontal linkage, so there are two ways of spillover effects: (1) Horizontal spillover effect which was affected to companies in the same industry; (2) The vertical spillover effect which was the spillover effect from FDI enterprises to regional enterprises in another sector which provided inputs material to this FDI or from FDI enterprises to regional enterprises in another sector which FDI firms provide inputs.

Another type of interdisciplinary spillover effect is suplybackward: FDI firms can also create demand for local output. These "backlinks" can increase strengthen supply industries, which in turn supplies the material (via downlink) to other local companies.

Competitive environment

FDI enterprises created great competitive pressure for domestic enterprises, that increased the competitiveness of the domestic economic sector. It was a positive spillover effect on the economy. Domestic firms in the same industry would had to innovate if they did not want to lose the market. Domestic businesses could have to improve product quality, change management forms, marekting, technology ... to have a chance to compete. Since then, domestic enterprises gradually aimed to compete with the international market. In addition, FDI enterprises also had to compete with domestic enterprises in terms of products such as types, designs, customers, price .. which made the product quality increasing and consumers will be using more quality products.

In general, the emergence of FDI enterprises had pushed Vietnamese enterprises, especially large enterprises made efforts to invest in production, innovate product designs, develope brands, and expand distribution to dominate domestic and international market share. Domestic enterprises had become more professional, increasingly responding to market fluctuations and increasing competition with international businesses.

Over the years, FDI has created a positive spillover effect on the economy in Vietnam, but there are still some limitations such as:

The competitiveness of Vietnamese enterprises was still limited in receiving spillover effects from FDI. Vietnamese enterprises were mainly small and medium enterprises, so the appearance of FDI enterprises made domestic enterprises more fierce competition. This was a playground for large businesses or businesses that had internal resources and businesses with poor "resistance" were easily eliminated or reduced their production scale.

The dissemination and transfer of technology from foreign enterprises to domestic ones was also problematic. Domestic enterprises - which received investment, had wanted to receive technology transfer, need to depend on their internal technological capacity or their ability to absorb technology and the level of technology difference between FDI enterprises and domestic enterprises. Many domestic enterprises still have limited technological capacity, technical qualifications and human resources, so they cannot accept technology transfer from FDI enterprises.

Vietnamese enterprises still have limited autonomy in raw materials and input factors. The association in spillover effects requires development of supporting industries to facilitate the development of businesses in general. However, some production and business industries in Vietnam are not proactive in raw materials and depend on imports, leading to spillover effects that are not really effective.

Participating in the global supply chain of Vietnamese enterprises was low. According to economists, Vietnam had 21% of enterprises participating in the global supply chain, while in Thailand this rate was 30%, Malaysia was 46%. Some industries in Vietnam, our businesses mainly focused on low value-added stages such as garment, footwear, raw product processing ... Also due to this lack of tight association, Vietnamese enterprises had relatively low competitiveness while labor productivity had not improved much.

4. Discussion and Conclusion

In order to promote the positive spillover effects and overcome the limitations of the FDI sector spillover effects, some solutions was offered as:

Firstly, improving the competitiveness of domestic enterprises. Enterprises need to be confident and proactively participate in the global supply chain and have a strategy to develop and adapt to FDI enterprises. In addition, domestic enterprises may be increased to regularly renew and improved their management skills to meet general international requirements.

Secondly, promoting the development of high-quality human resources: Human resources are considered the decisive factor to take advantage of and exploit the positive spillover effects of FDI on Vietnam. Therefore, improving the quality of human resources in terms of physical strength, mental strength and skills is an urgent requirement for Vietnamese businesses today. In addition, it is necessary to have a policy to "retain" labor, prevent "brain drain" and attract workers from the FDI sector.

Thirdly, increasing investment in science and technology development and improving the quality of technology transfer. Improving the level of technological equipment in parallel with the improvement of the quality of human resources are the basic conditions for improving technology absorption and management skills from the spillover effects of FDI on Vietnamese enterprises. .

Fourthly, to develop supporting industries, strengthen linkages in production and supply of raw and auxiliary materials for Vietnamese textile and garment enterprises. Supporting industries are an important industry in the production chain. This is both a pull factor to attract FDI and a bridge between domestic enterprises and the FDI sector. Therefore, supporting industry development should also be given attention and priority to develop in the coming time.

The last, developing industrial clusters/ zone production toward creat value.

The impact of this trend on FDI was through improving competitiveness compared to enterprises outside the cluster. From the perspective of economic development and FDI Attraction Strategy, Vietnam would have opportunities to attract businesses specializing in supporting industries to increase the ability that created value for the cluster and favorable business environment, especially in skills development and streamlining start-up and business processes. And the formation of cluster groups is required the participation of the management and initiation of the state to avoid the over-formation and not achieve the desired effect.

Conclusion: FDI has shown its role in the economic growth of countries. The correct assessment of the effects of FDI including spillover effects has a great influence on promoting the efficiency of the FDI sector. That is also the basis for giving effective solutions to the development of enterprises in the economy in the coming period.

5. References

1. Audretsch, D., & Feldman, M. P. (2004). *Knowledge spillovers and the geography of innovation. In V. Henderson & J. Thisse (Eds.),* Handbook of urban and regional economics: Cities and geography (pp. 2713–2739). Amsterdam: Elsevier/North-Holland.

2. Blonigen, B. A., Davies, R. B., Waddell, G. R., & Naughton, H. T. (2007). *FDI in space: Spatial autoregressive relationships in foreign direct investment*. European Economic Review, 51(5), 1303–1325. doi:10.1016/j.euroecorev.2006.08.006

3. Driffield, N. L. (2006). *On the search for spillovers from foreign direct investment (FDI) with spatial dependency,* Regional Studies, 40(1), 107–119.

4. Driffield, N. L., & Girma, S. (2003). *Regional foreign direct investment and wage spillovers: Plant level evidence from the UK electronics industry*. Oxford Bulletin of Economics and Statistics, 65(4), 453–474.

5. Easley, D., & Kleinberg, J. (2010). *Networks, crowds, and markets: Reasoning about a highly connected world*. Cambridge: Cambridge University Press.

6. Levinsohn, J. and A. Petrin., 2003, *Estimating production using inputs to control for unobservable* , Review o f Economic Studies 79: 317-341.

7. Markusen, James R., 1995, *The Boundaries of Multinational Enterprisesand the Theory of International Trade* , Journal of Economic Perspectives, 9 (2), pp. 169-89.

8. Markusen, JamesR .and Venables, AnthonyJ., 1999, *Foreign Direct Investmentasa Catalyst Industrial Development*, European Economic Review, 43 (2), pp.335-56 .

9. Merlevede B. & Schoors K., 2008, *How and By How Much does Foreign Direct Investment Increase the Productivity of Domestic Firms?*, Hub Research paper 2008/39.

10. Nguyen Khac Minh & Nguyen Viet Hung, 2008, *Foreign direct investment and productivity growth in some sub-industries of Vietnam's manufacturing firms, 2000-2005,* Semi- parameter approaches, Proceedings of Growth, structural change and policies in Vietnam since Doimoi 89 -103.

11. Nguyen, A., Nguyen, T., Vu, H., & Nguyen, H. (2006). *Effects of foreign direct investment to economic growth in Vietnam*. Vietnam: Technical Publishing House.

12. Nguyen, N. A., & Nguyen, T. (2007). *Foreign direct investment in Vietnam: An overview and analysis the determinants of spatial distribution across provinces* (MPRA Paper No. 921). Hanoi: Development and Policies Research Center.

13. Olley, Steven G. and Aril Pakes., 1996, *The Dynamics of productivity in the Telecommunications Equipment Industry* , Econometrica 64 (6), 1263–1297.

14. Smarzynska Javorcik, Beata., 2004, *Does Foreign Direct Investment Increase the Productivity of Domestic Firms? In Search of Spillovers Through Backward Linkages*, American Econo mic Review, 94 (3), pp. 605-27.

15. Dao Van Thanh, 2013, *The spillover effects of foreign direct investment on Vietnam's textile and garment enterprises* , LATS National Economics University.

16. Vu, T. T. A., Le, T. V., & Vo, T. T. (2007). *Provincial extralegal investment incentives in the context of decentralisation in VietNam: Mutually beneficial or a race to the bottom?* (Policy Research Paper). Ho Chi Minh city: Fulbright Economics

PROACTIVITY OF PROVINCIAL LEADERSHIP AND CORRUPTION IN VIETNAM: A SPATIO-TEMPORAL DEPENDENCE ANALYSIS

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Abstract

It is widely accepted that corruption is a problem of institutional failure, and better governance positively leads to lower corruption. As a proxy of governance, proactive leadership of the local governance theoretically associates with corruption, but this impact is complex and non-linear because of the spatial dependence of corruption. This study presents a spatio-temporal model to investigate the impacts of proactivity of provincial leadership on corruption in Vietnam. Using data adapted from 63 provinces during 2006-2017, the study indicates that the provincial corruption levels are clustered in space and time. Also, there are indirect impacts of proactivity of provincial leadership on corruption in the short run and direct impacts in the long run. These impacts are inverted-U shape. This empirical result provides new evidence and sheds light on anti-corruption policy design in Vietnam.

Keywords: *Corruption, Proactivity of provincial leadership, Spatio-temporal dependence*

1. Introduction

Corruption is one of the obstacles to economic and social development. Despite anti-corruption measures and initiatives at the different levels have been applied, corruption is still a worldwide phenomenon in 2020, especially in emerging and transitional countries (Transparency International, 2020). It is one of the main social factors impeding the sustainable development of a region (Frolova et al., 2019). Thus, curbing corruption is as a solution for the economic and social development of countries around the world. There is strong and robust evidence that the higher quality of governance strongly associates with lower levels of corruption, and corruption is a problem of institutional failure. According to Rose-Ackerman (2004), poor governance contributes to low growth and to other harmful outcomes, and that weak underlying economic and institutional conditions facilitate corruption. Many studies also find poor governance is a cause of corruption prevalence. For example, Lambsdorff (2003) finds that weak law and order and insecure property rights encourage corruption; a low level of democracy facilitates corruption (Rose-Ackerman, 2004); a lack of transparency and a lack of control by supervisory institutions also generates corruption (Šumah, 2018).

As a proxy for governance, the proactivity of local leadership strongly associates with the corruption levels. Proactive leadership of the local government means its policy should promote the development of the private sector. In Vietnam, all policies are centrally promulgated, and interpretation and implementation are conducted by the local government to support the private sector. In this sense, more proactive leadership leads to less corruption in the local government. This study investigates the impacts of proactivity of local government leadership on corruption in the localities with a focus on the spatial dependence of corruption. With data adapted from the Provincial Competitiveness Index survey and General Statistics Office of Vietnam for 63 provinces in Vietnam during 2006-2017, empirical results show that the corruption levels of provinces are positively influenced by spatio-temporal dependence of neighboring province corruption and inverted-U shaped impacts of proactivity of provincial leadership.

It is believed that corruption is a global problem, and it requires global issues. This point is supported by economists who have examined how corruption is spread across borders describe a contagion effect whereby domestic corruption takes on the characteristics of corruption in geographically proximate countries (O'Trakoun, 2017). The level of corruption differs not only between countries but also between subnational regions within a country (Borsky & Kalkschmied, 2019). Spatial dependence of corruption is explained by (i) Economic by openness and integration between economies/regions or resource allocation as Goel and Nelson (2007); Goel and Saunoris (2014), (ii) Society by the spatial sharing of institutional, cultural, or other hidden values by migration (Dong et al., 2012). However, previous studies still have some limitations. O’Connor and Fischer (2012) believe that cross-sectional analyses provide an inadequate understanding of what influences corruption over time. This limitation is explained by the effect of spatio-temporal dependence from source regions is very complex. It includes short-term direct, long-term direct, short-term indirect, and long-term indirect effects (Elhorst, 2014). But economic theory is often quite helpful to entail long-term equilibrium relationships. It has little to say about the short-run dynamics, and this equilibrium is approached (Elhorst, 2001). Existing empirical studies have relied on Spatial Durbin Model incapable of capturing short-term effects because this model cannot estimate those effects (Elhorst, 2014). This study relies instead on the spatio-temporal dependence approach and, as one of the earliest papers in the economic field, fills the above gap.

Vietnam is an active country and has made great efforts in combating corruption. The anti-corruption legal system has been increasingly completed to narrow the policies’ discretion, and administrative reforms reduce the discretion of civil servants, controlling conflicts of interest to minimize corruption based on the collusion between enterprises and civil servants, etc., but corruption is still rampant. Further, the government has multiple-goal programs, both economic development and corruption prevention, but previous studies focus less on the relationship between corruption and proactivity of provincial leadership. It raises the problem of continuing research on this relationship, which provides appropriate evidence for designing the anti-corruption program.

Following this instruction, Section 2 mentions methodology, including the development of the spatial weight matrices, spatial correlation test, estimated models, and variables used. Section 3 presents the estimated results and discussion, and Section 4 concludes the paper.

2. Method

Data and estimated model

The estimates of the spatio-temporal dependence of corruption and investigate how proactivity of provincial leadership spatially affect corruption have three steps: (i) test the best fit model with research data; (ii) investigate the impacts of proactivity of provincial leadership on spatio-temporal dependence of corruption.

Spatial weight matrix

Estimation of a spatio-temporal model requires a spatial weight matrix. It is a square matrix with a dimension of $N \times N$, where N is a number of geographical areas/regions. Previous studies have provided several ways to build a spatial weight matrix. In this study, inverted distance weight matrix is used. Inverted distance weight matrix, W , then has spatial weights of the form: $w_{ij} = \begin{cases} \frac{1}{d_{ij}} \; if \; 0 \leq d_{ij} < d_{max} \\ 0 \; if \; d_{ij} \geq d_{max} \end{cases}$, where d_{max} is the distance band.

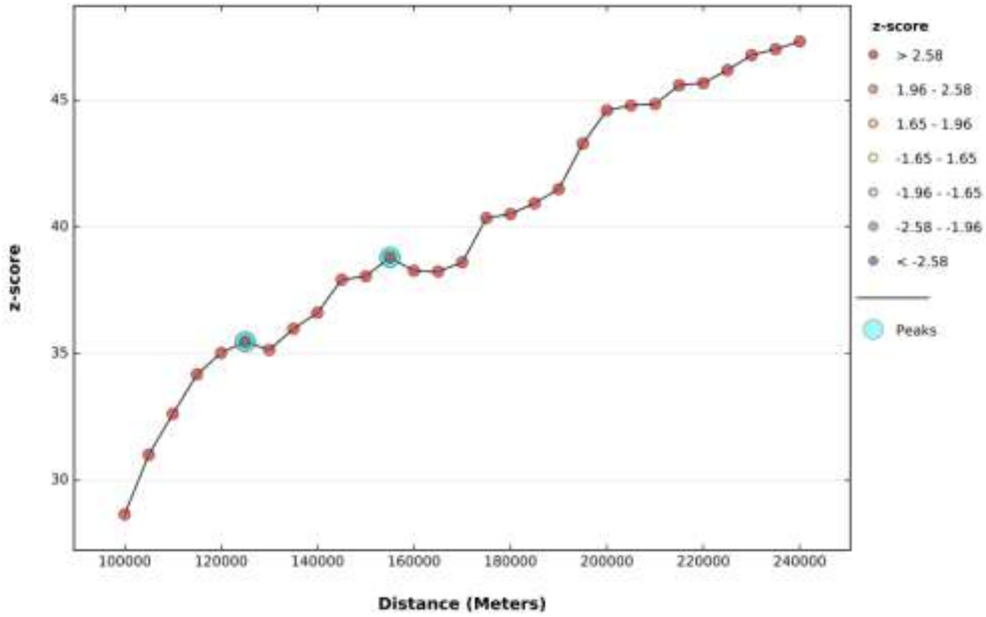


Figure 1: Incremental Spatial Autocorrelation by distance

In which the distance between provinces is calculated by Great circle distance. The great circle distance is calculated using the Haversine formula as follows: $d_{ij} = r * arccos\left[\cos\left(Lon_{r(i)} - Lon_{r(j)}\right) * \cos Lat_{r(i)} * \cos Lat_{r(j)} + \sin Lat_{r(i)} * \sin\ Lat_{r(j)}\right]$, where d_{ij} is usually computed as the distance between their centroids or another important unit; $Lon_{d(i)}$ and $Lon_{d(j)}$ be the longitude and $Lat_{d(i)}$ and $Lat_{d(j)}$ the latitude coordinates of region i and j measured by degrees, respectively; $Lon_{r(i)}$ and $Lon_{r(j)}$ be the longitude and $Lat_{r(i)}$ and $Lat_{r(j)}$ the latitude coordinates of region i and j measured by radians, respectively; and r is the Earth's radius. The distanced band (d_{max}) is measured by Incremental Spatial Autocorrelation (Spatial Statistics) from ArcGIS Pro. The result shows that 125 kilometers is the best distance band with this data sample (Figure 1).

Estimated model

The Spatio-temporal model can be described as follows:

$$Y_{i,t} = \varphi Y_{i,t-1} + \delta WY_{i,t-1} + \rho WY_{i,t} + \theta WX_{i,t} + X_{i,t}\beta + u_{i,t}$$
$$u_{i,t} = \lambda Wu_{i,t} + \varepsilon_{i,t} \quad (1)$$

Where Y is the dependent variable as corruption, X is a vector of explanatory variables, and proactivity of provincial leadership is an interested variable, W is the spatial weight matrix, u is the error terms. $\varepsilon = (\varepsilon_1, \ldots \varepsilon_N)$ is a vector of disturbance terms, and ε_i are independently and identically distributed error terms for all i with zero mean and variance σ^2. φ is a serial autoregressive parameter showing the dependent variable lagged in time. δ is the space and time autoregressive parameter measuring the dependent variable lagged in both space and time. ρ is called the spatial autoregressive coefficient measuring the dependent variable lagged in space. λ is the spatial autocorrelation coefficient; θ measures the exogenous interaction effects among the independent variables; β measures the impact of the independent explanatory variables.

Control variables and data

Because corruption is an attribute influenced by many factors, equation (1) is augmented by including other regional characteristics. As mentioned above, according to previous studies, the spatial dependence of corruption is often caused by three mechanisms: (i) Economic factors proxied by openness and integration between economies/regions; (ii) Society by the spatial sharing of institutional, cultural, or other hidden values, proxied by in-migration rate, freight traffic; and (iii) the governance of regions/countries that is usually proxied by transparency and proactivity of local leadership.

The dataset is adapted from two sources of Vietnam Provincial Competitiveness Index (PCI) and the General Statistics Office of Vietnam (GSO) during 2006 – 2017. The definitions, measures, and descriptions of variables are presented in Table 1.

Table 1. Describe the variables (2006-2017)

Variables	Description	Mean	Std. Dev	Source
Corruption	Corruption is measured by asking if "enterprises in your line of business have to pay for informal charges."	60.59	10.86	Provincial Competitiveness Index
In-migration rate	The number of people from different territorial units in-migrates to a territorial unit in the reference period on average per 1,000 people of the in-migration territorial unit.	5.86	8.24	General Statistics Office of Vietnam
Openness	Openness is the ratio of export and import to provincial gross regional domestic products.	1.09	1.66	General Statistics Office of Vietnam
Log of Freight traffic	Log of freight traffic, which is calculated by multiplying the volume of freight carried with the actual transported distance.	8.95	1.12	General Statistics Office of Vietnam
Transparency	Transparency is a measure of whether firms have access to the proper planning and legal documents necessary to run their businesses, whether those documents are	5.91	0.83	Provincial Competitiveness Index (PCI)

	equitably available, whether new policies and laws are communicated to firms and predictably implemented, and the business utility of the provincial webpage.			
Proactivity of provincial leadership	A measure of the creativity and cleverness of provinces in implementing central policy, designing their own initiatives for private sector development, and working within sometimes unclear national regulatory frameworks to assist and interpret in favor of local private firms.	5.05	1.29	Provincial Competitiveness Index

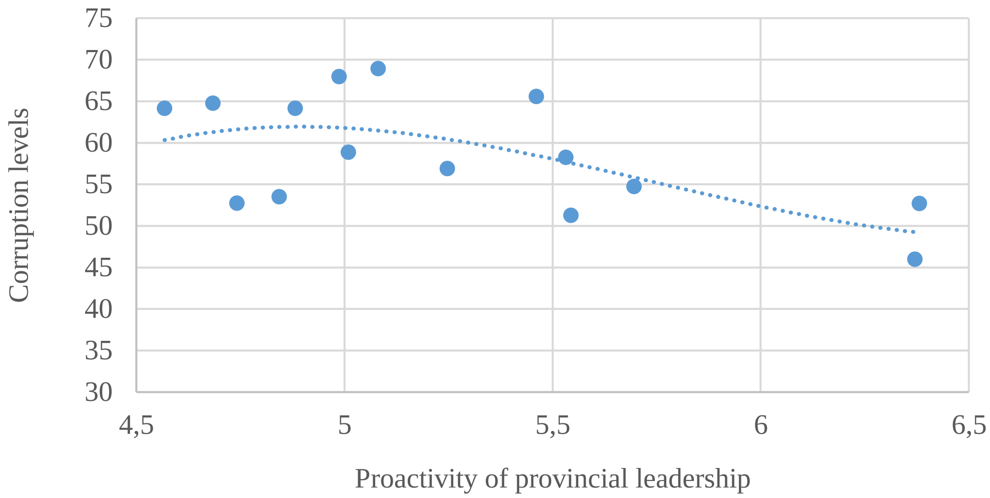
3. Results

Proactivity of provincial leadership and corruption in Vietnam

Corruption in Vietnam persists, although much anti-corruption effort has been conducted. The introduction of new Anti-Corruption Law with a strong will to combat corruption; many actions have been introduced and implemented. For example, the Vietnamese government applied a comprehensive administrative reform and reduced public officials' discretion of policy and discretionary decisions. It also controls for conflict of interests in doing public work and requires and discloses public officials' assets declaration. In addition, many corruption cases have been brought to the course and strictly sentenced. Hence, it creates corruption "deterrent effects" that help reducing corruption. It eventually reduces the perception and experience of corruption among firms and citizens in Vietnam for the last three years. These anti-corruption results have been recognized by Transparency International in the Corruption Perceptions Index ranking when Vietnam increase the index from 31 in 2015 to 36 in 2020, ranking 104 out of 179 surveyed countries.

The proactivity of provincial leadership is a measure of the creativity and cleverness of provinces in understanding and implementing central policy to support private sector development. According to the PCI ranking published by the Vietnam Chamber of Commerce and Industry, the proactivity of provincial leadership was around 4.6 to 5.5 during 2005-2014, and it continuously increased to 6.4 in 2020. The correlation between corruption levels and the proactivity of provincial leadership is presented in Figure 1.

Figure 1: Correlation bet ween corruption levels and proactivity of provincial leadership



Descriptively, the proactivity of provincial leadership has a quadratic correlation with provincial corruption levels. It means that, at the lower levels of proactivity of provincial leadership, an increase in proactivity of leadership positively associates with a higher corruption level. However, when proactivity of provincial leadership is sufficiently high, an increase in proactivity of leadership positively is negatively associated with the lower corruption levels. It is good evidence for specifying estimated models and guidance for anti-corruption policy design.

Testing for the fitted model

Follow the guidance from Belotti et al. (2017), to determine which spatial econometric model is the best fit for the sample, we first estimate the Spatial Durbin Model (SDM) (LeSage & Pace, 2009) and then test for the exclusion of variables by using LR tests for nested models while using the modified AIC criterion as in Burnham et al. (2004) for the Spatial AutoCorrelation Model (SAC). The test results are presented in Table 2.

Table 2. Spatio-temporal dependence – Test for model selection

	χ^2	P-value	AIC
SAR vs Dynamic SAR	458.40	0.000	.
SDM vs Dynamic SDM	442.21	0.000	.
SEM vs Dynamic SDM	483.18	0.000	.
Dynamic SAR vs Dynamic SDM	22.16	0.001	.
SAC	.	.	5007.1
Dynamic SDM	.	.	4595.8

The test results indicate that the Dynamic SDM model is the best fitted model to investigate the impacts of proactivity of local leadership on corruption in Vietnam.

Estimated results

The testing results show that the Dynamic SDM model is an appropriate model to explore impacts of proactivity of provincial leadership on corruption in Vietnam. Estimates from the dynamic SDM regression model described in equation (1) are presented in Table 3.

Table 3. The estimation results of the Dynamic SDM model

Variables	Main (1)	Wx (2)	SR_Direct (3)	SR_Indirect (4)	LR_Direct (5)	LR_Indirect (6)
Lagged corruption (φ)	0.132***					
	(0.037)					
Spatially lagged corruption (δ)	0.115*					
	(0.063)					
Ln(Freight traffic)	-1.409	-2.203	-1.463	-5.173*	-6.636**	-1.994
	(1.776)	(2.267)	(1.633)	(3.051)	(2.764)	(1.883)
In-migration rate	0.141*	-0.185	0.131*	-0.204	-0.073	0.146
	(0.074)	(0.147)	(0.073)	(0.258)	(0.276)	(0.090)
Openness	0.007	0.135	0.017	0.193	0.210	0.030
	(0.259)	(0.459)	(0.252)	(0.782)	(0.848)	(0.307)
Transparency	-0.018	3.615***	0.309	6.642***	6.950***	0.692
	(0.456)	(1.099)	(0.470)	(2.017)	(2.197)	(0.593)
Proactivity of PL	1.102	4.885	1.498	9.283*	10.782*	2.234
	(1.290)	(3.034)	(1.420)	(5.374)	(6.101)	(1.819)
Proactivity of PL 2	-0.279**	-0.529*	-0.329**	-1.145**	-1.474**	-0.448***
	(0.124)	(0.292)	(0.132)	(0.516)	(0.585)	(0.170)
Spatio-temporal						

Rho (ρ)	0.473***
	(0.046)
Lambda (λ)	44.699***
	(2.223)

Note: Proactivity of PL 2 represent quadratic term of Proactivity of PL.

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

The statistically significant Rho (ρ) parameter and the construction of the distance weight matrix mean that the corruption in Vietnam has spatial dependence across provinces, and the effects are smaller when the distance between provinces is higher. The statistically significant parameter of Lagged corruption (φ) means the corruption has the temporal effect over the years in each province, and the effect is smaller when the lag of time is higher. Especially, the parameter of spatially lagged corruption (δ) is statistically significant. It means local corruption is not only influenced by spatial effect and temporal effect but also by spatio-temporal effect by neighboring provinces.

The estimated results also indicate that the proactivity of provincial leadership has an inverted-U- shaped effect on corruption levels. These effects are indirect in the short run but direct in the long run. In the short run, the corruption level of a province is positively affected by the proactivity of provincial leadership of the neighboring provinces if the levels of proactivity of provincial leadership are low; but this effect is negative if the levels of proactive of provincial leadership are sufficiently high. However, in the long run, indirect effects of proactivity of provincial leadership no longer exist, and the direct effects are present. It implies that the proactivity of provincial leadership will determine the provincial corruption levels. The estimated results also indicate that when the levels of proactivity of provincial leadership improve, the corruption of both province and neighboring provinces tend to decrease. It is a good signal that the actual average levels of proactivity of provincial leadership in Vietnam (5.53) are currently higher than the short-run threshold level of 4.05 and the long-run threshold level of 3.66. It means higher proactivity is negatively associated with lower corruption levels.

The result implies that in the short run, control of corruption in Vietnam should focus on coordination in anti-corruption measures among provinces, the control of how provinces interpret and implement to support the private sector for personal gains of the provincial officials. However, the anti-corruption should shift to promote proactivity of provincial leadership, and in turn, more proactive leadership would decrease the corruption levels in the long run. These empirical results should provide more evidence for the anti-corruption policy design in Vietnam in the years ahead.

4. Discussion and Conclusion

Corruption impedes economic growth and development, and anti-corruption is a priority in many countries. Although, many anti-corruption initiatives have been applied, corruption is still rampant since the spatial dependence of corruption has not been sufficiently investigated and solved, especially when self-interested rent-seeking behavior among local government officials occurred via their proactivity. By using a Spatio-temporal dependence model, this study shows that corruption levels differ among provinces within a country, and they are clustered in space and time. With data adapted from the Provincial Competitiveness Index survey and General Statistics Office of Vietnam for 63 provinces in Vietnam during 2006-2017, empirical results show that the corruption levels of provinces are positively influenced by Spatio-temporal dependence of neighboring province corruption and inverted-U shaped impacts of proactivity of provincial leadership. These impacts are indirect in the short run and direct in the long run.

This study may have a limitation that the spatio-temporal model is not really complete because it only estimates the fixed effect models. In addition, the perceived corruption is used in this study, and it may contain some drawbacks. Respondents from different sub-national regions may perceive corruption differently due to social norms and local tolerance of corruption. Further, perception survey may be affected by socially desirable answers.

Although the study has some limitations, its empirical results still provide merit values. From a theoretical perspective, corruption is clustered in space and time, meaning that corruption levels of a region are affected by region-specific corruption and neighbors' corruption levels over time, and those effects are simultaneous. Once estimating the impact of corruption, it should use the Spatio-temporal dependence models to avoid underestimating the effects, measure the spatial externality effects from neighboring regions, and get unbiased estimates. Furthermore, the role of proactivity of local leadership determines corruption of the locality and corruption levels of neighboring provinces. Thus, investigating the impacts of proactivity of local leadership on corruption should consider the spatio-temporal effects.

From a managerial perspective, the empirical results may have several political applications. Our results emphasize the spatio-temporal of sub-regions research on corruption, which is important to understand how proactivity of provincial leadership affects corruption and can thus provide important policy lessons for central and local governments.

- First, the anti-corruption policy should take Spatio-temporal dependency of corruption levels into account. It means that anti-corruption actions should be coordinated outside the administrative border of provinces, at least at the regional levels.

- Second, in the short run, provinces should focus on the indirect effects of proactivity of provincial leadership on corruption by controlling policy interpretation and implementation of provincial governments to avoid personal rent-seeking behaviors of provincial officials. The Vietnamese government should vigorously and strictly implement policies that help control for personal rent-seeking activities of the officials. They include the control of conflict of interests, asset declaration, strict moral requirements of the government officials at all levels, and a strong inspectorate system.
- Third, in the long run, anti-corruption measures should focus on promoting the proactivity of provincial leadership to promote the direct effects of the proactivity of leadership on corruption. Some issues should be considered to improve the proactivity of local government leadership: (i) having a strong and transparent legal framework supporting the private sector. This framework helps to guide what local government officials can do to support the private sector. (ii) consistently and predictably implementing the private-supporting policies. It would help firms have long-run investment and development strategies. (iii) increasing the roles and responsibility of the local government leader in their tasks, especially in supporting the development of the private sector.

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5. References

1. Belotti, F., Hughes, G., & Mortari, A. P. (2017). Spatial panel-data models using Stata. *The Stata Journal, 17*(1), 139-180.

2. Borsky, S., & Kalkschmied, K. (2019). Corruption in space: A closer look at the world's subnations. *European Journal of Political Economy, 59*, 400-422.

3. Burnham, K. P., Anderson, D. R. J. S. m., & research. (2004). Multimodel inference: understanding AIC and BIC in model selection. *33*(2), 261-304.

4. Dong, B., Dulleck, U., & Torgler, B. (2012). Conditional corruption. *Journal of Economic Psychology, 33*(3), 609-627. https://EconPapers.repec.org/RePEc:eee:joepsy:v:33:y:2012:i:3:p:609-627

5. Elhorst, J. P. (2001). Dynamic models in space and time. *Geographical Analysis, 33*(2), 119-140.

6. Elhorst, J. P. (2014). *Spatial econometrics: from cross-sectional data to spatial panels* (Vol. 479). Springer.

7. Frolova, I., Voronkova, O., Alekhina, N., Kovaleva, I., Prodanova, N., & Kashirskaya, L. (2019). Corruption as an obstacle to sustainable development: A regional example. *Entrepreneurship Sustainability Issues, 7*(1), 674-689.

8. Goel, R., & Nelson, M. (2007). Are corrupt acts contagious?: Evidence from the United States. *Journal of Policy Modeling, 29*(6), 839-850. https://EconPapers.repec.org/RePEc:eee:jpolmo:v:29:y:2007:i:6:p:839-850

9. Goel, R. K., & Saunoris, J. W. (2014). Global corruption and the shadow economy: spatial aspects. *Public Choice, 161*(1-2), 119-139.

10. Lambsdorff, J. G. (2003). How corruption affects persistent capital flows. *Economics of Governance, 4*(3), 229-243.

11. LeSage, J., & Pace, R. K. (2009). *Introduction to Spatial Econometrics*. CRC Press. https://books.google.com.vn/books?id=EKiKXcgL-D4C

12. O'Trakoun, J. (2017). New perspectives on corruption contagion. *Journal of International Trade & Economic Development, 26*(5), 552-565.

13. O'Connor, S., & Fischer, R. (2012). Predicting societal corruption across time: Values, wealth, or institutions? *Journal of Cross-Cultural Psychology, 43*(4), 644-659.

14. Rose-Ackerman, S. (2004). Governance and corruption. *Global crises, global solutions, 301*, 310-311.

15. Šumah, Š. (2018). Corruption, causes and consequences. In *Trade and Global Market*. IntechOpen.

16. Transparency International. (2020). *Corruption perception index 2020*. https://images.transparencycdn.org/images/CPI2020_Report_EN_0802-WEB-1_2021-02-08-103053.pdf

THE IMPACT OF TECHNOLOGY ON STRUCTURAL IMBALANCE OF LABOR IN MANUFACTURING INDUSTRY OF VIETNAM

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Abstract

This study aims at pointing out the impact of technology on the imbalance of labor structure in Manufacturing and Processing Industry of Vietnam. Empirical analysis is implemented by using a panel dataset carefully integrated from the annual labor data and value added (VA) data from 2012 to 2018 and the statistic of technology data from 2012 to 2018 of the Vietnam General Statistics Office (GSO). The paper tested the endogeneity in the model, overcame the defects of the model and selected the fixed effect model to assess the impact of external technology acquisition, research and development activities. Imbalance index (d) used to measure the level of structural unbalance of labor in manufacturing Industry of Vietnam. The results show that general technology, including purchasing technology and R&D activities had an effect on d index.

Keywords: *acquisition technology, Imbalance index, R&D activities, structural unbalance of labor and technology*

1. Introduction

The manufacturing industry plays an important role in the development of Vietnam's economy because it always contributes the largest percentage to the country’s gross domestic product (GDP). Moreover, the manufacturing industry also contributes a large of VA value and the number of jobs to the economy.

The imbalance in the labor structure is the situation of redundancy labor or labor shortage in some economic sectors in manufacturing and processing industry of Vietnam. Acemoglu and Autor (2011) show that new technologies increasingly substitue routine jobs and tasks in the US. As a result, the demand of middle-skilled and low - skilled people has decreased while the demand of both high-skilled and low-skilled ones has increased. In Vietnam, there is a labor shortage in the industry group using high technology while the industry group using low technology is having serious redundancy.

In term of technology, the different options can be classified according to the importance and level of compromise of technological investments in the firm. Firms can acquire technology by accessing from not only internal sources through efforts R&D activities but also external sources through transfer of technology, technical licensing agreements or import of capital goods (Tambunan, 2009). However, firms cannot afford to develop or create all the strategically needed technologies through in-house R&D activities owing to high risk, high cost, and restricted time (Cho and Yu, 2000; Whangthomkum et al., 2006). Meanwhile, external technology acquisition is the purchase of technology from domestic enterprises, universities or foreign enterprises. This not only helps firms avoid exposure to the costs and risks associated with domestic development (Jones and Jain, 2002), but also deals with customer requirements for timely and better services, to enhance product complexity, and to sustain competitive advantages under further increased competitive pressures (Jagoda et al., 2010).

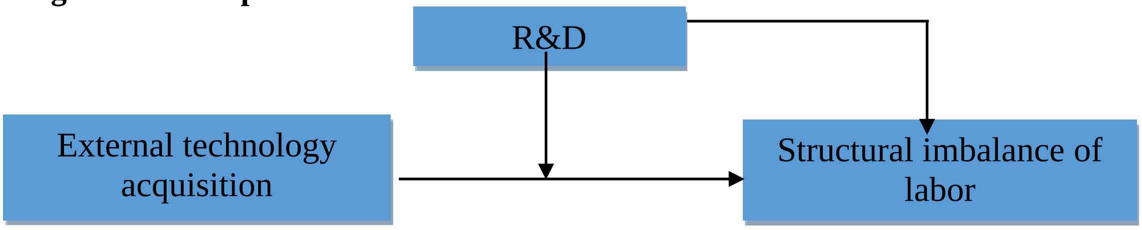
Therefore, in this study, analyze the recent data on technology to show the impact of it on labor structure in Manufacturing Industry of Vietnam. In particular, we propose the effect of external technology acquisition and domestic R&D on the change of the number of labors among economic industries.

2. Method

2.1. Conceptual framework and theoretical prediction

This study evaluates the impact of technology factor on structural imbalance of labor in Manufacturing and Processing Industry of Vietnam with the theoretical framework as shown in Figure 1.

Figure 1: Conceptual framework



The above model shows that structural imbalance of labor is affected by external technology acquisition and internal R&D activities. Moreover, the R&D is also a control variable in the relationship between external technology acquisition and structural imbalance of labor**.** Although domestic R&D activity is not used much by a lot of enterprises and have no meaning in model, we still discuss it as an important issue.

The following section discuss the theory of technology, the theory of the structural imbalance of labor, the impact technology on structural imbalance of labor in manufacturing and processing industry of Vietnam.

2.1.1. The theory of technology

The modern theory of the process of technological change can be traced to the ideas of Schumpeter (1942), who distinguished three steps or stages in the process by which a new technology permeates the marketplace. The first stage is invention – the first development of a scientifically new product or process. The inventions may be patented, though many may be not. Eitherway, most inventions never actually develop into a innovation, which is accomplished only when the new product or process is commercialized and made available on the market. The second step is invention and innovation that carried out in private firms via a process called as "research and development". Lastly, a successful innovation gradually comes to be widely available for use in relevant applications through adoption by firms or individuals, a process labeled diffusion.

2.1.2. The theory of the structural imbalance of labor

The imbalance in the labor structure is the situation of redundancy labor or labor shortage in some economic sectors. In this study, the imbalance between secondary industries in manufacturing industry is considered. However, study aimed considers the difference between industries according to technology level. Therefore, we will focus on assessing the imbalance in secondary industries divided according to using technology level.

2.2. Methodology and data

This section discusses the sample selection procedure, variables selection, the model used for the research and the statistical techniques.

2.2.1. Measures

We use an index to measure the level of structural imbalance from Ando and Nassar (2017). The imbalance is considered by the author based on assessing the balance of productivity in difference group in the overall economy. We suppose that the economy consists of n sectors. VA_s and E_s respectively the value added and the number of employees of the s sector (s = 1,…, n). The meaning of d is as follow:

$$d \coloneqq \sqrt{\sum\nolimits_s d_s^2} \qquad (3.1)$$

d_s is determined by:

$$d_s \coloneqq \frac{E_s}{\sum_k E_k} - \frac{VA_s}{\sum_k VA_k} \qquad (3.2)$$

According to (3.2) can be easily switch to (3.3):

$$d_s = -\frac{E_s}{\sum_k E_k}\left(\frac{P_s - P}{P}\right) \qquad (3.3)$$

Overall, d includes both the labor structure and the added value of all economy. d > 0 is labor redundancy, d < 0 is labor shortage.

2.2.2. Sample and Data set

Empirical analysis is implemented by using a panel dataset carefully integrated from the annual labor data and value added (VA) data from 2012 to 2018 and the statistic of technology data from 2012 to 2018 of the Vietnam General Statistics Office (GSO). The static and copper models are estimated based on data collected from 24 industries in the manufacturing sector in Vietnam for the period 2012-2018. It's all 485 observations.

2.2.3. Research model

To consider the factors affecting the imbalance of labor structure, we use this model:

Model 1: Empirical model without interactive variables

$$d_{it} = \alpha_0 + \alpha_1 tech\_vsic_{it} + \alpha_2 patents_{it} + \alpha_3 dactrung_{it} + \alpha_4 Trade_{it} + \alpha_5 LI_{it} + c_{it} + u_{it}$$

Model 2: Empirical model with interactive variables

$$d_{it} = \alpha_0 + \alpha_1 tech\_vsic_{it} + \alpha_2 patents_{it} + \alpha_3 dactrung_{it} + \alpha_4 congnghe*hapthu_{it} + \alpha_5 tlCN\_R\&D_{it} + \alpha_6 Trade_{it} + \alpha_7 LI + c_{it} + u_i$$

Where:

- cit+uit is measurement error that is assumed to have independent distribution. To overcome the regression error according to cross data, the study uses panel data to regress.
- Other variables are explained in Table 1.

Table 1: Description of variables used in analysis

STT	Variable name	Description	Expected dimensional impact
1	**Variable show technology**		
	tech_vsic	External technology acquisiton of enterprises	+/-
	patents	The total number of patens	+/-
2	**Group of interactive variables between technology and absorption capacity: congnghe_hapthu$_{it}$ equal congnghe*hapthu**		
	CN_sxtt	The proportion of technology acquisition if manufacturing machinery is modern	-
	CN_tttt	The proportion of technology acquisition if communication equipment is modern	+

	tlMuaCN_dnnn	The proportion of technology acquisition from state owned enterprise	+
	tlMuaCN_dncp	The proportion of technology acquisition from joint stock enterprise	-
	tlMuaCN_dnFDI	The proportion of technology acquisition from FDI enterprise	+
3	**Interactive variable between muaCN and the moderating role of internal R&D: tlCN_RD**		
4	**Variable show trade technology**		
	Trade	The total of import and export value	-
5	**Interactive variable between muaCN and the structural change of labor**		
	LI	Structural change of labor index	+

3. Results

3.1. Structural imbalance of labor in manufacturing and processing industry of Vietnam

Figure 3.1.1: Proportion of labor and proportion of VA in the industry group using low technology

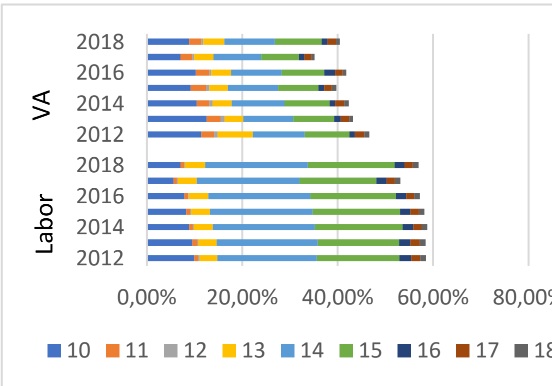
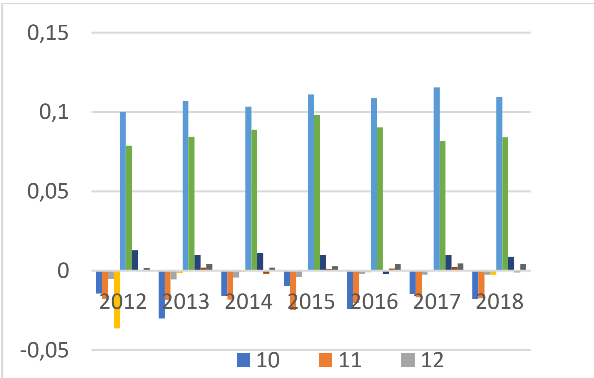


Figure 3.1.2: Imbalance index of the industry group using low technology in manufacturing industry



Source: Author's calculations from the Enterprise Survey data

There are 4 industries using low technology have proportion of labor higher than proportion of VA, including sectors 14, 15, 16, 18. However, there are only sectors 14 and 15 have a serious difference between proportion of labor and proportion of VA. Moreover, it tends to rapidly increase. Sectors 10, 11, 12, 17 tends to reduce both proportion of VA and proportion of labor. The proportion of VA is also decrease but this change is not as high as the proportion of labor so the proportion of VA is higher than the proportion of labor.

According to Figure 3.1.2, sectors 14, 15 are the most structural imbalance of labor with the most redundant labor. Moreover, it tends to rapidly increase. Sector 16, 17, 18 are also redundant labor but d – index is low. The others are short of labor. Specially in sector 13, is decrease from -0,036 to (2012) to (-0,002) in 2018. The reduce rate is 93,29% in 2018 vs. 2012

Figure 3.1.3: Proportion of labor and proportion of VA in the industry group using high technology

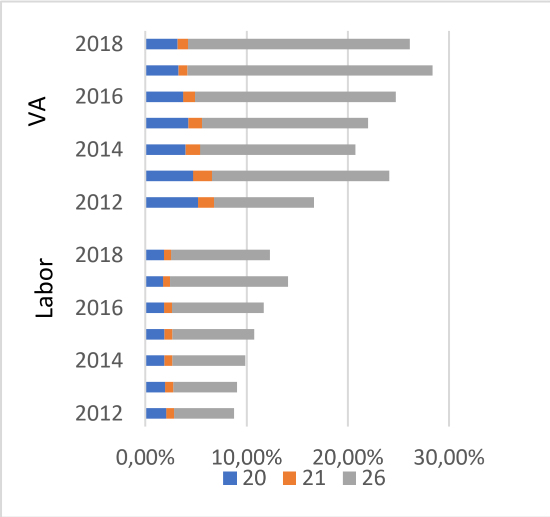
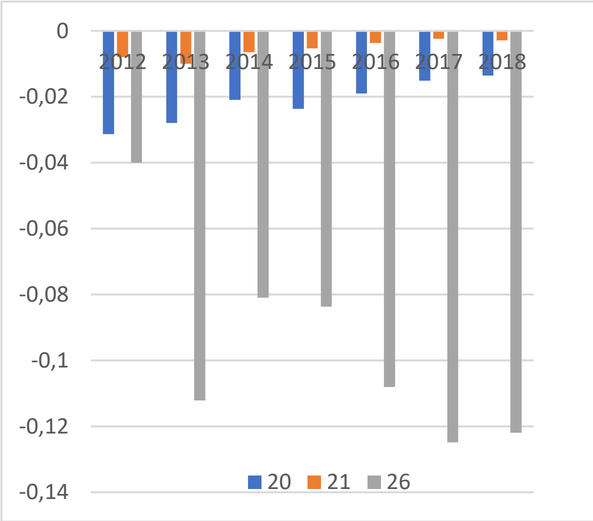


Figure 3.1.4: Imbalance index of the industry group using high technology in manufacturing industry

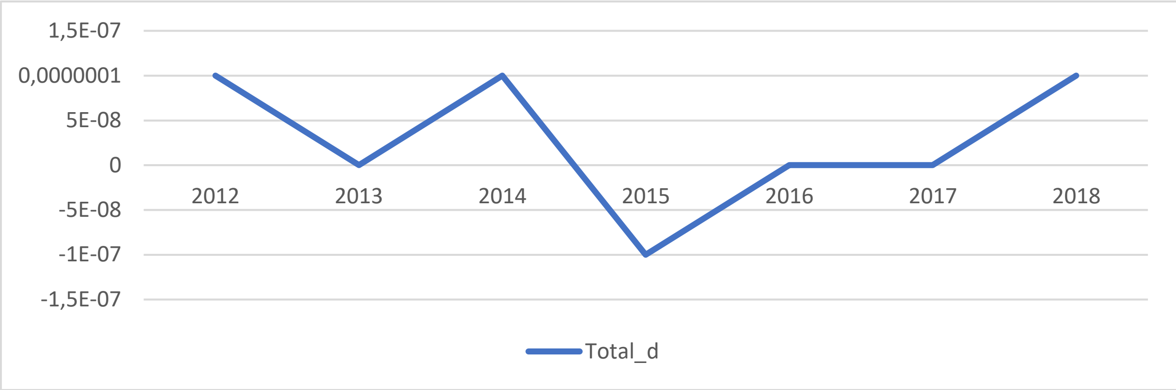


Source: Author's calculations from the Enterprise Survey data

For the industries group using high technology, the proportion of VA is always higher than the proportion of labor. Specially in sector 26, the proportion of VA is rapidly increase about 2,4 times in 7 years. In the opposite, sectors 20 and 21 tends to decrease in both the proportion of VA and the proportion of labor in the research period.

According to Figure 3.1.4, all of sectors in the industry group using high technology fell into the situation of labor shortage. Specially in sector 26, it tends to rapidly increase. d index in sector 26 is increase from -0,04 in 2012 to -0,12 in 2018, increase 3 times in 7 years. Although sectors 20, 21 have d – index < 0, the labor shortage is improving and tending to approach 0.

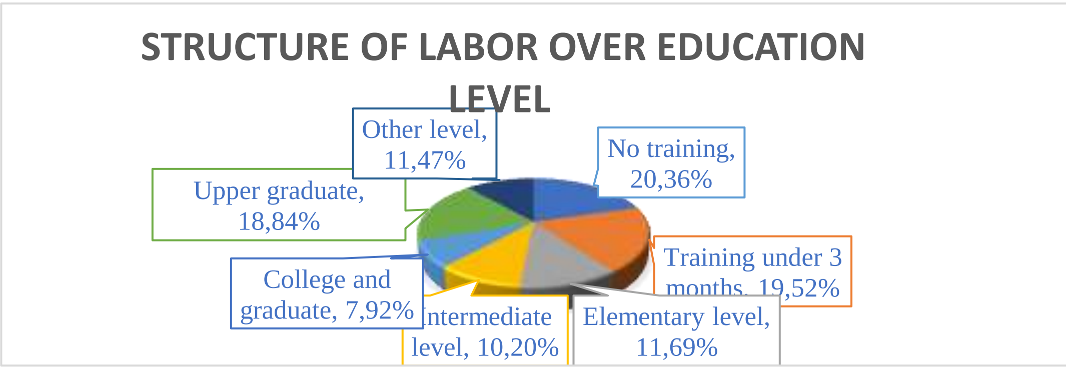
Figure 3.1.5: Imbalance index in manufacturing and processing industry



Source: Author's calculations from the Enterprise Survey data

From 2015, d – index is rapidly increase in manufacturing industry, the industry is more and more fall into redundant labor. The reason of this problem can be explained as: Firstly, labor productivity in manufacturing and processing industry tends to increase. The growth rate of labor productivity in the period 2012 – 2015 is 4,05% per year and reach 5,86% per year in the period 2016 – 2018. Secondly, the industry group using high technology have high labor productivity so that it can improve production efficiency, increase VA value. However, in this group, the labor must have high qualification to operate technology while the qualification of the labor in manufacturing industry is hardly high.

Figure 3.1.6: The labor qualification in manufacturing industry of Vietnam



Source: Author's calculations from the Enterprise Survey data

Thirdly, most of labor in this industry work in the industry group using low technology. Labor productivity is low because the labors have low qualification so the VA value is low.

3.2. Results and discussion

Bảng 3.2.1: Regresion results of the impact of technology on the structural imbalance of labor using SGMM method

	(1)		(2)	(3)
	All_groupSGMM		High tech_grSGMM	Low tech_grSGMM
Tongd1	0.965***		0.923***	0.993
	(0.000)		(0.000)	(0.000)
Tech_vsic	0.0001		0.0002*	0.0001
	(0.423)		(0.091)	(0.185)
tlCN_sxtt	-0.012		0.015**	0.008
	(0.100)		(0.033)	(0.235)
tlCN_tttt	-0.0103		0.006	-0.003
	(0.087)		(0.200)	(0.368)
MuaCNdnnn	0.032**		0.002	-0.0004
	(0.012)		(0.760)	(0.960)
MuaCNdncp	-0.0009		0.011***	-0.002
	(0.866)		(0.007)	(0.553)
MuaCNdnfdi	-0.016		-0.128***	0.001
	(0.292)	(0.000)	(0.893)	
tlCN_RD	-0.007*		-0.007*	-0.006***
	(0.092)		(0.066)	(0.006)
Patents	-2.786		0.0001	-12.93
	(0.998)		(0.945)	(0.967
Trade	-0.002***		0.001*	-0.0008*
	(0.011)		(0.056)	(0.054)
LI	-0.002**		-0.002	0.0009
	(0.027)		(0.168)	(0.308)
Observations	485		54	202
Hausman	0.000		0.000	0.000
Number of instruments	120		54	103
AR1 (p-value)	0.050		0.035	0.106
AR2 (p-value)	0.484		0.723	0.331
Hansen-J test (p-value)	0.191		0.152	0.441

*Notes: '***', '**' and '*' show estimated coefficients statistically significant at 1%, 5% and 10%*

Source: Author's calculations from the Enterprise Survey data

According to test results, the majority of estimated coefficients statistically significant at 1%, 5%, 10%. The estimated results show that the lagged variable is accepted at the 1% significance level.

Bảng 3.2.2. Regresion results of the impact of technology on the structural imbalance of labor using spatial method

	(1)
	All_group
tlCN_sxtt	0.123***
	(0.000)
tlCN_tttt	-0.142***
	(0.000)
MuaCNdnnn	0.006*
	(0.091)
MuaCNdncp	-0.021***
	(0.000)
MuaCNdnfdi	0.012*** (0.002)
Sample size	441
Hausman	0.0000

*Notes: '***', '**' and '*' show estimated coefficients statistically significant at 1%, 5% and 10%*

Source: Author's calculations from the Enterprise Survey data

From the regression results through SGMM method and spatial method in tables 3.2.1 and 3.2.2:

- External technology acquisition has a negative impact on the structural imbalance of labor in the manufacturing industry of Vietnam. Specially in the group industry using high technology. External technology acquisition can improve production efficiency, increase VA value. However, the qualification of the labor in manufacturing industry is hardly high, therefore it is difficult for enterprises to recruit workers. This is the reason why the coefficient of the variable Tech_vsic has a positive value. The variable Tech_vsic is measured through the total value of purchasing technology.

- Group of interactive variables between technology and absorption capacity

The coefficient of the variable tlCN_sxtt has a positive value, which indicates that this variable has a negative impact on the imbalance. That is, technology bought from developed countries will increase the structural imbalance of labor. This can be explained by the fact that Vietnam's labor force is not good enough to absorb this type of technology, so the number of employees meeting the requirements for this technology is not high, therefore it is difficult for enterprises to recruit workers. The dummy variable tlCN_sxtt represents modern manufacturing machinery, while the variable tlCN_tttt represents modern communication equipment.

In contrast, the variable tlCN_tttt has a positive impact on the structural imbalance of labor. This can be explained by the fact that modern communication equipment such as personal computers and Internet are very popular in Vietnam. Therefore, workers in Vietnam can easily absorb this type of technology.

The coefficient of the variable MuaCNdnnn and MuaCNhnFDI has a positive value, which indicates that this variable has a negative impact on the imbalance. In contrast, the coefficient of the variable MuaCNdncp has a positive impact on the structural imbalance of labor with negative value. The dummy variable MuaCNdnnn, MuaCNdnFDI, MuaCNdncp represent technology bought from state owned enterprise, FDI enterprise, joint stock enterprise.

- Interaction variable between external technology acquisition and research and development activities.

The variable tlCN_RD has a negative coefficient, showing that research and development activities complement the acquisition of technology of the enterprise and decrease the structural imbalance of labor in the use of technology.

Meanwhile, research and development activities are not much developed in Vietnamese enterprises. The number of patents is very low, the proportion of enterprises conducting research and development activities only accounts for nearly 50%, the technology transfer ability of enterprises on R&D products is also very low, including the operation of domestic and foreign transfer (this rate is only about 1%). These may explain why the research and development activities of manufacturing industry don’t have much impact on the imbalance of labor structure.

- Group of variables showing the impact of export – import activities

The coefficient of the variable Trade has a negative value, which indicates that this variable has a positive impact on the imbalance. Export activities in manufacturing industry are primarily export product of the industry group using low technology such as wearing apparel or leather and related product. As the results above, this group have low VA in spite of using lots of labor so this is the reason why variable Trade has a positive impact on the imbalance. This result is consistent with the study of Hoang Manh Hung and Nguyen Khac Minh (2018) about the impact of trade openness on structural imbalance of labor.

- Group of variables showing structural change of labor impact on d – index

The coefficient of the variable LI has a negative impact on the imbalance. If the structural change of labor is increase, the structural imbalance of labor will be increase, too.

4. Conclusion

According to the results of regression by SGMM method and spatial method for the whole industry, it can be determined that there are always 10 technological factors affecting the imbalance of labor structure of the industry divided into 4 groups: Group of interactive variables between technology and absorption capacity, Interactive variable between muaCN and the moderating role of internal R&D, trade technology, Structural change of labor within industry

From the above analysis, a number of following recommendations are made. The first and foremost thing is the role of the government in implementing the education and training system that provides the source of qualified workers to meet the labor demand of enterprises. Secondly, the selection of which technology to buy should also be examined to suit the specific conditions of each enterprise. Finally, the government should adopt incentive policies to encourage FDI enterprises to take advantage of their abundant capital to promote research and development activities.

5. References

1. Ando, S. & Nassar, K. (2017), ‘Indexing Structural Distortion: Sectoral Productivity, Structural Change and Growth’, IMF Working Paper.

2. Cho, D.H. & Yu, P.I. (2000), ‘Influential factors in the choice of technology acquisition mode an empirical analysis of small and medium size firms in the Korean telecommunication industry’, Technovation, 20(12), 691–704

3. Fourastié, J. (1949) Le Grand Espoir du XXème siècle. Paris: PUF.

4. Geroski, P.A. (1995), ‘Markets for technology: Knowledge, innovation and appropriability’, in: E Stoneman, ed., Handbook of the Economics of Innovation and Technological Change (Blackwell, Oxford), 90-131.

5. Hoàng Mạnh Hùng, Nguyễn Khác Minh (2018), ‘Tác động của các yếu tố đến sự mất cân đối cơ cấu lao động’, Hội thảo quốc gia, (10), 2018.

6. Jae-Seung Han & Sang-Yong Tom Lee (2012), ‘The impact of technology transfer contract on a firm’s market value in Korea’, *Springer Science Business Media*, LLC2012, pages 651-674.

7. Jones, G.K., Lanctot Jr., A., Teegen, H.J., (2001), ‘Determinants and performance impacts of external technology acquisition’, *Journal of Business Venturing*, 16 (3), 255–283.

8. Kang, Ki H., Jo, Gil S. & Kang, Jina (2015), 'External technology acquisition: a double-edged sword', Asian Journal of Technology Innovation, 23(1), 35-52.

9. Ki H. Kang, Gil S. Jo & Jina Kang (2015), 'External technology acquisition: a double-edged sword', *Asian Journal of Technology Innovation*, 23(1), 35-52.

10. Nguyễn Văn Sĩ – Nguyễn Viết Bằng: Ứng dụng hồi quy không gian trong nghiên cứu xuất khẩu tại Việt Nam: tiếp cận ở cấp độ tỉnh/thành

11. Zahra, S.A. (1996), 'Technology strategy and new venture performance: a study of corporate-sponsored and independent biotechnology ventures', *Journal of Business Venturing*, 11(4), 289–321.

AN ANALYSIS OF THE IMPACT OF UNIVERSITY GRADUATES' JOB ADAPTABILITY IN ECONOMICS ON THE FIRM-LEVEL SATISFACTION IN HANOI

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Abstract

This study analyzes a number of factors affecting the satisfaction of businesses in Hanoi. The research identifies six influential factors including Attitude; Suitability for working environment; Awareness; Relationship; Skills; Knowledge. The research also shows that there is a divergence in the degree of firm-level satisfaction with university graduates, different types of businesses, and the different work experience of new job seekers. Such findings allow the authors to propose management implications to improve the satisfaction level of businesses with the career adaptability of university students in Economics.

Keywords: *Firm satisfaction, Graduates, Job adaptability, University in Economics*

1. Introduction

Today, in the context of increasingly fierce competition, human resources, particularly managerial personnel, play more important role in business success. Universities in the field of Economics, which offer training courses regarding management human resources, have been making efforts to improve the quality of training, implementing the training motto in order to satisfy social and business needs. However, according to some reported results, the transition of human resources from universities to enterprises is still inadequate. In 2014, the Vietnam Development Report showed that most businesses have had difficulty in the recruiting process because candidates lacked skills appropriate to the industry, such as cognitive ability, social behavior skills and technical expertise. For the economics sector, although the supply of human resources is abundant, mainly coming from the leading public universities in Economics in Vietnam, the quality is far below the minimum standards. At a seminar on training and researching the market economy in Vietnamese universities in 2016, Ms. Vu Van Hoa, deputy general of the State Auditor General, said that there are many shortcomings in human resource training in the domestic economy leading to the high – level retraining. The above opinions are timely, but the question on where the problem comes from is still left unanswered? Is it possible that the training quality of universities still ensures the improved output standards, but the job adaptability of students does not meet the requirements of businesses?

To address the above mentioned research problem, recently in Vietnam, there have been several studies related to the job adaptability of new graduates and assessment of the satisfaction level of enterprises industry including the works conducted by Nguyen Thi Ngoc Bich (1982), Le Thi Minh Loan (2009), Nguyen Quoc Nghi et al. (2011), Tran Thi Thuy Trang et al. (2018), Tran Cong Hau and Huynh Minh Hien (2020), etc… Unfortunately, while the unit analysis of these studies target students in some fields of pedagogy, tourism, accounting, or non-public schools in some localities, there is no research on students in Economics in Hanoi.

Therefore, this study was conducted to explore the impacts of the factors constituting the graduates' job adaptability from public economic universities on the satisfaction level of enterprises in Hanoi. We propose some research questions as follows: What factors do businesses use to assess the adaptability of students? How do these factors affect the satisfaction level of enterprises? Is there any difference in the satisfaction level of enterprises for students from different universities?

2. Theoretical Framework and Research Model

2.1. Job adaptability

Today, career adaptability is no longer a new terminology. As early as 1895, Herbert Spencer, an influential British psychologist proved that life is a constant adaptation of internal and external relationships. Savickas (2012) suggests that career adaptability refers to the state of preparation and necessary resources to adapt with missions on developing current and proposed careers, including attitudes, abilities, and behaviors that individuals need to tailor for each job. Career adaptability, as proposed by Ferreira (2012) is an attribute that helps maintain the match between people and the surrounding working environment, presented by the attitude, capacity, and behavior that the individuals use in different working environments. Career adaptability is not only skills but also the reaction of the (human) subject to constant changes. The young now focus not only on gaining learning-related knowledge, but also developing career-related knowledge and skills. Therefore, students need to build up career-relevant resources to ensure that they can apply what they learn at the university to have a successful transition from school to labor market.

Career adaptability is an extremely important and necessary factor for employees in general and younger ones in particular in the contemporary world. Pulakos et al. (2002) show that employees who are able to adapt well to a new environment, such as a new workplace, new job requirements or unusual situations, have higher levels of job performance, thereby increasing business satisfaction from their own perspective. In 2003, Chen et al. showed that there is a positive relationship between the emotional commitment of the firm and the employees' performance.

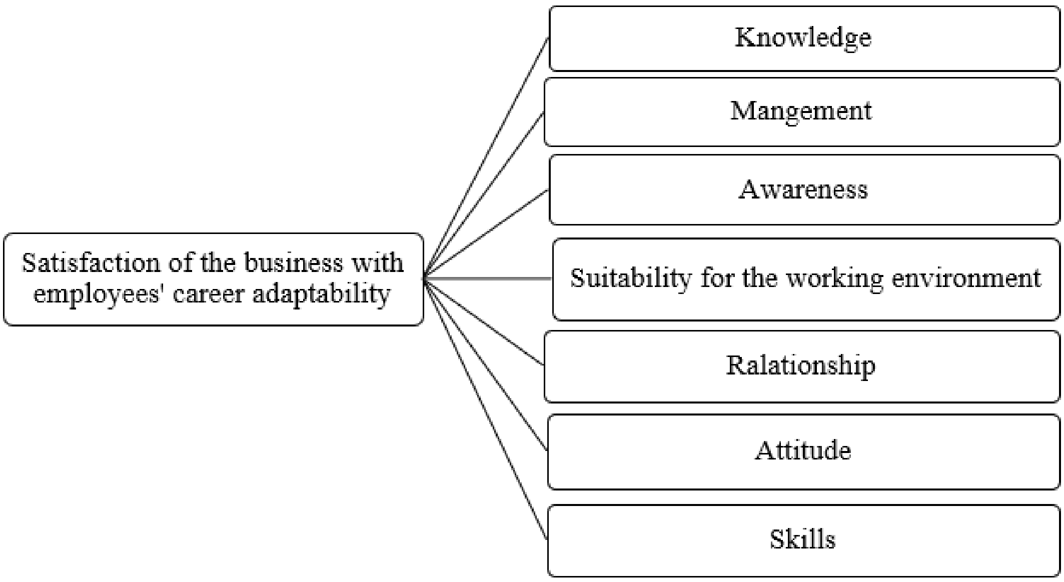
There are many factors affecting job adaptability in several studies in the existing body of literature. Specifically, the World Bank (2012) surveyed the level of shortage in skills of university graduates compared to the requirements of employers in seven East Asian countries (including Vietnam). The World Bank's 2012 survey showed that requirements that employers are always looking for including professional knowledge, creativity, negotiation and communication ability, leadership, problem-solving ability, logical thinking ability, teamwork skills and the work autonomy, computer skills, foreign language and writing skills, time management ability. Many employers tend to prefer education and practical work experience to social skills. Some other studies show that, in the trend of an increasingly competitive developing economies, the assessment of the employee's ability at the firm level no longer depends mainly on professional ability. Instead, the top priority is on employees who possess many skills necessary for the job position. Archer et al. (2008), pointed out that many businesses today focus on soft skills of employees. Employees who possess such skills can contribute positive innovation to outcomes of the organization. In 2017, in the study "Employer's satisfaction on the performance of new college graduates" Randy. A. Tudy conducted a survey of managers and recruiters at 40 companies and organizations in Cor Jesu. Accordingly, the factors that companies or organizations consider when assessing satisfaction regarding employees are very diverse, including Specific skills related to the job; The ability to communicate directly; Ability to communicate in writing; Knowledge; Math skills; IT skills; Critical thinking skills; Problem-solving skills; Research and problem analysis skills; Teamwork skills; Organizational, work arrangement, and planning skills; Time management skills, Performance; Proactivity at work; Creativity and innovation at work; Adaptation to the working environment; Job Responsibility and Interesting Personality.

2.2. Research Model and Hypothesis

According to B.P. Allen (1990), the basic condition of students' job adaptation takes different forms such as Skills in using personal time; Skills in learning actions and other qualities; Skills to deal with negative emotions; Skills to actively practice and form professional behavioral habits. According to this perspective, the adaptation (or non-adaptation) of students is mainly explained by the fact that students have (or lack) some of above mentioned skills with little attention paid to the organizational aspect of their universities in the educational system. Research of CRDule (2002) has measured students' perception of career through 59 variables formed in 10 groups including leadership, communication, personal interaction, analysis, decision making, technology, global perception, ethics, business awareness, practical issue and personality. Research by MRHyman (2005) has explored the factors including 17 variables in 5 groups: Management (decision making, leadership, planning, organization, time management); Cognitive (problem-solving, critical thinking, analysis); communication (speaking, writing); Connectivity (foreign language, cross-functional work, multicultural); personal interaction (teamwork, negotiation, networking, socializing).

In Vietnam, studies by Nguyen Thi Ngoc Bich (1982), Le Thi Minh Loan (2009), Nguyen Quoc Nghi et al. (2011), Tran Thi Thuy Trang et al. (2018) have suggested different criteria to assess the job adaptability of students. In 2020, the study of Tran Cong Hau and Huynh Minh Hien titled "Evaluating employer satisfaction with job adaptability of private university graduates: a case study from Dong Nai." was carried out using 7 factors.

Based on the review and qualitative analysis above, the current research team built a research model on business satisfaction with factors that reflect aspects of students' job adaptability. In the research model, the dependent variable is the firm-level satisfaction while the independent variables include knowledge, awareness, management, suitability with the working environment, relationships, attitudes and skills (see further in Appendix 1). The research model on business satisfaction regarding students' job adaptability is shown in Figure 1 below.



The hypotheses that need to be tested are presented in Table 2.

3. Method

3.1. Research background

The research area is the capital city of Vietnam. The unit of analysis is the firm in all different business sectors that employ new graduates of public universities in Economics in the last 04 years. Due to time bound and limited research capacity, the research team only focused on surveying the job adaptability of graduates from 6 universities in Hanoi, including National Economics University, Foreign Trade University, University of Commerce, Academy of Finance, Banking Academy, VNU University of Economics and Business. In addition, the research team conducted in-depth interviews with a number of business managers and students from universities in Economics in Hanoi. The survey and interview process was carried out from November 2020 to the end of March 2021.

3.2. Research Methods

The study used quantitative methods collecting primary data from a survey with 198 enterprises in Hanoi. The survey questionnaire was designed on a 5-point Likert format. In the survey, in addition to questions related to independent and dependent variables, some demographic characteristics are also mentioned.

The research process is divided into 3 steps as follows:

- Step 1: Preliminary research: In order to search for available information and documents in order to synthesize and form a theoretical framework, and then draft survey questionnaire.

- Step 2: Empirical study: empirical survey with 48 questionnaires, including 22 online questionnaires and 26 face-to-face questionnaires. From the results obtained, the questionnaire was completed to be used for official research.

- Step 3: Formal research: The research team sent 725 ballots to 198 businesses in the area and collected 595 votes, of which 510 were valid, eligible for synthesis and subsequent analysis through scale reliability testing, EFA factor analysis, and multivariable linear regression.

3. Results

3.1. Descriptive statistics of the survey sample

Descriptive statistics of the observed samples are shown in Table 1.

Table 1. Demographic characteristics of the sample

Criteria		Frequency	Percentage (%)
Type of business	Limited Liability Company (LLC)	109	21.4
	Private enterprise	119	23.3
	Joint stock company	265	52.0
	State – owned enterprise	11	2.2
	Partnership	6	1.2
Business industry	Services and commercial	397	77.8
	Agriculture – Aquaculture – Fishery	28	5.5
	Industry and construction	85	16.7
Firm size	Small	140	27.5
	Medium	209	41.0
	Large	161	31.6
Training institutions	National Economics University	99	19.4
	Foreign Trade University	94	18.4
	Thuong Mai University	72	14.1
	Banking Academy	82	16.1
	Academy of Finance	79	15.5
	VNU University of Economics and Business	84	16.5
Work experience at the current position	1 year	194	38.0
	2 years	122	23.9
	3 years	157	30.8
	4 years or more	37	7.3

Source: Compiled from survey data

3.2. Exploratory factor analysis

First, the research team performed a preliminary scale reliability test to remove the observed variables that are not reliable (Cronbach's Alpha < 0.7) and redundant (the Corrected Item-Total Correlation is less than 0.3). Through Cronbach's Alpha, the group found that all 33 observed variables of 7 factors and 4 variables measuring satisfaction are qualified to be included in further analysis. The results of testing the reliability of the scale are shown in Table 2.

Table 2. Results of testing of scale reliability

Factors	Number of observed variables	Cronbach's Alpha coefficient	Hypothesis
Knowledge	5	0.783	+
Management	3	0.801	+
Awareness	4	0.751	+
Suitability	5	0.807	+
Relationship	4	0.602	+
Attitude	6	0.827	+
Skill	6	0.810	+
Satisfaction	4	0.765	Dependent variable

Source: Compiled from survey data

Performing results of EFA is used to check the sampling adequacy. Bartlett's test has Sig. = 0.000 shows that factor analysis is suitable. KMO index at 0.886 > 0.5 shows that sufficient conditions for factor analysis are appropriate with the data collected. The total variance extracted is 64.131 % (greater than 50 %) and the Eigenvalue of 7 groups of variables is greater than 1. At the same time, the loading coefficients show that observed variables in the same group have a strong correlation. Therefore, the research team concludes that the group's model is appropriate, 7 factors are suitable for further analysis. For the Satisfaction variable, the test results show that all items meet EFA standards. In which, the KMO coefficient is 0.722 (greater than 0.5), the Bartlett test has Sig. = 0.000 (less than 0.05), the total variance extracted is 59.168% (greater than 50%) and the Eigenvalue is 2.367. The results of factor analysis (EFA) for the scale of Job Adaptation and the Satisfaction variable are shown in Appendix 3. Thus, after removing 4 observed variables including Knowledge_5, Skill_5, Attitude_5, and Relationship_4, the remaining 29 observed variables ensure convergence.

3.3. Multivariate regression analysis

The formula of the regression model is presented as follows:

$$\textit{Satisfaction} = \beta_0 + \beta_1\,\textit{Attitude} + \beta_2\,\textit{Suitability} + \beta_3\,\textit{Awareness} + \beta_4\,\textit{Relationship} + \beta_5\,\textit{Skill} + \beta_6\,\textit{Management} + \beta_7\,\textit{Knowledge}$$

Of which: Satisfaction is the dependent variable. Attitude, Suitability, Awareness, Relationship, Skill, Management, and Knowledge are independent variables.

Regression results are shown in Table 3. Specifically, the independent variable in the model explained 73.2% of the variation of the dependent variable (adjusted R square equal to 0.732). Sig. value in ANOVA is 0.000 < 0.05, showing that the linear regression model is suitable for the database. With the regression coefficient estimates, the Sig. in the t-test of 6 variables (knowledge, awareness, suitability, relationships, attitude, and skill) are all < 0.05, and the regression coefficients are all > 0. It shows that these independent variables have a significantly positive effect on the dependent variable (Satisfaction). Particularly for the management variable, the value Sig. = 0.113 > 0.05 shows that this variable has no statistically significant effect on the dependent variable and we remove management from the model. It also shows that the VIF coefficients of the independent variables (with a statistically significant regression coefficient other than 0) are all less than 3, showing that there is no multicollinearity between the explanatory variables.

From there, there is a standardized regression equation reflecting the relationship between the dependent variable, which is the level of business satisfaction, and the independent variables (Component factors of student job adaptability) as follows:

Satisfaction = 0.302 Attitude + 0.225 Suitability + 0.174 Awareness + 0.137 Relationship + 0.122 Skill + 0.112 Knowledge

Table 3. Multivariable regression results - Coefficient

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-.543	.121		-4.507	.000		
Knowledge	.104	.028	.112	3.678	.000	.564	1.773
Management	.040	.025	.051	1.587	.113	.513	1.949
Awareness	.161	.025	.174	6.316	.000	.696	1.436
Suitability	.230	.036	.225	6.383	.000	.423	2.365
Relationship	.128	.025	.137	5.033	.000	.705	1.418
Attitude	.317	.036	.302	8.735	.000	.440	2.274
Skill	.137	.036	.122	3.800	.000	.510	1.960

a. Dependent Variable: Satisfaction

Based on the results of the regression analysis, it can be seen that, among the factors affecting the satisfaction of the business, attitude is the most important factor, with an impact rate of 26.89%, followed by the suitable for working environment (20.04%), awareness (15.49%), relationship (12.20%), skill (10.86%), knowledge (9.98%).

To take a closer look at specific aspects, the research team performed ANOVA and Independent Sample T-Test analysis to test the difference between the values of qualitative variables and quantitative variables. For the difference between graduates from different universities, the test results have Sig. values (in the test of homogeneity of variance) of 0.492 > 0.05, Sig. (in the ANOVA table) of 0.000 < 0.05, so it is concluded that there is a certain difference in the satisfaction of enterprises with the job adaptability of graduates from different educational institutions. Similarly, there is a difference in adaptability between students with different work experience at the firm. Specifically, the longer an employee has worked for the firm, the greater the satisfaction of adaptability. Moreover, there is also a difference in the average value of the satisfaction of the enterprises on the adaptability of the students. The state-owned enterprises that have a higher level of satisfaction than other types of enterprises.

4. Discussion and Conclusion

4.1. Conclusion

Career adaptability is one of the most important factors for the workforce in general and young workers in particular in the contemporary world. New graduates may have a sense of satisfaction when they can adapt to the job. In order to verify the scale reflecting the students' job adaptability, the research team has surveyed businesses and tested the scale. The results show that the scale includes 7 factors with 29 observed variables and the test shows that the survey data of the group is suitable for exploratory factor analysis. This result is also consistent with the research results of Tran Cong Hau and Huynh Minh Hien (2020), World Bank (2012), M. R. Hyman (2005), Tran Thi Thuy Trang (2018).

The study also proved that there is a causal relationship between business satisfaction and student’s job adaptability. Accordingly, the higher the student's job adaptability is, the greater the business satisfaction will be. This is confirmed by the hypothesis testing that is accepted, the estimated values in the multivariable regression model are positive and statistically significant. This result is consistent with the study of Pulakos (2002).

Based on the estimated value of the standardized regression coefficient, the study shows the factors affecting the satisfaction of enterprises in order of importance. Accordingly, factors such as attitude, suitability, awareness are commonly used, especially attitude, which is the highest-rated factor in the ranking of the degree of influence on business satisfaction with the adaptability of graduates. Surprisingly, the knowledge factor is not paid much attention by businesses even though it is one of the most important factors in the ASK professional standards model. In particular, professional background knowledge is not extremely valued and is the lowest rated in the average assessment of businesses on the knowledge factor. This may be explained by many reasons that come from both sides including businesses and employees. For many businesses, in the current context of open knowledge and the increasing trend of students going to opposite industries, knowledge is an element that candidates can completely cultivate and improve over time. Additionally, universities offer courses with the purpose to provide employees not only for businesses but also for other professional organizations Therefore, student's knowledge may be not suitable for business activities. After the recruiting process, enterprises are likely to offer training courses for their new employees

In fact, in the current segment of the enterprise labor market, employers pay more attention to factors such as attitude, suitability, and awareness. These factors are directly attached to each stage of the job, which are the foundation that helps employees solve practical problems in the business environment. Many managers believe that, if employees have a good working attitude and awareness, the acquisition of knowledge will not become a big obstacle for them. This conclusion is also consistent with the statements of the Business/Higher Education Roundtable (1991, 1992, 1993), the Association of Graduate Employers (1993, 1995), Sausman et al. 1997), AC Nielsen Research Services (2000), recognized that a strong disciplinary background by itself does not guarantee employability for fresh graduates. It can be seen that in addition to knowledge, each student must cultivate other skills by himself, and at the same time have a good working attitude to adapt to their job as well as the dynamic environment of the economy. This is something that universities need to pay more attention in order to develop suitable teaching methods for the current labor market.

Besides, the study also shows that for each factor constituting job adaptability, enterprises show different evaluations of graduates from different universities. This difference may stem from training objectives, different teaching methods between universities, teaching facilities as well as the ability to integrate and absorb new trends of the labor market.

In addition, there are different levels of satisfaction among graduates with different work experience. The next generation of workers tends to be more talented, dynamic, better adaptable to market fluctuations. However, when it comes to job adaptability satisfaction, many managers still value employees who have worked longer for the enterprise. For graduates who have worked for 3 or 4 years, in addition to the knowledge and skills that have been nourished at university, they also accumulate experience, skills, and commitment to the business. Therefore, it can be affirmed that besides improving knowledge and skills at university, the skills and professional knowledge accumulated during the working process are indispensable for employees to improve their workability

The ANOVA test on satisfaction among different enterprises also shows that the satisfaction of enterprises of different types is also different. State-owned enterprises have the highest level of satisfaction with the adaptability of students, followed by limited liability companies, private enterprises, joint-stock companies, and finally partnerships. One hypothesis to explain this difference is that due to the "easiness" in recruitment, state-owned enterprises set lower requirements than other enterprises in the private sector because of the less competitive environment. In addition, inertia in the environment of State-owned enterprises easily reduces the competitiveness of employees, leading to lower adaptability than in non-state enterprises.

In general, this study has shown that the job adaptability of economic graduates is increasingly improved, however, in terms of the business segment, the level of satisfaction of enterprises with the ability to adapt to the work of fresh graduates is just fairly average. Although it can be seen that universities and students are constantly improving the skills and knowledge required for the work, the results of this study show two problems. Firstly, in a competitive market, businesses require more abilities from students. Secondly, the current higher education programs of universities have not really kept up with the practical needs of businesses.

4.2. Recommendations

In order to increase the level of satisfaction of businesses, the research team proposes the following 3 recommendations:

4.2.1. For the universities

With the trend towards deeper integration, advances in technology affect the corporate governance process, some elements of the business environment and universities. The university needs to complete the training program, regularly update the needs of the market even according to each training and course. In particular, besides equipping specialized knowledge, it is necessary to equip students with the ability to us English, informatics, and soft skills.

Training content and programs need to be diversified and structured in a way that not only providing learners with a knowledge base but also enhancing appropriate skills and practical experience for students by encouraging and supporting students to do scientific research and find suitable part-time jobs in the final years of the course. At economics universities in particular and educational institutions in general, participation in scientific research, internships, and practice are essential for students to experience the real world. Student internships usually take place at the end of the third or fourth year. This is the time when students choose and search for internships, get acquainted with the actual working environment after a period of studying and accumulating knowledge in the lecture hall. If students take advantage of the internship period, they will be likely to have many development opportunities later in their lives. In the first 3 years of university, students use most of the time in the lecture hall to receive and cultivate specialized knowledge. An internship is a compulsory subject in the training program that students must complete. The internship period is an opportunity for students to directly apply the knowledge in the school to the real working environment. Although in the position of interns, students will have to complete the assigned work following their capacity and requirements as an employee.

In addition to scientific research, the university should also put more resources into organizing relevant competitions to find talented students, share experiences, and help students practice their skills and knowledge learned in school. At the same time, participating in the contest also helps students improve their problem-solving and critical-thinking abilities. These are two necessary capabilities and are highly appreciated by businesses. In addition, the university should cooperate with businesses to better understand the businesses' requirements for the required skills of a candidate. Thereby reducing the gap between the curriculum and the job requirements, helping students to adapt more quickly in their work. As a result, businesses are satisfied with the adaptability of students.

There are also differences between universities in curricula and teaching methods. This leads to disparities in the adaptability of students, making their career opportunities and the level of businesses' satisfaction with students also different. Therefore, each university needs to regularly review training programs and teaching methods to equip students with a comprehensive foundation in terms of knowledge, skills and attitudes.

4.2.2. For the students

Firstly, students need to have ambitions, clearly define their own orientations and goals. From the cost-benefit analysis, if students are aware of their self-worth, their strengths, weaknesses, as well as abilities, they can improve their performances more effectively by reducing costs and time caused by wrong choices. At the same time, being ready and prepared in advance will help students adapt more quickly to work.

Second, students actively accumulate knowledge, skills, experiences, to facilitate self-development from the time they are at school. However, having a knowledge base from the school may be not enough. Each student should practice and learn by himself to supplement himself with other skills, working attitude, awareness, and relationships. Management capacity, first of all, self-management, is how to behave flexibly with the actual environment. Advances in technology could create favourable conditions for students to not only develop self-learning skills but also widen their knowledge

Third, taking advantage of scientific and technological innovations in the process of learning and training through social networking platforms such as Facebook, Zalo, Instagram, Twitter... could help students gain knowledge, widen their social circles, exchange ideas, access and update information quickly. But not all information posted on social media is accurate. Therefore, students are required to selectively absorb as well as not to share unverified and incorrect information with the community.

Fourth, once the job has been determined, students should spend time experiencing the real world with part-time jobs or internships. The practical experience helps students redefine whether they are suitable for this job or not and have a good grasp of job requirements so that they could be well - prepared for a long-term job in the future.

Finally, in addition to going to work, participating in clubs, competitions, especially scientific research not only gives students benefits in terms of grades but also trains them with attitudes and necessary skills, which they cannot learn from attending lectures. Also, it is a valuable opportunity for each student to get to know themselves better.

4.2.3. For the business

Enterprises as young employers - graduates - high-quality human resources, after all, could be benefited the most when students' job adaptability is improved. Therefore, enterprises not only are the beneficiaries but also have the responsibility to contribute to the process of expressing their social responsibility

Accordingly, on the one hand, enterprises need to be ready to link up with universities, set requirements in training content and programs and are responsible for creating favorable conditions for university students to consolidate their knowledge taught by their teacher at school. With practice, on the other hand, it is necessary to create a favorable working environment for students to utilise their knowledge and skills when recruiting them to work at enterprises. Businesses and social organizations should create opportunities for students to meet and exchange ideas with experienced employees so that new staff could improve their skills. Also, there should be a reliable job search information network, so that students could have the access to find jobs. In addition, businesses and social organizations should pay attention to help students who want to start a business, set up a fund to support students with preferential loans, and promote creativity in students.

For fresh graduates, enterprises should create favorable conditions for them to develop their abilities. In addition to the remuneration regimes, there should be a team of experienced people Who teach and train new employees so that recent graduates can adapt quickly to the job and be highly motivated to drive their businesses successfully.

4.3. Limitations of the study

Firstly, the research is conducted based on enterprise survey data in Hanoi related to graduates from 6 universities in Economics. Although the sample size can ensure the quality of the analysis, however, due to time constraints, limited capacity, and limited resources, the survey subjects are not large enough to ensure a higher level of reliability for the sample conclusions drawn from the study. In addition, the interview and survey process related to personal assessment may face risks such as the answers do not really reflect the real thoughts of the respondents, biased judgments. For the process of analyzing and processing data, it is difficult to avoid certain errors.

Secondly, there are many factors affecting business satisfaction, but due to limited resources as well as knowledge, the selected factors included in the model are not really complete so these factors just explain 73.2% change of dependent variable. Some conclusions and judgments of the research team are based on assessments from some students and managers, so it is difficult to avoid subjectivity and one-sidedness.

Finally, this study only focuses on the scope of so these factors just business enterprises, not all types of organizations. Meanwhile, the training programs of the universities in research are not only aimed at businesses but also meet the needs of high-quality human resources for all types of organizations in society. The research conclusions on the impact of the factors mentioned above applying only to businesses, especially private enterprises and do not reflect the entire social demand for public job adaptability.

5. References

1. ACNielsen Research Services (2000). Employer Satisfaction with Graduate Skills. *Research Report by the Department of Education, Training and Youth Affairs, Commonwealth of Australia.*

2. Charles R. Duke (2002), Learning Outcomes: Comparing Student Perceptions of Skill Level and Importance, *Journal of Marketing Education, 24,* 3, 203-217.

3. Chen, H., Fang, T., Liu, F., Pang, L., Wen, Y., Chen, S., & Gu, X. (2020). Career Adaptability Research: A Literature Review with Scientific Knowledge Mapping in Web of Science", *International Journal of Environmental Research and Public Health*.

4. Michael R. Hyman (2005), Assessing Faculty Beliefts About the Importance of Various Marketing Job Skills, *Journal of Education for Business, 81, 2,* 105-110.

5. Nguyen Quoc Nghi, Le Thi Dieu Hien, Hoang Thi Hong Loc, Quach Hong Ngan (2011). Evaluating job adaptability of tourism students graduating in the Mekong Delta. *Journal of Science, No. 2011:20b 2017-224*, Can Tho University.

6. Sausman, C., & Steel, J. (1997). The Contribution of Graduates to the Economy. *Report No. 7 of the National Committee of Inquiry into Higher Education London: HMSO.*

7. Savickas, M.L., & Porfeli, E.J. (2012). Career adapt-abilities scale: Construction, reliability, and measurement equivalence across 13 countries. *Journal of Vocational Behaviour, 80,* 661–673.

8. Tran Cong Hau, Huynh Minh Hien (2020). Evaluating employer satisfaction with job adaptability of private university graduates: a case study from Dong Nai. Unpublished student paper, Faculty of International Economic Administration, Lac Hong University,

9. Tran Thi Thuy Trang, Tran Thuy Linh, Tran Thi Hien Luong (2018), Assessing the satisfaction on career adaptability of graduates in accounting majors at Hanoi University of Industry. *Journal of Science, Technology and Engineering, No. 46.2018.*

10. William Archer, Jess Davison (2008), Graduate Employability: What do employers think and want?. *The Council for Industry and Higher Education*, London.

11. World Bank (2012). Putting Higher Education to Work, Skills and Research for Growth in East Asia.

IMPACTS FROM THE FOURTH INDUSTRIAL REVOLUTION TO INDUSTRIAL ECONOMIC RESTRUCTURING IN PRESENT VIETNAM

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Abstract

The fourth industrial revolution based on digital technology and integrating smart technologies is fundamentally changing the world's production. Under the strong impact of the fourth industrial revolution, economic restructuring is an indispensable requirement of all countries. In particular, industrial economic restructuring is considered a basic necessity, playing a very important role in mobilizing, exploiting, and using resources for economic growth. On the basis of qualitative and quantitative research methods, the author focuses on clarifying the concept and characteristics of the fourth industrial revolution and its impacts on the restructuring of Vietnam's industrial economy over the past time. From there, the research paper draws out the advantages and limitations of the model. The research also suggests some solutions to accelerate the restructuring of Vietnam's industrial economy in the current period.

Keywords: *industry, restructuring, industrial economy.*

1. Introduction

The issue of renovating the growth model and restructuring the economy was officially proposed by the Communist Party of Vietnam from the 11th National Congress, in which industrial-economic restructuring is a major policy to promote economic restructuring. It helps improve the quality of growth, increases labor productivity and competitiveness of the industry in the global value chain. Over the two terms of the XI and XII Congresses, the process of restructuring the economy in general and the restructuring of the industrial economy, in particular, have achieved many important results, contributing to economic development with a high growth rate. Especially the economy has strongly changed from broad-based development to in-depth and sustainable development. “The processing and manufacturing industry develops rapidly. Supporting industries have developed, contributing to improving the localization rate and added value of products” [9]. However, restructuring the industrial economy has not yet made fundamental changes in the growth model, productivity, quality, and efficiency. The competitiveness of the economy is not high. “The industry is still mainly processing and assembling. The added value is not high. Supporting industries develop slowly. The localization rate is low. The effectiveness of participation in the global value chain is still limited” [10].

In the new and volatile context, the economy is affected by many factors, especially the impact of the fourth industrial revolution and the global Covid-19 pandemic. The guidelines and policies of the government must take into account the opportunities and challenges to implementing a proactive plan for restructuring the industrial economy. Congress XIII emphasized the need to make good use of the opportunities offered by the new context: “Science, technology, innovation and the fourth industrial revolution is unfolding very quickly. They have far-reaching and multi-dimensional impacts on a global scale. Science, technology, and innovation are increasingly becoming decisive factors for competitiveness among countries. Digital technology will promote the development of the digital economy and digital society. It will change state management methods, production and business models, consumption and cultural and social life” [8]. In particular, it is necessary to take advantage of the achievements of the fourth industrial revolution to apply the latest breakthrough technologies in industries. It helps create rapid and sustainable development.

The article approaches the process of economic restructuring industry under the impact of the industrial revolution the fourth time from the perspective of political economy. From clarifying the concept and characteristics of the fourth industrial revolution and the concept of restructuring the industrial economy, the research paper would point out the impact of the fourth industrial revolution on the process of restructuring the industrial economy. The article analyzes all elements of the productive forces to point out the specific impacts of the fourth industrial revolution on the economy. It proposes some orientations, goals, and policy solutions to accelerate the process of restructuring Vietnam's industrial economy in the coming time.

2. Method

2.1. Research Method

To study the impact of the fourth industrial revolution on the process of restructuring the industrial economy in Vietnam, the author uses a combination of research methods. The article emphasizes the scientific abstraction method that is a specific research method for political economy. In addition, it combines quantitative and qualitative research, methods of analysis, synthesis, statistics, comparison, and description.

2.2. Data collection method

This study uses secondary data collected from reports of related tumor studies including scientific works published in specialized journals, articles on economic restructuring published in newspapers and official websites, and legal documents of state management agencies such as the General Statistics Office, Ministry of Industry and Trade, Ministry of Planning and Investment, and Institute for Industrial Policy and Strategy.

2.3. Data analysis method

Method of synthesizing and analyzing data:

On the basis of collected documents, the author synthesizes and explores issues related to restructure the industrial economy. Thereby, the author standardizes conceptual data and generalizes it into scientific arguments. The research focuses on the reality of restructuring the industrial economy under the impact of the fourth industrial revolution.

Statistical and comparative methods:

The author uses statistical data from many different sources along with the author's calculations to analyze, evaluate, and compare the actual situation of the process of restructuring the industrial economy in recent times. Thereby, the author proposes solutions to promote the process of restructuring the industrial economy in our country in the coming time. The data is divided in a detailed manner through the stages, ensuring the series comparison. It is illustrated by diagrams and tables. The article uses time-series and point-in-time data for vertical and cross-sectional comparisons across sectors and industries.

3. Results

3.1. Concept and characteristics of the fourth industrial revolution

The concept of “Industrial Revolution 4.0” was coined by Klaus Schwab, Founder and Executive Chairman of the World Economic Forum. "The Fourth Industrial Revolution is blossoming from the third revolution. It connects all technologies altogether, blurring the boundaries among physics, digital and biology” (Economic World Forum (WEF) 46th in Switzerland). Thus, the focus of the fourth industrial revolution is on inventions. It also creates the combination of the three "great trends" of physics, digitalization, and biology, which changes qualitatively the development of productive forces.

The essence of the fourth industrial revolution is based on digital technology and integrated all smart technologies, optimizing production processes. The technologies having the greatest impact are 3D printing, biotechnology, new material technology, automation technology, and robotics. The characteristics of the industrial revolution can be generalized as follows:

First, the combination of technology, physical, and biological digital alters production methods of the world.

In the field of physical technology, key technologies have been established such as self-driving cars, 3D printing, advanced robotics, and new materials. Digital technology is a combination of physical and digital applications to create the Internet of Things, sensors, and solutions that connect the real world to the virtual one. Nanotechnology and new materials allow the creation of new material structures with wide application. Artificial intelligence and cybernetics have made great progress, allowing people to remotely control everything. It is unlimited in space and time. It also helps interact faster and more accurately. The fourth industrial revolution will open a new era of choosing business investment options, optimizing the use of resources, and promoting labor productivity and efficiency. It helps create a breakthrough in the speed of development and the scope of the impact that "fundamentally transforms the social production and management system in both breadth and depth" [3].

Second, the scale and pace of development unprecedented in human history.

The speed of development in the fourth industrial revolution has never occurred before. If the previous industrial revolutions took place in arithmetic progression, the growth rate of the fourth industrial revolution took place exponentially. From the birth of ideas of technology and innovation, actualizing these ideas takes a shorter time. The pace at which disruptive technologies are invented today is so fast. It is disrupting the structure of almost every industry in every country. The breadth and depth of these changes create transformations in the entire production, management, and governance systems.

Third, the fourth industrial economy creates a manufacturing process that is smart and flexible. It integrates technology that is environmentally friendly.

The fourth industrial revolution focuses on smart manufacturing processes to create smart products in a smart factory. If the steam engine ushered in the mechanical industry, the smart factory is the key factor in opening the era of the "smart industry". In the smart industrial environment, smart factories are connected with smart services such as smart logistics, smart grid, and smart transportation to form a smart production chain. The smart factory model will be automated fully, which replaces the old mode of production. Jobs related to direct production are replaced by intelligent robots. Therefore, only designers, engineers, information technology experts, logistics, and marketing staff work in the offices. Thanks to connectivity on the Internet, there are many jobs that people can work from home.

The characteristic of industrial production in the fourth industrial revolution is that products are produced in a flexible environment. The manufacturer is located in the consumer market so the products can adjust quickly to the changes of demand in the market. The highly developed automation technology allows the application of "self-optimization", "self-configuration", and "self-testing and monitoring" methods. It helps the products adapt to the market when there are changes in production requirements. The needs of customers are stored and processed by big data technology. Customer demand data is connected to production by cloud computing and virtual reality systems, so production can react quickly to changing demand.

The core of the fourth industrial revolution is the integrated use of new technologies on the basis of Internet connectivity. These are environmentally-friendly technologies that save energy and fuel (for example, smart grids allow maximum loss of electricity in loading electricity) and minimize emissions. The fourth industrial revolution is also a green industrial revolution, associated with flexible energy and transport integration. Green, environmental-friendly, high-yield products and services will be the key products of the fourth industrial revolution era.

3.2. Concept of industrial economic restructuring

In terms of terminology, "restructuring" means adjusting the strategic orientation, vision or changing the entire structure of the system such as re-adjusting the resource framework, operating mechanism, re-adjusting models of a specific field in order to suit the requirements and circumstances at that time. The objective of economic restructuring can be viewed from the following three angles:

First, from the perspective of resource allocation, economic restructuring is a change in institutions, mechanisms, and tools for allocating, managing, and using national resources, especially investment capital, shaping the country's economy to be more rational and efficient.

Second, from the perspective of the State's role in the economy, economic restructuring is understood as reducing the State's control towards investors and owners of enterprises. The State enhances orienting and managing macroeconomics.

Third, from the perspective of growth drivers, economic restructuring is the transformation of the growth model. It changes the driving force of growth from mainly based on increasing the size of inputs to mainly relying on growing efficiency and labor productivity. It ensures the benefits that are distributed more rationally and equitably among regions and classes of the population.

Restructuring the industrial economy is a deliberate activity by rearranging basic elements of the productive forces to form a modern, efficient and sustainable new industrial economic structure.

Restructuring the industrial economy is a component of the overall restructuring of the national economy, consistent with developing the economic societal strategy of the country. It is the process of renovating the old, outdated, and unsuitable industrial economic structure in order to build a new and appropriate industrial economic structure. The objective of industrial economic restructuring is to promote economic restructuring, improve growth quality, and increase labor productivity and industry competitiveness in the global value chain.

The process of restructuring the industrial economy must focus on improving the state management capacity, organizing the apparatus rationally through mechanisms and policies, clearly defining the roles and functions of the state and the market. These functions should be oriented in the direction of minimizing barriers, administrative interventions, creating incentives, shifting, and allocating resources according to market signals.

3.3. The impact of the fourth industrial revolution to restructure economic industry in Vietnam

The impact of the fourth industrial revolution on the process of restructuring the industrial economy in Vietnam is demonstrated by rearranging the layout and basic elements of the force production.

This impact is objective. It takes place in many directions, both positive and negative. The results of the impact can be recognized immediately. The achievements of the fourth industrial revolution are foundational to accelerate the process of restructuring the industrial economy. When the modern industrial economy develops, it will be a condition to receive the achievements of the fourth industrial revolution more conveniently and effectively.

Specifically, the impact of the fourth industrial revolution on the process of restructuring the industrial economy over the past time is shown in the following contents:

** Impact on labor in the industry:*

The fourth industrial revolution is considered as the highlight of the digital era. It has a strong impact on many industries in the economy. It influences directly Vietnam, a country with an abundant and stable labor supply with more than 55,8 million workers, workers in the construction industry are about 16.5 million people (30.2% of the total workforce) [5]. Those impacts are shown clearly through job requirements, strategies, orientations, and plans in the development of the labor market.

The fourth industrial revolution affects the quantity and quality of jobs through the replacement of living labor with machines, robots, artificial intelligence, and the application of information technology in many industries. At the same time, its impact changes the nature of the job that some jobs are disappeared, and there are more new jobs joining the market. It is essential to recognize the risk of replacement workers in textile, leather, and footwear. This industry is in danger of losing jobs the most under the influence of technological breakthroughs. This percentage will turn into a large absolute number because this sector is the industry creating jobs for many workers (about 2.3 million people, of which about 78% are female workers). According to the forecast of the International Labor Organization (2019), in the next 10 years, Vietnam will face the replacement of labor because of digital technology applications. It leads to a change in the production model, business culture, and organizational model. Up to 70% of jobs are at high risk (with a probability of being replaced over 70%), 18% have a medium risk (with a probability of being replaced from 30-70%) and 12% are low risk (with a probability of being replaced less than 30%). This requires businesses to handle and adapt to this change.

Table 1. Industries with a high rate of job displacement in Vietnam

Branch	Rate of substitution
Agriculture, forestry, and fisheries	83. 3%
Manufacturing and processing industry	74.4%
Wholesale and retail	84.1%
Textile industry	83%
Electronics	75%

Source: Forecast of the International Labor Organization (2019)

The fourth industrial revolution has an impact on the quality of human resources because labor skills are needed in the new technological era not only requires technical skills (specialized knowledge and skill in technical expertise to perform specific jobs) but also needs soft working skills such as creative thinking ability, teamwork skill, and skill in using computers, the internet, foreign language ability, teamwork skills, safety skills, labor discipline compliance, problem-solving skills, time management skills, and concentration skills.

** Impact on investment capital for industrial production*

Under the impact of the fourth industrial revolution, investment capital has shifted in both quantity and field of investment. As reported by the GSO, the total capital of foreign investment increased continuously. Between 2016 and 2020, it reached 92.76 billion dollars, up 64.64% compared to the period of 5 years from 2011 to 2015 (59.96 billion USD).

Table 2. Number of project capital and FDI in Vietnam during the period 2011 - 2020

Year	Total registered FDI capital (Billion USD)	Realized FDI capital (Billion USD)	Number of newly registered projects
2011	15.60	11	1186
2012	16.35	10.46	1287

Year	Total registered FDI capital (Billion USD)	Realized FDI capital (Billion USD)	Number of newly registered projects
2013	22.35	11.5	1530
2014	21.92	12.5	1843
2015	22.70	14.5	2013
2016	26.90	15.8	2613
2017	30.80	17.5	2741
2018	26.30	19.1	3147
2019	38.95	20.38	3883
2020	28.53	19.98	2523

Source: Author's compilation from Foreign Investment Department

In the field of investment: In the period from 2011 to 2020, foreign investors have invested in 19 industry sectors. The processing and manufacturing industry has always been the field of attracting more attention from foreign investors with the total newly registered capital that is always fluctuated in the range of USD 13 - 24 billion. It accounts for a high percentage of the total registered investment capital (40 - 70%). In 2020, the processing and manufacturing industry is the field that attracts the most FDI with 800 new projects, 680 projects with adjusted investment capital, and 1268 times of capital contribution and share purchase with a total capital of 13,601 billion USD. It accounts for 47.67% of total investment capital. The production and distribution of electricity, gas, and steam ranked second with US$5.1426 billion, accounting for 18.03% of total investment [7].

In the era of the fourth industrial revolution, the trend of moving FDI capital also takes place flexibly, requiring Vietnam to have a specific strategy to ensure the sustainability of the new generation of high-value FDI. Vietnam should ensure a high growth rate, achieving the goal of significantly raising the level of technology and transferring technology through FDI enterprises. At the same time, it is necessary to be sensitive to overcome the tendency that relies heavily on foreign investment, destroys the environment, and exhausts the national resources of FDI projects.

** Impact of engineering technology on industrial production*

The fourth industrial revolution will contribute to the shift of national industrial production from a low -productivity economy to a high-productivity economy (with more opportunities for innovations and added value). higher increase). Specifically, low-tech industries (textiles, footwear, etc) are still dominant in Vietnam and other developing countries. However, in the context of the fourth industrial revolution, this will be one of the great challenges, as labor is gradually replaced by robots and smart factories. Therefore, an important factor in the coming time is to gradually focus on improving technology and improving labor quality. Medium industries (intermediate goods: iron and steel, cement, rubber, packaging, and non-metallic mineral industries) need to focus on improving labor quality and improving production technology. export. For the high-tech industry: should focus on investment in the development of science and technology, innovation and application of technology advance; strong shift to high-tech industries; select and focus on exporting products with high added value, Vietnam has advantages; rapidly reduce the export of raw resources and minerals.

At the production level, important applications from the fourth industrial revolution include quality control, traceability, predictive maintenance, sorting, and unloading. chemistry, IIoT, Big Data, and AI.

** Impact on industry structure*

The fourth industrial revolution will create great changes in the structure of industries as well as the contribution of each industry in the growth of the entire economy in the coming time. In the current industrial production structure, the industries that account for a large proportion are the food processing industries (always accounting for the highest proportion, although tended to decrease slightly at over 17%), followed by manufacturing electronics, computers, and telecommunications equipment (over 12%). In addition, there are other industries such as textiles (8.12%), transportation equipment (4.85%), computers and electronics (3.54%), etc. Low-tech industries continue to account for a high proportion, accounting for about 65% of the total processed and manufactured products in Vietnam, while this figure of the world is only 18% [6]. These are labor-intensive industries or produce low-value-added end products, leading to slow growth in value-added in Vietnam's industrial production. This is one of the major obstacles to industrial development as Vietnam needs to gradually shift to high-tech industries, producing high value-added products, to accelerate growth.

General assessment: under the strong impact of the fourth industrial revolution, in recent times, the process of restructuring our country's industrial economy has reoriented in the right direction. Accordingly, the industrial structure has had a positive shift, towards gradually reducing the proportion of the mining industry, rapidly increasing the proportion of the processing and manufacturing industry in line with the goal of sustainable development. Specifically, the proportion of the processing and manufacturing industry in GDP increased continuously at a relatively high rate.

Table 3. The proportion of processing and manufacturing industry in GDP in the period of 2015 - 2020

Year	2015	2016	2017	2018	2019	2020
%/GDP	1 3.69	14.27	15.28	16.00	16.48	16.58

Source: Compiled by the author from the General Statistics Office

Meanwhile, the share of the mining industry has decreased from 8.1% in 2016 to 6.0% in 2020 [2]. A number of large-scale, competitive industries and strong positions in the market have been formed. Some domestic industrial enterprises already have good competitiveness such as VinGroup and Truong Hai (in the field of manufacturing and assembling cars), Vinamilk, TH True Milk (in the field of producing and processing milk and food), Hoa Sen Group, Hoa Phat Group, Pomina Steel Company (in the field of iron, steel, and metal).

Supporting industries have gradually developed, contributing to raising the localization rate and added value. The proportion of processed exports in total export value has increased from 65% in 2016 to 85% in 2020. The proportion of exports of high-tech products in the total product value has increased from 44,3% in 2016 to 49,8% in 2020. The global competitiveness of the Vietnamese industry has increased from the 58th position in 2015 to the 42nd position in 2019 according to the ranking of the United Nations Industrial Development Organization (UNIDO).

However, industrial development has not yet met the requirements of industrialization and modernization. It just mainly develops on short-term goals, lacking sustainability. A highly competitive domestic industry has not yet been created. A spearhead industry has not played a leading role. Industrial production is still mainly processing and assembling, with low added value. The development of supporting industries is still slow. Raw materials and components for domestic production are still heavily dependent on outsiders, not paying enough attention to the value chain and domestic supply. The rate of localization of industrial products is still low, which is highly dependent on foreign-invested enterprises. The agricultural, forestry, and fishery processing industry is still underdeveloped, especially in the stages of preservation and deep processing.

4. Discussion and Conclusion

4.1. Some industrial development orientations in the fourth industrial revolution

The Industrial Development Strategy to 2025, with a vision to 2035, has identified strategic directions for Vietnam's industrial development: " Effectively mobilize all resources from domestic and external economic sectors to develop and restructure the industry towards modernity; Focus the training of industrial human resources on the qualities of skillfulness, disciplined, and creative capability; Prioritize the development and transfer of technology to industries and fields with competitive advantages and advanced technologies in the fields of agricultural, forestry, fishery processing, electronics, telecommunications, new and renewable energy, mechanical engineering and pharmaceutical chemistry; Reasonably adjust the distribution of industrial space so as to promote the strength of linkages between industries, regions, and localities to foster deep engagement in the global value chain ” [4]. In line with the strategic vision to 2035, Vietnam's industrial development will fundamentally incorporate the growth of industries where advanced technology, internationally qualified products (in compliance with international standards), extensive involvement in the global value chain, commercial and efficient use of energy, and equitable competition in globalization are facilitated.

This strategy also sets many specific goals such as The growth rate of industrial value-added in the period of 2021-2025 will reach 7.0-7.5%/year and the period 2026 - 2035 will reach 7.5- 8.0%/year. The growth rate of industrial production value in the period 2021-2025 will reach 11.0-12.5%/year and the period 2026-2035 will reach 10.5-11.0%/year. The 2025 outlook aims at a restructured sectoral economic composition where the construction and industry sectors account for 40-41% in 2035. The proportion of exported industrial goods/total export turnover by 2025 will reach 85-88%, after 2025 it will reach over 90%. In addition, the Government has also set a target that the value of high-tech industrial products and high-tech applied products will reach about 45% of GDP by 2025, and over 50% after 2025. Industrial ICOR index for the period 2011-2025 will reach 3.5-4.0% rate; in the period 2026 - 2035 reaching 3.0-3.5%... [4].

Resolution No. 23-NQ/TW on orientations of formulating national industrial development policies to 2030, with a vision to 2045, has defined the goal of Vietnam's industrial development by 2030: The share of industry in GDP exceeds 40%; The proportion of the processing and manufacturing industry in GDP is about 30%, of which the manufacturing industry is over 20%. The value proportion of high-tech industrial products in the processing and manufacturing industries achieves 45% at minimum. The growth rate of industrial added value reaches an average of 8,5 %/year, with the processing and manufacturing industry averaging over 10%/year. The growth rate of industrial labor productivity reaches an average of 7,5 %/year. The Industrial Competitiveness Performance Index (CIP) ranks among the top three in ASEAN countries. The employment rate in the industrial and service sectors exceeds 70% [1]. Establish a number of industrial clusters, large-scale, multinational domestic industrial enterprises with international competitiveness.

4.2. Some solutions to focus on implementation

Renovate the industry development plans and improve the business environment

Initiate a comprehensive review of all legal documents related to the planning, structuring, and policies for restructuring the industrial economy. Rule out documents that directly interfere with product development, such as product industry planning. Currently, the draft Law on Planning is being submitted to the National Assembly with the main subject being to eliminate product sector planning due to the excessive formation of sectoral plans that lack feasibility and violate regulations of the World Trade Organization.

The spatial arrangement of the territory in the planning work needs to be seriously and drastically considered, where it is necessary to close the polluting facilities and relocate the industrial facilities to the periphery, separating them from densely populated areas. Build environmental criteria for industrial facilities. These environmental standards must be on par with those of the World Health Organization (WHO).

Completing the State management mechanism in order to overcome and limit policy overlap, ensure stable, consistent, and simple policies on administrative procedures to encourage product development. Continue to reform customs procedures to create favorable conditions and reduce costs for businesses carrying out import and export procedures. At the same time, create equality between economic sectors, and specifically focus on enhancing the role of the private sector through effective enforcement of property rights protection and equality in the economy. access to resources.

Choosing an industrial development model suitable to Vietnam's strategic orientation and advantages

Model selection is very important as it creates a framework and ideology for the accompanying industrial development policy. In the era of globalization, industrial structure models need to aim at building international competitiveness in line 04 requirements: (i) understanding regional and global trends; (ii) analyzing competitors' competitiveness; (iii) locating the current position; (iv) designing concrete and practical solutions to improve competitiveness. Accordingly, priority should be given to developing industries that can create diversity in industrial production. At the same time, aim towards a production model in the global competition in an integrated form, in line with its dynamic competitive advantages (the processing and manufacturing industry is highly-skilled, capable of absorbing high technology from the FDI sector).

Continue to implement guidelines and issue appropriate policies to build and develop industries in the direction of modernity, increase the content of science and technology and the proportion of domestic value in products, focus on the industries that have foundational, comparative advantages and strategic significance for rapid and sustainable development, enhancing the independence and self-reliance of the economy, be able to participate deeply and effectively. into the global production and distribution network. Review and select worthy products, with a large scale in terms of both output and quality, typical and representative, in line with international practices, in line with the Party's guidelines and governmental interests. In particular, pay attention to high-tech industrial products.

Investing in the development of foundational industries, spearhead industries, new technologies, high technologies, and supporting industries

Develop fundamental industries such as energy, mechanical engineering, metallurgy, chemicals, fertilizers, and materials. Prioritize the development of spearhead industries, new technologies, high-tech industries, and supporting industries such as information and telecommunications; electronic; artificial intelligence; manufacturing robots; car; automobile industry supporting industry; biotechnology; biomedical electronics; software production; digital products; clean energy and renewable energy. Strongly concentrate on developing the processing and manufacturing industry associated with smart technology; focus on developing the green industry.

Strengthening linkages between regions and economic zones to bring into play their advantages to speed up the process of restructuring the industrial economy.

Pilot cluster models in priority industries. Promote the progress of large industrial projects with spillover effects; at the same time, drastically handle slow-moving and inefficient projects. To develop large-scale industrial production in coastal economic zones, with emphasis on heavy industry production, deep processing, and the formation of value chains.

Strengthen linkages between the foreign-invested sector (especially multinational corporations) and domestic enterprises in the supply chain development of industries. Arouse internal resources, strongly encouraging the development of domestic private enterprises, especially in the fields of manufacturing and processing industry, high technology, information technology industry; form domestic and international supply chains and value chains, quality assurance, and regulations on traceability. Develop a number of key enterprises in the fields of telecommunications and information technology so as to achieve the leading role in technology infrastructure, create a foundation for the development of the digital economy and digital society in the current era of the fourth industrial revolution.

5. References

1. Central Executive Committee (2018), *Resolution No. 23-NQ/TW on orientations for formulating national industrial development policies to 2030, vision to 2045,* Hanoi.

2. Ministry of Industry and Trade (2021), *Vietnam Industry in 2020 and 5 years 2016 - 2020,* Summary report of the Ministry of Industry and Trade.

3. World Economic Forum (2016), *Impact of the Fourth Industrial Revolution on Employment and the Future of Third World Countries*, Report of the World Economic Forum (WEF).

4. Prime Minister (2014), *Decision 879/QD-TTg approving the Strategy for Industrial Development of Vietnam to 2025, with a Vision to 2035*, Hanoi.

5. General Statistics Office (2020), *Vietnam Statistical Yearbook 2019*, Statistical Publishing House, Hanoi, p. 91.

6. General Statistics Office (2020), *Vietnam Statistical Yearbook 2019*, Statistical Publishing House, Hanoi.

7. 7.Vu Thi Yen (2021), "The reality of attracting foreign direct investment into Vietnam in the period 2010 - 2020", *Industry and Trade Magazine* (No. 5).

8. Communist Party of Vietnam (2021), "Strategy for socio-economic development 10 years 2021 - 2030", *Document of the 13th National Congress of Deputies*, volume 1, National Political Publishing House, Hanoi Noi, p. 208.

9. Communist Party of Vietnam (2021), *Document of the 13th National Congress of Deputies*, volume 1, National Political Publishing House, Hanoi, p.61.

10. Communist Party of Vietnam (2021), *Document of the 13th National Congress of Deputies*, volume 1, National Political Publishing House, Hanoi, p. 81.

APPLICATION OF SWOT MATRIX AND QSPM MATRIX FOR BUILDING AND SELECTING PLACE MARKETING STRATEGY OF CAN THO CITY WITH ORIENTATION TOWARDS 2030

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Abstract

Based on an approach from six factors that make up local brands: human resources (people), investment, tourism, cultural heritage, trade-export and public management ability, study focuses on analyzing the strengths, weaknesses, opportunities and challenges that affect the place marketing strategy of Can Tho city. The study uses the SWOT matrix and Quantitative Strategic Planning Matrix (QSPM matrix) to propose and select strategies for SO, ST, WO, WT. The study results show that the optimal place marketing strategies of Can Tho city with orientation towards 2030 include: development of Can Tho city into a trade and export lead center in the Mekong Delta, development of supporting tourism activities and services, development of Can Tho city into a lead center for training of high quality human resources with international standards and branding typical products for export.

Keywords: *place marketing, QSPM matrix, SWOT matrix.*

1. Introduction

In the context of more and more globalization and international integration, the competition is becoming more and more fierce not only at the enterprise level but also at the local and national level. It is becoming more and more difficult to find resources for growth. Therefore, each locality must actively build and promote their locality into an attractive "product" to potential customers and partners. Localities need to develop place marketing strategies to achieve that goal. These strategies are a set of activities carried out to build and promote the locality to make it more unique and engaging, contributing to improved competitiveness and economic development. The reality shows that there are a number of countries, territories, cities... have applied the Place Marketing theory very successfully, creating an advantage in taking advantage of investment to develop quickly even if they have a low starting point in terms of natural resources (e.g. Japan, Korea, Singapore...). In addition, paying attention to building a place marketing strategy also helps the locality to strengthen its position and reputation for domestic and international partners, businesses, investors and tourists, and to preserve and promote the cultural identity and arouse pride among all classes of people.

Can Tho is a city under the Central Government, which has a central location in the Mekong Delta. Can Tho city has many attractive features of a river city in the southwestern region as well as potentialities and advantages for socio-economic development. However, Can Tho City's image and brand name have not been widely known in recent years. Can Tho's position, central role and pervasive power are limited. It has not really met as expected in attracting investment in the city. Although the city has made many efforts, communication, advertising and promotion activities for inviting partners have not been highly effective. The reason is attributed to the fact that the city has not clearly defined its strengths, weaknesses, opportunities, and challenges; therefore, synchronous place marketing strategies have not been created to properly address key issues of the city.

In this situation, the application of the SWOT matrix and the QSPM matrix for building and selecting a place marketing strategy of Can Tho City with orientation towards 2030 is highly necessary, especially in the context that the Politburo (the 12th Politburo) has recently issued Resolution No. 59-NQ/TW dated August 5, 2020 on the construction and development of Can Tho city to 2030, with orientation towards 2045 [1].

2. Method

2.1. Approach method

Approach method of this study is the local (or national) brand hexagonal model of Simon Anholt. The model consists of six elements: human resources (people), investment, tourism, cultural heritage, trade - export, and public management ability (see Figure 1 below).

Source: [4]

Figure 1. Brand Hexagonal Model of Simon Anholt

Based on the six elements of the model, the study will analyze the current place marketing situation of Can Tho city, identify the main strengths, weaknesses, opportunities and challenges of six factors, and then propose place marketing strategies for Can Tho city with orientation towards 2030.

2.2. Data collection method

Primary data for the period 2014 - 2018 (with update and adjustment to year of 2019 and expansion for previous periods) on six elements that make up local brands including: human resources (people), investment, tourism, cultural heritage, trade - export and public management ability was collected from the Statistical Yearbook, official reports of departments, scientific works, which have been published.

Primary data was collected in 2020 through in-depth interviews with 30 representatives of government agencies (departments, branches, districts) of the city and consultation with 30 experts from relevant fields. The content of consultation mainly scores strengths, weaknesses, opportunities, challenges, strategic groups of SO, ST, WO, WT.

2.3. Data processing method

- Descriptive statistical method: methods such as statistics table, relative number comparison, average value... are used to reflect and cite the analytical contents.

- SWOT matrix: is used to analyze, evaluate and list the strengths, weaknesses, opportunities, challenges that affect the place marketing strategy of Can Tho city, then to propose strategic groups of SO, WO, ST, WT.

- QSPM matrix: is used to score and select the most feasible strategies from the proposed strategic group (SO, ST, WO, WT).

3. Results

3.1. Analysis of strengths, weaknesses, opportunities, and challenges of Can Tho City's place marketing strategy

For human resource factor (people), Can Tho plays a role as the center for education, training and science and technology of the Mekong Delta with a more complete educational infrastructure system than other provinces in the region. The city has a large contingent of educational and scientific human resources, and system of large universities, which play a key role in training human resources for the whole region. Human Development Index (HDI) of the Can Tho City has continuously increased over the years and has always been higher than the national HDI. Can Tho people have a specific character of the Southern people, that is kindness, generosity, honesty, respect for gratitude... Besides, the city is striving to build Can Tho people according to criterion of “Wisdom - dynamism - kindness - generosity – elegance”. However, the city's labor productivity and the quality of human resources are still poor compared to that of cities under the Central Government. In the context of the current revolution in science, technology and knowledge economy, the city needs to pay more attention to training to improve the quality and productivity of the workforce.

For Investment factor, the city has about 8,600 active enterprises, 102 off-budget investment projects, 246 projects in export processing zones and industrial zones, 87 foreign direct investment projects, 18 projects from non-governmental aid by the end of 2019 [5]. In addition, there are about 13 intermediaries operating in support of startups, 02 investment funds and start-up development and more than 82 startup projects with creative elements, in which, many projects have started to have products and started to reach the market. The city has applied many mechanisms and policies to support investment, set up a specialized agency to carry out investment promotion with a variety of activities to increase investment attraction. However, the city's investment costs are not as attractive as compared to neighboring provinces in the region.

For Tourism factor, Can Tho plays a central and coordinating role in tourism for the whole Mekong Delta thanks to favorable technical infrastructure and transportation (international airport, accommodation system,). Can Tho's tourism industry has unique tourism products such as river tourism and MICE tourism [6]. Tourism brand is interested in building and developing with an identity system including the logo and slogan of "Can Tho - River Region". The tourism industry focuses on the image of "An ideal - safe - friendly tourist destination" to become convergence place of 'Western River Civilization".

For Cultural Heritage factor, Can Tho currently has 104 types of intangible cultural heritages (including 04 national intangible cultural heritages), 36 ranked monuments (including 13 national monuments, 23 city monuments). In general, Can Tho has plentiful and diversified culture, which is the harmony, interference and convergence of many cultural features from traditional to modern and from rural, horticultural region to urban area. In which, the main and most prominent thing is river culture. However, the role of the Can Tho City in general is not really clear despite being identified as the cultural center of the Mekong Delta. In addition, the development of cultural industry has not been compatible with the position of the city.

For the Trade - Export factor, Can Tho has great advantages in terms of economic geographic factors for the development of trade - services such as being located at a commercial lead center connecting the provinces with many key projects such as Can Tho bridge, international airport, Cai Cui port... The city's commercial system is diversified, including a wholesale and retail system with a full range of types including traditional markets, supermarkets, trade centers, convenience stores, grocery stores... However, the development of infrastructure, especially transport infrastructure and supporting services, is not commensurate with its potential; therefore, the trade - export sector has not been promoted to maximize their advantages.

For public management ability factor, economic growth is stable and national defense and security are guaranteed under the management and administration of the city government. Thereby, Can Tho creates a safe and secure environment for people living, working and investors coming to production and business. In recent years, PAPI and PCI indicators have both shown improvements and are quite high in the country [2,3]. However, in-depth analysis of the component indicators shows that people and businesses expect authorities to be more active and promote e-governance in order to better interact with people and businesses.

3.2. SWOT matrix

The SWOT matrix is built on the main strengths, weaknesses, opportunities, and challenges of each element as proposed by representatives of government agencies and assessment of experts.

Table 1. SWOT Matrix for Can Tho City's Place Marketing Strategy

	Strengths (S)	**Weaknesses (W)**
	S1. Having great economic geographic advantages for trade and service development and being located at a trading lead center of the region. S2. Role of Center for Education – Training and Science – Technology of the region. S3. Situation of political security, social order and safety is guaranteed, creating a safe and secure environment for living, working, investing and doing business. S4. Having an attractive “Market” and “Infrastructure” for investment.	W1. Tourism activities and supporting tourism services (such as nightlife, shopping and tourism) are overlapping, monotonous, and have not met the needs of tourists W2. The city's export capacity is still low due to the lack of large corporations, especially in the export processing sector. The value of the city's exports is not high. W3. There are very few famous domestic and international brands of products, goods and services. W4. Can Tho still has low labor productivity.
Opportunities (O) O1. Completion of transport infrastructure projects, especially highways as well as opening new flight routes, is an opportunity for the city to expand the	**Strategy SO** - Combine S1 with O2, O3 to form ***Development Strategy to make Can Tho City become a lead center of trade and export in the Mekong Delta.***	**Strategy WO** - Combine W2, W3 with O2, O3 to form ***Strategy for Branding of Featured Export Products.*** - Combine W1 with O1 to form ***Development Strategy***

market and welcome more tourists. O2. Completion and operation of the transport and logistics infrastructure works will promote the circulation of goods and significantly reduce costs for exporters in the region. O3. Participation in FTAs creates opportunities to expand and diversify the trade - export market, making Can Tho City's products and goods participate more deeply into the entire production and supply chain. O4. Development potential of the economy as well as each industry and each field is still quite large.	- Combine *S4 with O4 to form* ***Investment Attraction Strategy with a focus on leading industries.***	***of supporting tourism activities and services.***
Challenges (T) T1. Climate change, environmental degradation caused by tourism exploitation is not combined with renewable investment; the spread of global epidemics... T2. Common international standards for human resources. T3. The Fourth Industrial Revolution creates challenges for the workforce (the ability to grasp, adapt, apply and master science and technology). T4. Non-traditional security challenges, especially climate change, environmental pollution, cybersecurity, and dangerous epidemics that spread globally are increasing.	**Strategy ST** - Combine S2 with T2, T3 to form ***Development Strategy of Can Tho City to become a center for training high-quality human resources with international standards.*** - Combine S3 with T4 to form ***Strategy for Public Management Ability Enhancement in the New Situation***.	Strategy WT - Combine W1 with T1 to form ***Strategy for Development of Typical, Green and Sustainable Tourism Products of Can Tho city*** - Combine W4 with T2, T3 to form ***Strategy for accelerating the transfer and application of science and technology with purpose of labor productivity improvement.***

Source: Compiled by author, 2020

SWOT matrix includes 08 strategies. Specifically:

- Strategic group of SO includes 02 strategies in the field of Trade - Export and Investment. These strategies use key strengths such as “Having great economic geographic advantages for trade and service development and being located at a trading lead center of the region” and “Having an attractive “Market” and “Infrastructure” for investment” to take advantage of external opportunities such as “Completion and operation of the transport and logistics infrastructure works will promote the circulation of goods and significantly reduce costs for exporters in the region”, “Participation in FTAs creates opportunities to expand and diversify the trade - export market, making Can Tho City's products and goods participate more deeply into the entire production and supply chain” or “Development potential of the economy as well as each industry and each field is still quite large”. Strategies such as *“Development Strategy to make Can Tho City become a lead center of trade and export in the Mekong Delta” and “Investment Attraction Strategy with a focus on leading industries”* are formed.

- Strategic group of WO includes 02 strategies in the field of Trade - Export and Tourism. These strategies use key opportunities such as “Completion and operation of the transport and logistics infrastructure works will promote the circulation of goods and significantly reduce costs for exporters in the region”, Participation in FTAs creates opportunities to expand and diversify the trade - export market, making Can Tho City's products and goods participate more deeply into the entire production and supply chain” or “Completion of transport infrastructure projects, especially highways as well as opening new flight routes, is an opportunity for the city to expand the market and welcome more tourists” to improve the weaknesses as “The city's export capacity is still low due to the lack of large corporations, especially in the export processing sector. The value of the city's exports is not high”, “There are very few famous domestic and international brands of products, goods and services” and “Tourism activities and supporting tourism services (such as nightlife, shopping and tourism) are overlapping, monotonous, and have not met the needs of tourists”. Strategies such as *“Strategy for Branding of Featured Export Products” and “Development Strategy of supporting tourism activities and services”* are formed.

- Strategic group of ST includes 02 strategies in the field of Human Resources and Public Management Ability. These strategies use key strengths as “Role of Center for Education – Training and Science – Technology of the region” or “Situation of political security, social order and safety is guaranteed, creating a safe and secure environment for living, working, investing and doing business” to cope with challenges such as “Common international standards for human resources”, “The Fourth Industrial Revolution creates challenges for the workforce (the ability to grasp, adapt, apply and master science and technology)” or “Non-traditional security challenges, especially climate change, environmental pollution, cybersecurity, and dangerous epidemics spreading globally are increasing”. Strategies such as “*Development Strategy of Can Tho City to become a center* *for training high-quality human resources with international standards"* and *"Strategy for Public Management Ability Enhancement in the New Situation"* are formed.

- Strategic group of WT: includes 02 strategies in the field of Tourism and Human Resources. These are strategies aimed at overcoming such weaknesses "Tourism activities and supporting tourism services (such as nightlife, shopping and tourism) are overlapping, monotonous, and have not met the needs of tourists" and "Can Tho still has low labor productivity". At the same time these strategies are to cope with or dodge with challenges such "Climate change, environmental degradation caused by tourism exploitation is not combined with renewable investment; the spread of global epidemics..." or "Common international standards for human resources", "The Fourth Industrial Revolution creates challenges for the workforce (the ability to grasp, adapt, apply and master science and technology)". Strategies such as "*Strategy for Development of Typical, Green and Sustainable Tourism Products of Can Tho city*" and "*Strategy for accelerating the transfer and application of science and technology with purpose of labor productivity improvement*" are formed.

3.3. QSPM matrix

On the basis of strategic groups of SO, WO, ST, WT formed from the SWOT matrix, the study construct QSPM matrix. In which:

- Coefficient: average score of experts for each strength, weakness, opportunity and challenge.

- AS: attraction score, showing the correlation of strength, weakness, opportunity and challenge with strategic plans.

(AS: 1 = less attractive; 2 = medium; 3 = attractive)

-TAS: total attraction score, which is determined by the result of multiplication of weight by attraction point.

- Average score: the average of total attraction point. The higher the average value, the more attractive that strategic plan is.

Strategy SO:

Table 2. QSPM matrix for strategic group of SO

Important factors	**Coefficient**	**Strategic plan**			
		Development Strategy to make Can Tho City become a lead center of trade and export in the Mekong Delta		Investment Attraction Strategy with a focus on leading industries.	
		AS	**TAS**	**AS**	**TAS**

Strength					
- S1 Trade - export	3.00	3	9	-	-
- S4 Investment	2.70	-	-	3	8.1
Opportunity					
- O2 Trade - export	3,00	3	9	-	-
- O3 Trade - export	2.87	3	8.61	-	-
- O4 Investment	2.60	-	-	3	7.8
Average point	**-**	**-**	**8.87**	**-**	**7.95**

Source: Compiled by author, 2020

According to results in 2, we can see that "Development Strategy to make Can Tho City become a lead center of trade and export in the Mekong Delta" reached 8.87 points. "Investment Attraction Strategy with a focus on leading industries" reached 7.95 points.

Strategy WO:

Table 3. QSPM matrix for strategic group of WO

Important factors	**Coefficient**	**Strategic plan**			
		Strategy for Branding of Featured Export Products		Development Strategy of supporting tourism activities and services	
		AS	**TAS**	**AS**	**TAS**
Weakness					
- W1 Tourism	2.73	-	-	3	8,19
- W2 Trade - export	2.67	3	8.01	-	-
- W3 Trade - export	2.67	3	8.01	-	-
Opportunity					
- O1 Tourism	3.00	-	-	3	9
- O2 Trade - export	2.87	3	8.61	-	-
- O3 Trade - export	3.00	3	9		
Average point	**-**	**-**	**841**	**-**	**8.60**

Source: Compiled by author, 2020

According to results in Table 3, we can see that "Strategy for Branding of Featured Export Products reached 8,41 points. "Development Strategy of supporting tourism activities and services" reached 8,60 points.

Strategy ST:

Table 4. QSPM matrix for strategic group of ST

Important factors	Coefficient	Strategic plan			
		Development Strategy of Can Tho City to become a center for training high-quality human resources with international standards		Strategy for Public Management Ability Enhancement in the New Situation	
		AS	**TAS**	**AS**	**TAS**
Strength					
S2 Human Resources	2.9	3	8.7	-	-
S3 Public management ability	2.73	-	-	3	8.19
Challenge					
T2 Human Resources	2.77	3	8.31	-	-
T3 Human Resources	2.77	3	8.31	-	-
T4 Public management ability	2.73	-	-	3	8.19
Average point			**8.44**		**8.19**

Source: Compiled by author, 2020

According to results in 4, "Development Strategy of Can Tho City to become a center for training high-quality human resources with international standards" reached 8.44 points and "Strategy for Public Management Ability Enhancement in the New Situation" reached 8.19 points.

Strategy WT:

Table 5. QSPM matrix for strategic group of WT

Important factors	Coefficient	Strategic plan			
		Strategy for Development of Typical, Green and Sustainable Tourism Products of Can Tho city		Strategy for accelerating the transfer and application of science and technology with purpose of labor productivity improvement	
		AS	**TAS**	**AS**	**TAS**
Weakness					

W1 Tourism	2.73	3	8.19	-	-
W4 Human Resources	2.67	-	-	3	8.01
Challenge					
T1 Tourism	2.80	3	8.40	-	-
T2 Human Resources	2.77	-	-	3	8.31
T3 Human Resources	2.77	-	-	3	8.31
Average point			**8.30**		**8.21**

Source: Compiled by author, 2020

According to results in 5, "Strategy for Development of Typical, Green and Sustainable Tourism Products of Can Tho city" reached 8.30 points and "Strategy for accelerating the transfer and application of science and technology with purpose of labor productivity improvement" reached 8.21 points.

For ensuring the concentration of the strategy, four strategies with the highest average point were selected from the average point of the eight strategies.

Table 6. Synthesis of average ratings of the strategies

Name of strategy	Average point
Development Strategy to make Can Tho City become a lead center of trade and export in the Mekong Delta.	**8.87**
Development Strategy of supporting tourism activities and services.	**8.60**
Development Strategy of Can Tho City to become a center for training high-quality human resources with international standards	**8.44**
Strategy for Branding of Featured Export Products.	**8.41**
Strategy for Development of Typical, Green and Sustainable Tourism Products of Can Tho city	**8.30**
Strategy for accelerating the transfer and application of science and technology with purpose of labor productivity improvement	**8.21**
Strategy for Public Management Ability Enhancement in the New Situation	**8.19**
Investment Attraction Strategy with a focus on leading industries	**7.95**

Source: Compiled by author, 2020

From the ranking results shown in Table 6, the selected strategies are:

Strategy 1. Development Strategy to make Can Tho City become a lead center of trade and export in the Mekong Delta.

Strategy 2. Development Strategy of supporting tourism activities and services.

Strategy 3. Development Strategy of Can Tho City to become a center for training high-quality human resources with international standards.

Strategy 4. Strategy for Branding of Featured Export Products.

3.4. Solutions for strategy performance

3.4.1. Solution group for performance of Strategy 1

- Continue to implement and effectively apply a number of specific mechanisms on investment, finance, budget and decentralized management for Can Tho City to create a breakthrough in calling for and mobilizing resources for the implementation of infrastructure projects that make sense for the city's trade - export development such as seaport logistics and aviation logistics projects, high-tech parks...

- Develop a reasonable medium-term plan for public investment for the period 2021 – 2025; allocate resources and avoid spreading, dispersing, speeding up the disbursement of capital; ensure correct completion of the set schedule of traffic infrastructure works managed by the city in order to increase the synchronization and connectivity of the city's infrastructure system.

- Promote the implementation of the shared economic model, especially in the field of commerce, logistics with models such as for lease of space, offices, apartments, warehouses, vehicles...

3.4.2. Solution group for performance of Strategy 2

- Study, formulate and approve the Nighttime Economic Development Project in Can Tho City to from legal basis to exploit the potential of the nighttime economy, create more attractive tourism products for tourists and job opportunities, improve income and living standards of people by participating in providing services to tourists.

- Develop more specialized streets, upgrade current night markets, study to restore a number of streets with traditional, long-standing and branded stores of the city to serve shopping needs of visitors.

3.4.3. Solution group for performance of Strategy 3

- Speed up the implementation of projects in the field of education in the city. Continue to call for the development of a system of high-quality private educational institutions.

- Encourage initiatives of an advanced educational model that is appropriate to the needs of development in the new situation. Promote the application of information technology in teaching. Strengthen foreign language capacity for students in the city.

- Propose to the competent authority to allow the city to implement experimental model of application of special higher education standards for one or a number of higher education institutions under city government according to international models and standards to create a breakthrough in the training of high-quality human resources for the city.

3.4.4. Solution group for performance of Strategy 4

- Enhance the application of science and technology in production and business processes such as the application of IoT in the field of crop production to increase automation, apply blockchain to product traceability, apply timelapse technology to track farming, processing...

- Organize training courses, advise businesses on packaging design, branding, logo, identification system, website interface, booth decoration ...; support enterprises in trademark registration.

- Enhance promotion through social media, especially social networks such as Facebook, Weibo... Apply virtual reality technology to advertise and promote export goods and call for investment.

4. Discussion and Conclusion

By the SWOT matrix method and the QSPM matrix method and thanks to the consultation of 30 government representatives and 30 experts, the study has identified the main strengths, weaknesses, opportunities and challenges, thereby building and selecting 4 marketing place strategies of Can Tho City, including: (i) Development Strategy to make Can Tho City become a lead center of trade and export in the Mekong Delta; (ii) Development Strategy of supporting tourism activities and services; (iii) Development Strategy of Can Tho City to become a center for training high-quality human resources with international standards and (iv) Strategy for Branding of Featured Export Products. Besides, the study has proposed 04 groups of solutions for strategy performance. Thereby, the study has completed Place Marketing Strategy of Can Tho City with orientation towards 2030.

5. References

1. The 12^{th} Politburo (August, 2020), *Resolution No. 59-NQ/TW on the construction and development of Can Tho City to 2030, with an orientation to 2045,* Document by the Communist Party.

2. CECODES, VFF-CRT, RTA and UNDP (Apr, 2020), *The Vietnam Provincial Governance and Public Administration Performance Index (PAPI) 2019: Measured from practical experience of the people (Chi so Hieu qua Quan tri va hanh chinh cong cap tinh o Viet Nam (PAPI) 2019: Do luong tu kinh nghiem thuc tien cua nguoi dan)*, Report of Policy Research by Center for Community Support Development Studies (CECODES), Center for

Research and Training of the Vietnam Fatherland Front (VFF-CRT), Real-time Analytics and United Nations Development Programme (UNDP).

3. E.J.Malesky et al (April, 2020), *Chapter 1: Civilian-run enterprise survey and Provincial Competitiveness Index 2019 (Chuong 1: Dieu tra doanh nghiệp dan doanh va chi so Nang luc canh tranh cap tinh)*, Report of Vietnam Provincial Competitiveness Index (PCI) 2019: Evaluation of economic governance quality for promotion and development of business.

4. S. Anholt (2007), *Competitve Identity: the new Brand Management for Nations, Cities and Regions*, Palgrave Macmillan, Basingstoke.

5. People's Committee of Can Tho City (November, 2019), *Report No. 289/BC-UBND: Results of the implementation of Resolution by the City People's Council on socio-economy, national defense and security in 2019; The theme for 2019: "Promotion of administrative reform, focusing on investment and development, and improvement of people's lives";* the goal and mission of development in 2020 by Can Tho City, Administrative Document.

6. People's Committee of Can Tho City (September, 2018), *Decision No. 2403/QD-UBND on approval of the Project "Construction and development of typical tourism products in Can Tho City in the period of 2018 – 2030, with a vision to 2030"*, Legal Document.

SOME SOLUTIONS FOR TRAINING HIGH QUALITY HUMAN RESOURCES TO MEET THE REQUIREMENTS FOR SUSTAINABLE DEVELOPMENT IN VIET NAM TODAY

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Abstract

Human resources, especially high-quality human resources, play a decisive role in the sustainable development of each country. In the context of the strong development of modern science and technology, especially the Fourth Industrial Revolution, along with the strong trend of globalization and international integration, the impact on human resources, especially high-quality human resources. To adapt with the Fourth Industrial Revolution and the current development trend, our Party and Government have paid special attention to improve the quality of human resource training, especially high-quality human resources to meet the requirements of sustainable development of the country.

Keywords: *Human resources, human resource training, high quality human resources, sustainable development*

1. Introduction

Facing the great and strong impact of modern science and technology, especially the Fourth Industrial Revolution; globalization has become an inevitable trend, the knowledge economy has become a prominent feature of the world economy, and the training and development of human resources, especially high-quality human resources, has become more important than ever among countries around the world. In our country, our Party determines: "Create a breakthrough in fundamental and comprehensive reform of education and training, develop high-quality human resources, attract and utilize talents. Promote research, transform and strongly apply the achievements of the Fourth Industrial Revolution to all areas of social life…”[1]. It can be said that investment in education and training development to meet the requirements of high-quality human resources is a strategic investment, the most effective investment to exploit and use internal resources for the sustainable development of the country currently and onwards.

Around the issue of training high-quality human resources to meet the requirements of sustainable development in the world as well as in Vietnam, there have been many scientific works, articles published in numerous journals which discuss human resources in different aspects. Notable examples include: Greg G.Wang và Judy Y.Sun (2009), “Perspectives on Theory Clarifying the Boundaries of Human Resource Development”,. Kelly D.J (2001), “Dual Perception of HRD: Issues for Policy: SME’s, Other

Constituencies, and the Contested Definitions of Human Resource Development", Human Resource Development outlook, Pacific Economic Cooperation Council Development Task Force 2000- 2001. Kristine Sydhagen - Peter Cunningham (2007), Human Resource Development international, The Academy of human resource Development.. Julia Storberg và Walker Claire Gubbins (2007), "Social Networks as a Conceptual and Empirical Tool to Understand and "Do' HRD", Advances in Developing Human Resources, The Academy of Human Resource Development Vol. 9 Number 3, August, 2007, Sage Publications, Georgia; Chu Van Cap (2012), "Developing high-quality human resources contributing to the sustainable development of Vietnam". Le Thi Hong Diep (2009), "Developing high-quality human resources to form a knowledge-based economy in Vietnam", PhD Thesis Political Economy, Hanoi.

Pham Minh Hac (2003), "Going into the twenty-first century to develop high-quality human resources to serve the country's industrialization and modernization", Labor - Society Magazine, No. 215. Pham Thi Khanh (2007), "Developing high-quality human resources to meet the requirements of international economic integration", Labor and Social Journal, No. 325, December.

The works and articles mentioned above mainly discuss the issues of human resources, the development of high-quality human resources and its role in socio-economic development in various aspects. However, there are no works or articles that specifically state the solution to train high-quality human resources to meet the requirements of sustainable development in our country today. On the basis of inheriting the research results of published works and articles, the author focuses on the interpretation of a number of issues about the role and status of high-quality human resources in our country. Since then, some solutions are proposed to further improve the quality of training high-quality human resources to meet the requirements of sustainable development in our country today.

2. Methods

The article is based on the methodology of Marxism - Leninism; and published scientific works related to the research topic being sources of reference for the author to complete this article. In the research process, the author uses a combination of different methods such as analysis, synthesis; generalization, abstraction; statistics; comparison, compare… Specifically:

Methods of analysis and synthesis: Research, analyze and evaluate the quality of high-quality human resources, the current situation of high-quality human resources; draw the advantages and limitations of high-quality human resources to meet the requirements of sustainable development in Vietnam today.

Abstraction and generalization method: The article uses a combination of both abstraction and generalization to clarify the manifestation of high quality human resources, thereby determining the direction to propose measures in order to improve the quality of training high-quality human resources to meet the requirements of sustainable development in Vietnam today.

Statistical method: Through assessing the current situation, the article has listed some advantages and limitations of high quality human resources. From there, some solutions are proposed to improve the quality of training high-quality human resources to meet the requirements of sustainable development in Vietnam today.

Comparing and contrasting methods: From analyzing the roles and manifestations of high-quality human resources, the article compares the current situation of the quality of high-quality human resources in Vietnam to see problems for high-quality human resources to meet the requirements of sustainable development in Vietnam. On that basis, propose a number of measures to improve the quality of training high-quality human resources to meet the requirements of sustainable development in Vietnam today.

3. Results

3.1 Some problems of high-quality human resources to meet the requirements of sustainable development in our country

3.1.1 The role of high-quality human resources in sustainable development in our country

The concept of Marxism-Leninism always emphasizes the position and role of people in the development process of social history. At the same time, it is affirmed that human plays a decisive role in the constitutive elements of the productive forces. The American futurist, Alvin Toffler also emphasized the role of intellectual workers: “Money will be spent forever, power will be lost; Only human intelligence, when used, not only does not lose but also grows"[2]

Therefore, it is admitted that there is a close relationship between human resources, capital, natural resources, material and technical foundations, science, and technology, etc. promoting the sustainable development of the country. But in which human resources, especially high-quality human resources, are considered as endogenous driving forces that dominate other resources and play a decisive role in the sustainable development of each country. In that relationship, high-quality human resources with the leading factor being intelligence and gray matter have outstanding advantages and will never be exhausted if they know how to foster, exploit, and use them appropriately; and other resources, no matter how many, are only limited factors and can only be effective when combined with human resources effectively. High-quality human resources are a decisive factor in the exploitation, use, protection, and regeneration of other resources.

The fact shows that a country may not be rich in resources, unfavorable natural conditions, but the economy can grow quickly and develop sustainably provided that country knows how to set a correct economic policy, how to organize the successful implementation of that line; with a team of leading cadres, managers and intellectuals who are worthy; a large number of highly skilled technical workers and talented entrepreneurs.

In the contemporary world, with the strong impact of modern science and technology, especially the fourth industrial revolution, the trend of globalization and international integration is deepening, knowledge economy as a feature of the economy, human resources, especially high-quality human resources, increasingly play a decisive role. Recent growth theories indicate that an economy that wants to grow rapidly and at a high rate must be based on at least three basic pillars: the adoption of new technologies, the development of modern infrastructure, and the development of modern infrastructure. improve the quality of human resources. In particular, the most important driver of sustainable economic growth is people, especially high-quality human resources, that is, those who are invested in development, have skills, knowledge and skills, experience, creative capacity to become "capital - human capital, human capital". Given the fluctuations and fierce competition in the world, the victory will belong to countries with high-quality human resources, a favorable legal environment for investment and a socio-political environment stability for socio-economic development.

In our country, throughout the process of leading the Vietnamese revolution, we have always been consistent in our view of putting people at the center of the development process, considering people as both the goal and the driving force of development. It can be affirmed that the cause of national renewal, accelerating industrialization, modernization and international integration will not be successful without human resources, especially high-quality human resources, with talented people fully converging on moral qualities, having wisdom, good professional capacity, and good health... Our Party states: "Continue to synchronously innovate goals, contents, programs, methods, educational and training methods in the direction of modernity, international integration, comprehensive human development, meeting new requirements of socio-economic development, science and technology, adapting to the Fourth Industrial Revolution. Paying more attention to education on morality, personality, creative capacity and core values, especially education on patriotism, pride, national pride, tradition and national history, and a sense of social responsibility for all classes of people, especially the young generation…”[3]. Therefore, in the new historical context, our Party always focuses on training human resources to meet the requirements of sustainable development of the country.

3.1.2. The current situation of high-quality human resources to meet the requirements of sustainable development in our country today

Currently, with the strong development of modern science and technology, especially the fourth industrial revolution, it has had a significant impact on human resources, especially high-quality human resources to meet the requirements of the sustainable development in our country today.

Firstly, the impact of the fourth industrial revolution has been rapidly changing the structure and labor market. Manual labor will gradually be replaced by automation systems, machines and artificial intelligence will replace human power; In the labor market, the demand for high-skilled workers will increase while the demand for low-skilled workers will decrease. This is the main cause of labor surplus and rising unemployment, especially in developing countries. And so, cheap labor will no longer be a competitive advantage of developing countries' markets. What is more special, under the impact of the fourth industrial revolution, it not only threatens the employment of low-skilled workers, but even middle-skilled workers will also be affected. That raises a big question for the human resource training process in our country today. Because, for Vietnam from the past to the present, the economy has mainly relied on industries that use cheap labor and exploit natural resources with outdated levels. This is one of the major challenges for sustainable development in our country today.

In fact, although we are in the "golden population" period - the period when the population of working age is the highest "in 2016, the labor force of the whole country reached about 54.4 million people, accounting for about 58.9% of the total population"[4], however, our country's human resources, especially high-quality human resources, are severely lacking. The rate of trained workers with diplomas and certificates is still low, the goal is that by 2030 "the proportion of trained workers with degrees and certificates will reach 35-40%"[5]. The shortage of labor skills and skills in some industries is typical of Vietnamese workers today. For example, for information technology human resources, currently 72% of IT students do not have practical experience, 42% of students lack teamwork skills. Professional qualifications of workers have not met the actual requirements, the skills of learners after graduation are still limited, not keeping up with the trend of the times. The adaptability of employees to the job is not high, the reception, application, and creativity of employees in the working process are still low. A current reality, while employers are "thirst" for high-quality human resources, the unemployment rate among people with college and university degrees or higher in our country accounts for the highest rate. As of the first quarter of 2017, "the number of unemployed people with a university degree or higher was 138.8 thousand people, the unemployment rate of this group was 2.79%. The group with college degrees has 104.2 thousand unemployed people, the unemployment rate for this group is 6%. The group of intermediate level has 83.2 thousand unemployed people, the unemployment rate is 3.08%"[6]. On the other hand, according to feedback from employers, most learners who are recruited to work after graduation have to be retrained. According to the assessment of the World Bank (WB), "the quality of human resources in Vietnam currently reaches 3.39/10 points and the competitiveness of the Vietnamese economy ranks 73 out of 133 countries ranked in the list of top 10 countries in the world. rank"[7]. Therefore, "Vietnam's labor productivity is nearly 17 times lower than that of Singapore, 11 times lower than Japan's, and 10 times lower than Korea's, equal to 1/5 of the labor productivity of Malaysia and 2/5 of the labor productivity of Thailand"[8]. That fact shows that Vietnam's competitiveness is still weak and the risk of falling behind of our economy is obvious. Besides, the proportion of workers trained according to professional and technical qualifications in Vietnam is also not reasonable. According to a recent statistic, "the number of doctors is more than 14,000 people, but up to 70% hold management positions, only 30% do professional work... out of 11.73 million workforces. There are 5.12 million people who have been trained through training with degrees and certificates from elementary and equivalent or higher, university and post-graduate degrees; college level has

1.80 million people; the intermediate level has 3.03 million people; elementary level has 1.78 million people”[9]. That fact has reflected quite clearly the imbalance in the structure of trained labor between vocational education and higher education in Vietnam today. On the other hand, the current high-quality human resources in our country are not properly distributed, with more than 92% of the staff with doctorate degrees or higher concentrated in Hanoi and Ho Chi Minh City; while in the Central Highlands, Northwest and Southwest, this rate is less than 1%.

Regarding the state management, especially the planning and development orientation of human resources of the sectors, there are still many shortcomings and lack of synchronization. The forecasting of long-term human resource needs for socio-economic development is also unrealistic even limited and weak; The structure of training by industry, profession and level of training is not specifically planned for a long time. That leads to training institutions which have not enough information about labor supply and demand, which inevitably leads to the result that the construction of industries, occupations, targets, and annual training levels is unrealistic. According to experts' forecasts, under the impact of the fourth industrial revolution, soon, many workers in Vietnam's industries and occupations may be unemployed. Currently, according to estimates of the International Labor Organization (ILO), up to 86% of workers in Vietnam's textile and footwear industries are at high risk of losing their jobs. This will cause significant damage when this number of workers currently accounts for a fairly large proportion of the labor force of our country today.

Given the impact of the fourth industrial revolution, education must be improved to train qualified and capable human resources to meet the requirements set forth. Our Party clearly states: "Building synchronously institutions and policies to effectively implement the policy of education and training together with science and technology is the top national policy and a key driving force for land development. country. Continue to synchronously innovate educational and training objectives, contents, programs and methods towards modernity, international integration, comprehensive human development, and meeting new requirements of economic development. - society, science and technology, adapting to the Fourth Industrial Revolution”[10]. The goal of education and training is to form Vietnamese people to meet the requirements of fast and sustainable development of the country and in line with the trend of the times, in the immediate future is to promote the process of industrialization and modernization. modernize the country.

3.2. Some solutions to improve the quality of training high-quality human resources to meet the requirements of sustainable development in our country today

To further improve the quality of training, especially training high-quality human resources to meet the requirements of sustainable development in our country today, we need to enhance and implement effectively the following solutions:

3.2.1. Continuous innovation in fundamental and comprehensive education and training

This is the most important solution to improve the quality of high-quality human resource training before the impact of the fourth industrial revolution. The essence of the fourth revolution is based on the foundation of digital technology and integrating smart technologies to optimize the production process, increasing the social labor productivity. So, it will create new occupations, new technologies, techniques and even the labor market. This requires employees to also be equipped with new knowledge, skills, and qualities to meet the requirements of practice. To do so, it is necessary to quickly complete the education system in the direction of openness and integration, urgently arrange and rearrange the education system in a reasonable manner, especially higher education, and vocational training. Overcoming the unreasonableness of training scale, structure of professional qualifications and regional and regional structure in education and training; linking training with scientific research and technology application. Focusing on key fields that have great influence on the country's socio-economic development in the context of the fourth industrial revolution such as automation, information technology, and biotechnology … and the integration between industries and fields.

Renovation of education and training needs to properly identify training capabilities and needs; pay special attention to the formulation of plans and forecasts of social human resource needs, especially the needs of businesses, localities, fields, and branches in society... from which to have a plan. Adjust the training process accordingly. In the current conditions, it is necessary to attach importance to improving the quality of education and training according to regional and international standards, thereby creating a change in the training of high-quality human resources. In the current trend, the implementation of promoting socialization, giving autonomy to universities, colleges and vocational training; encouraging enterprises to participate in vocational training is the right direction for innovating and improving the quality of education and training in the context of the fourth industrial revolution.

Renovating the content and training program must be based on the requirements of society, the ability and requirements of learners to ensure streamlining, modernity and practicality in accordance with the spirit of the Party as determined by our Party: "To strongly shift the educational process from mainly equipping knowledge to comprehensively developing learners' capabilities and qualities; from studying mainly in class to organizing diverse learning forms, paying attention to teaching and learning online, via internet, television, social activities, extra-curricular activities, scientific research; School education combines with family education and social education"[11]. The training content should be responsive and equip learners with both knowledge and skills suitable for the rapid change of the fourth industrial revolution. The training program must be a program aimed at developing both capacity and quality of learners, ensuring a harmonious combination of moral, intellectual, physical, and aesthetic aspects; teaching people, teaching literacy and vocational training; In particular, it is necessary to increase the teaching time of foreign languages, informatics, and technology in a practical way. Implement an open training program, ensuring flexibility and flexibility, in line with the rapid transformation of the fourth industrial revolution. Only then, education deserves to be given the priority in socio-economic development programs and plans as determined by our Party.

To further promote international cooperation in education and training, science and technology, create a favorable environment and conditions to attract talented, reputable and experienced teachers and scientists of foreign; attracting overseas Vietnamese to participate in the process of education, training and scientific research in the country. Implement international cooperation programs with prestigious educational institutions, send Vietnamese students abroad to study and foster…

Upon the rapid development of modern science and technology, especially the fourth industrial revolution, associated with content innovation, the program is the innovation of teaching methods and standardization of teaching staff. current instructors. The requirements of current teaching methods need to focus on teaching learners how to learn, how to think; in which the promotion of self-study and lifelong learning is particularly important. That requirement requires us to "continue to strongly innovate teaching and learning methods towards modernity; promote the positive, proactive, creative and apply knowledge and skills of learners; overcome the one-way imposed transmission, remembering machines. Focus on teaching how to learn, how to think, encourage self-study, create a basis for learners to update and renew knowledge, skills, and capacity development"[12]. In the current information explosion condition, the amount of human knowledge is increasing very rapidly with many new knowledges. Therefore, the basic thing of education is to form for learners the habit of systematically thinking, synthesizing, and applying knowledge into practice, the teaching process of teachers must inspire learners in self-study and self-study to find new things and solve problems with the highest efficiency without being constrained, mechanically stereotyped according to the existing ones. The assessment of learners' ability should be done in the direction of assessing the ability of learners to apply, not just reconstructing in purely theoretical evaluation. Teachers need to stimulate and nurture students' critical and creative thinking; On the contrary, learners must be active in a free creative environment. Because only in that environment can people's capacity for cognitive and practical activities be highly promoted. In the digital economy, creativity is an outstanding feature of human resources. Accordingly, creativity is considered the most important criterion to assess the level of development and adaptation of education and training in the context of the fourth industrial revolution.

In Vietnam, the quality of education and training over the past time has made positive changes, but compared to the development requirements of practice, there are still many shortcomings. According to the "Report of the World Economic Forum (WEF) in Davos (Switzerland) in January 2018 entitled "Readiness for future manufacturing" clearly indicated, Vietnam is one of the groups of countries that do not have a readiness for the industrial revolution 4.0. In 2018, the WEF conducted an analysis of 100 countries and economies representing more than 96% of global market value added (MVA) and more than

96% of global gross domestic product. WEF ranks Vietnam in the group of weak countries, ranking only 75/100 for the quality of university training, 68100 for the quality of math and science education (3.7/7 points). The factors of technological innovation and education in preparation for Vietnam's 4.0 revolution are low. Specifically, Vietnam ranks 90/100 in terms of technology and innovation; 92/100 on background technology; 77/100 on the ability to create sitting; 70/100 on human resources. In total, Vietnam only scored 4.9 on a 10-point scale in terms of readiness for the 4.0 revolution, equivalent to Cambodia, inferior to Singapore, Thailand, the Philippines, and Malaysia"[13]. This is really a big challenge that Vietnam's education system needs to urgently overcome to improve the quality of human resource training, especially high-quality human resource training, thereby, speeding up the socio-economic development.

*3.2.2. Further investment in technical facilities for the education and training process***.**

To improve the quality of human resource training, especially today's high-quality human resources, it is necessary to create conditions for education and training to rapidly modernize facilities and promote integration. international; on the other hand, it also requires education and training methods and methods to change in the direction of strongly applying the achievements of modern science and technology, especially information technology, technical technology. digital and computer network systems into the teaching process in current training institutions. Modern technological means have become an element, an indispensable feature of modern education.

The development of modern science and technology has brought great changes to education in general and teaching and learning methods. The use of modern technological devices, cloud computing technology and internet connection to the world has allowed teachers to provide materials to learners in a rich, diverse, and fast manner; On the contrary, learners can choose appropriate teachers, have the conditions to interact with teachers and fellow learners at anytime, anywhere. Therefore, the teacher is not only a guide and intellectual enlightenment for learners, but also an active collaborator with learners, helping and supporting learners to further develop their learning skills. suitable set.

Additionally, training institutions need to invest more in facilities to serve the appropriate teaching and learning process. The trend of modern education requires that educational institutions need to be modernized to serve the teaching and learning process. From the classroom, the learning environment, and the teaching facilities, all need to be invested in a modern way to build a smart teaching and learning environment before the impact of the fourth industrial revolution. In fact, learning has never been easier than it is today, from e-learning to sharing educational resources between cultures. This has created for learners to increase their initiative, self-study and they can interact with any teacher they want, creating opportunities for learners to be suitable for themselves, to meet their needs. requirements of today's learning society. Therefore, if invested in an effective and appropriate way, the implementation of the social philosophy of learning and lifelong learning will be firmly established and vividly realized in life.

On the other hand, investing in facilities for the implementation of online training is the way and the right direction for the fourth industrial revolution. Therefore, the development trend of education and training has been pointed out by our Party: “Building an open education system, lifelong learning and building a learning society; conduct training according to the needs of the labor market”[14]. It is this that has made the social nature of the productive forces through the process of education and training more and more developed, surpassing the scope of each country, making the relations between countries in all fields more and more developed. The field of education and training, including the education and training field, is becoming increasingly corelative and extensive, contributing to promoting the increase in adaptability to the ever-improving trend of education and training. create Vietnam before the impact of the fourth industrial revolution.

3.2.3. Perfecting the system of mechanisms and policies for training and developing high-quality human resources

This is one of the important solutions, creating a direct motivation to promote the process of socio-economic construction and development of the country in general and the development of high-quality human resources to meet the requirements of sustainable development firmly in our country. In the past time, our Party and State have paid great attention and promulgated many appropriate mechanisms and policies that have had a positive impact on the process of training and developing high-quality human resources to meet development requirements. sustainability in our country. However, in the implementation process, those policies have revealed several limitations and inadequacies that have not had commensurate positive effects. Therefore, for the training of high-quality human resources to develop and achieve positive results, we need to regularly adjust, supplement and perfect the system of appropriate remuneration mechanisms and policies to further improve the quality of training high-quality human resources to meet the requirements of sustainable development in our country today.

The improvement of the system of mechanisms and policies for training and developing high-quality human resources needs to be implemented synchronously in all areas such as career development orientation, quality of education and training, and policies. job development, working conditions and environment; accompanying it are policies, social security activities, insurance regimes, social protection, health care, remuneration and benefits regimes, etc. In which, special attention is paid to Vietnamese attractiveness., using and treating to create motivation to promote the process of striving, learning, training to improve the qualifications of workers in all aspects to adapt to the requirements of the fourth industrial revolution.

The process of training, recruiting, and arranging to use high-quality human resources should be implemented in an open, transparent, and objective manner, ensuring accuracy, based on actual qualities and capabilities. of workers. It is necessary to do a good job of orienting career trends after training. Training institutions need to be intricately linked to employers; Leaders and managers need to boldly use high-quality young human resources who are well-trained through schools as prescribed. Appreciate the treatment and honor high-quality human resources, implementing a flexible salary and remuneration policy according to the criteria of talent and contribution efficiency in work. Building a favorable working environment, plans and criteria for promotion and promotion to motivate and stimulate employees to work effectively and creatively. To ensure maximum conditions, facilities and working facilities for scientists and young talents. Honoring and encouraging both materially and spiritually to those who have made great contributions to bringing benefits to the collective and society**.**

Constantly perfecting the legal framework, ensuring a safe and favorable working environment for the process of training and developing high-quality human resources, encouraging the development of the high-quality human resource market; building an environment and a legal corridor for new industries born from the fourth industrial revolution as defined by our Party: "Improve the institutions for development, application of science and technology, and education. - training and developing human resources, especially high-quality human resources”[15].

Pay attention to and have supportive policies for start-up activities in university training institutions. Strengthen cooperation activities between the State, enterprises, and universities. Orienting and promoting training development of key and spearhead industries to meet the requirements of the fourth industrial revolution. Improve the operation quality of technology incubators. Continue to effectively implement the project of building high-tech centers; adopt appropriate and effective policies in technology import activities. Implement preferential regimes for excellent scientific and technological works of organizations and individuals.

4. Discussion and Conclusion

In summary, the trend of global integration and international integration, along with the strong development of modern science and technology, especially the fourth industrial revolution, has had a strong impact on the entire process of international integration. education and training programs, especially training high-quality human resources to meet the requirements of sustainable development of the country. Therefore, in order to match it, the education and training requirements must change in the direction of improving the quality commensurate with the needs of the current labor market. To radically and comprehensively renovate education and training; invest in material and technical foundations for education and training activities; perfecting the system of mechanisms and policies for high-quality human resource training is an indispensable and objective requirement in order to create breakthrough changes in Vietnamese education and training in the new era. digital era. In other words, success or failure, making good use of opportunities, overcoming difficulties and challenges before the impact of the fourth industrial revolution for sustainable development in Vietnam today depends greatly on the exploitation of human resources, especially the improvement of the training quality of high-quality human resources.

5. References

1. Communist Party of Vietnam (2021), Documents of the 13th National Congress of Deputies, National Political Publishing House of Truth, Hanoi, t.1, p.115

2. Alvin Toffler: The Rise and Fall of Power, Publishing House. Information Theory, Hanoi, 1992, p. 41

3. Communist Party of Vietnam (2021), Documents of the 13th National Congress of Deputies, National Political Publishing House of Truth, Hanoi, t.1, p.136

4. Central Propaganda Department: Research Papers on Documents of the Fifth Conference of the 12th Central Committee of the Communist Party of Vietnam Central Committee, National Publishing House - Truth, H.2017, p.112

5. Communist Party of Vietnam, Documents of the 13th National Congress of Deputies, National Political Publishing House Truth, H, 2021, t.1, p.219

6. Ministry of Labor, War Invalids and Social Affairs: Labor Market Bulletin, No. 13, Quarter I/2017, p.4

7. Vinh Suong Street: "Education and training with the development of high-quality human resources in our country today", Electronic Communist Journal, December 4, 2014

8. Ministry of Labour, War Invalids and Social Affairs: Labor market bulletin led

9. Le Huu Lap: “Training high-quality human resources”, Nhan Dan Online, April 9, 2016

10. Communist Party of Vietnam, Document of the 13th National Congress of Deputies, National Political Publishing House of Truth, H, 2021, t.1, p.136

11. Communist Party of Vietnam, Document of the 13th National Congress of Deputies, National Political Publishing House of Truth, H, 2021, t.1, p.232

12. Communist Party of Vietnam (2013), Document of the Eighth Conference of the XI Central Committee, Office of the Party Central Committee, Hanoi, pp.128-129

13. Led by Kim Ngoc, Tran Ngoc Son (2019), Barriers to increasing labor productivity in Vietnam, Vietnam Journal of Social Sciences, No. 1, pp.12-13

14. Communist Party of Vietnam, Documents of the 13th National Congress of Deputies, National Political Publishing House of Truth, H, 2021, t.1, p.234

15. Communist Party of Vietnam, Documents of the Fifth Conference of the 12th Central Executive Committee, p.54

ANALYSIS THE IMPACT OF MACRO FACTORS AFFECT TO DEVELOPMENT OF HIGHLY QUALIFIED HUMAN RESOURCES IN NAM DINH

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Abstract

In fact, there are many different factors affect the development of highly qualified human resources in Nam Dinh province, including both micro and macro factors that have an influence. With the research approach to state management in human resource development, the influencing factors considered are macro factors. In this content, the authors study the macro factors affecting the province's highly qualified human resources development, including: State management of central high qualified human resources development; Education-training factor; Economic factors; Labor force; Science and technology; Socio-culture... to build a linear regression function to determine the degree of influence of quantitative factors on the development of highly qualified human resources of Nam Dinh province.

Key words: *Human resource, high quality human resource, industrialization and modernization, development, high quality human resource, Nam Dinh province.*

1. Introduction

In the context of the rapid development of science and technology revolution and the trend of economic globalization to promote the rapid spread of knowledge economy, Vietnam in general and Nam Dinh. Nam Dinh is a province in the Red River Delta with a natural area of 1,669.2 km2 and has a population of about 2,200,000 people. Geographical position is located at the end of the Red River, on 1A Highway, and Nam Dinh province is about 90 km distance to the center of Hanoi city, which is very convenient for economic development. However, at present, the socio-economic development level of Nam Dinh is still poor due to the shortage of highly qualified human resources and the weakness in the organization to develop highly qualified human resources. Therefore, the quantitative analysis, building regression function, determining the influence of the factors affecting the development of highly qualified human resources in Nam Dinh is urgent and meaningful for research.

2. Methods

The paper is carried on basing on a combination of both qualitative and quantitative research methods closely in the research process with the desire to not only describe the theoretical picture of the impact of developing highly qualified human resources, but also quantify this impact through reliable statistics of Nam Dinh province. These methods include some steps as follows:

Collect primary documents at: Provincial Party Committee, Office of Provincial People's Committee, departments, departments, branches, some universities, colleges, hospitals and businesses, offices of People's Committees of districts, functional departments of People's Committees of districts in Nam Dinh province.

Determine the number of survey forms for this research: Based on the overall scale of the highly qualified human resources of Nam Dinh province available in 2019, which is 179,337 people, The expected confidence level when survey is 91.5%, error 8.5%: . Look up the normal distribution table with 91.5% confidence, get the variable value: Z=2.58. Ratio of random survey sample with probability p = q = 0.5. The expected number of survey samples to study the thesis topic is determined by the formula and must survey:

$$n = \frac{N.Z^2.p*q}{N*\varepsilon^2 + Z^2.p.q} = 230 \quad \text{(samples)} \qquad \text{(Nguyen Thi Canh, 2016)}$$

Data processing: Primary information and datas are collected through surveys, then (1) review and screen information, documents and data that are unclear, dishonest, and inaccurate, then collect and synthesize information, documents and raw data by manual method. (2) Edit and encrypt information, documents and data by computer and application software. (3) For primary data, after being cleaned, coded and analyzed, evaluated by scales, model tested and presented into an official research report on SPSS 21 software, AMOS software for quantitative analysis.

3. Results

In fact, there are many factors affecting the development of highly qualified human resources in Nam Dinh province, including groups of micro factors such as employment position, recruitment, training, personnel arrangement, working environment, salary, remuneration, remuneration policy in organizations, enterprises and group of macro factors as mentioned above. In the scope of research on state management on the development of highly qualified human resources, the authors focus on researching and measuring the impact of macro-environmental factors affecting the development of qualified human resources. Nam Dinh province consists of 6 factors: State management factors on human resource development at central level; Education and training factors; Economic factors; Labor force factor; Scientific and technological factors; Cultural and social factors are the official factors used for quantitative analysis in this research.

3.1. Research scale and measure influencing factors

To evaluate the factors affect the development of highly qualified human resources (HQHRs) in Nam Dinh province, we first build a scale to measure them. These scales are built in the form of a 5-point Likert scale, specifically:

3.1.1. Research scale

*** Scale of developing HQHRs of Nam Dinh province (6 observed variables)**

Encode	**Content / Observable Variables**
PTNNL1	Developing HQHRs of Nam Dinh province in terms of scale
PTNNL2	Developing HQHRs of Nam Dinh province in terms of quality
PTNNL3	Developing HQHRs of Nam Dinh province in terms of structure
PTNNL4	Program to develop HQHRs of Nam Dinh province
PTNNL5	Planning for developing HQHRs of Nam Dinh province
PTNNL6	Policy in developing HQHRs of Nam Dinh province

*** Scale of economic variables (4 observed variables)**

Encode	**Content / Observable Variables**
KT1	The level of economic growth affects the development of HQHRs in terms of size, quality and structure of Nam Dinh province
KT2	Economic activities of the agriculture, forestry and fishery sectors affect the development of HQHRs in Nam Dinh in terms of structure, scale and quality.
KT3	Economic activities of industry and construction have an impact on the development of structure, scale and quality of HQHRs of Nam Dinh province.
KT4	Economic activities of the service-commercial sector affect the development of structure, scale and quality of HQHRs in Nam Dinh province.

*** Scale of state management variables on human resource development at central level (5 observed variables)**

Encode	Content / Observable Variables
QL1	The central level human resource development strategy affects the planning, plans and policies in developing HQHRs of Nam Dinh province.
QL2	The central human resource development plan affects the planning, plans and policies for the development of HQHRs in Nam Dinh province.
QL3	The central planning of human resource development affects the planning, plans and policies in developing HQHRs of Nam Dinh province
QL4	The central-level human resource development policy affects the planning, policies and programs for the development of HQHRs in Nam Dinh province.
QL5	The central-level human resource development program affects the master plans, plans and policies in developing HQHRs of Nam Dinh province

*** Scale of labor force variables of Nam Dinh province (4 observed variables)**

Encode	Content / Observable Variables
LD1	Abundant labor force affects the development of HQHRs in terms of scale and structure of Nam Dinh province
LD2	The labor force participation rate affects the structure of HQHRs development in Nam Dinh province
LD3	Human resource HDI affects the development of HQHRs in Nam Dinh province
LD4	The qualified level of labor force affects the development of HQHRs in Nam Dinh

*** Scale of education and training variables of Nam Dinh (5 observed variables)**

Encode	Content / Observable Variables
GD1	The system of colleges and universities affects the development of scale, quality and structure of HQHRs in Nam Dinh province.
GD2	The training professions of colleges and universities affect the development of the structure of HQHRs in Nam Dinh province.
GD3	Training programs of colleges and universities in the province affect the development of the quality of HQHRs in Nam Dinh province.

GD4	Training methods and forms of colleges and universities affect the development of the quality of HQHRs in Nam Dinh province.
GD5	The teaching staff of colleges and universities have an impact on the quality development and structure of HQHRs in Nam Dinh province.

*** Scale of science and technology variables of Nam Dinh (4 observed variables)**

Encode	Content / Observable Variables
CN1	The level of investment in science and technology of the province affects the development of scale and quality of HQHRs of Nam Dinh province.
CN2	The level of scientific and technological development for the agriculture, forestry and fishery sectors affects the development of scale, quality of HQHRs of Nam Dinh
CN3	The level of scientific and technological development for industry and construction affects the development of scale and structure of HQHRs of Nam Dinh.
CN4	The level of scientific and technological development for the service and trade sectors affects the development of the scale and structure of HQHRs of Nam Dinh.

*** Cultural and social scale of Nam Dinh province (5 observed variables)**

Encode	Content / Observable Variables
VH1	Regional culture affects the development of HQHRs in Nam Dinh province in terms of quality and structure.
VH2	Humanistic culture affects the development of HQHRs in Nam Dinh in terms of quality.
VH3	Behavioral culture of human resources affects the development of HQHRs in the province in terms of quality.
VH4	Social background affects the development of HQHRs in Nam Dinh province in terms of quality and structure.
VH5	Cultural and social characteristics affecting the development of HQHRs in Nam Dinh in terms of quality and professional quality.

3.1.2. Measure influencing factors

To measure the factors affecting the development of HQHRs in Nam Dinh as a basis for testing the validity and reliability of the research scales, the authors conducted a practical survey at 60 agencies and enterprises in Nam Dinh, with the number of survey votes is 300. The purpose is to survey the level of impact of factors affecting the development of renewable energy in Nam Dinh with 33 observed variables. Using survey results to test the validity and reliability of 7 scales by exploratory factor analysis (EFA) and Cronbach coefficient α. Considering the relationship between 33 observed variables in the population by KMO and Bartlett's test with the support of the statistical software SPSS, it shows that there is a correlation between the variables (significance level sig. = 0.000 < 0.05, KMO coefficient = 0.676 (0.5<KMO<1.0), proving that EFA analysis for grouping these observed variables together is appropriate:

a. Preliminary check the reliability of 7 scales with 118 questionnaires, the survey was put into use, ran the data and obtained the following results:

1. Education and training scale (GD)

Reliability Statistics

Cronbach's Alpha	N of Items
.801	5
The reliability of the education and training (GD) factor shows that the variables in the scale have Cronbach's Alpha coefficient = 0.801 > 0.6 to ensure reliability.	

[Source: Analytical results from SPSS 21]

2. Science and technology scale (CN)

Reliability Statistics

Cronbach's Alpha	N of Items
.786	4
The reliability of the science and technology (CN) factor shows that the variables in the scale have Cronbach's Alpha coefficient = 0.786 > 0.6, which ensures reliability.	

[Source: Analytical results from SPSS 21]

3. Labor force scale (LD)

Reliability Statistics

Cronbach's Alpha	N of Items
.732	4
The reliability of the labor force factor shows that the variables in the scale have Cronbach's Alpha coefficient = 0.732 > 0.6 to ensure reliability.	

[Source: Analytical results from SPSS 21]

4. Socio-cultural scale (VH)

Reliability Statistics

Cronbach's Alpha	N of Items
.597	5
The reliability of cultural and social factors shows that the variables in the scale have Cronbach's Alpha coefficient = 0.597 < 0.6 (not guaranteed). Removed variable VH.	

[Source: Analytical results from SPSS 21]

5. State management scale on human resource development at central level (QL)

Reliability Statistics

Cronbach's Alpha	N of Items
.798	5
The reliability of the state management factor on human resource development at the central level shows that most of the variables in the scale have Cronbach's Alpha coefficient = 0.798 > 0.6, ensuring reliability.	

[Source: Analytical results from SPSS 21]

6. Economics scale (KT)

Reliability Statistics

Cronbach's Alpha	N of Items
.750	4
The reliability of economic factors shows that most of the variables in the scale have Cronbach's Alpha coefficient = 0.750 > 0.6 to ensure reliability.	

[Source: Analytical results from SPSS 21]

7. Scale of development of highly qualified human resources of Nam Dinh (PTNNL)

Reliability Statistics

Cronbach's Alpha	N of Items
.803	6
The reliability of the HQHRs development factor of Nam Dinh shows that most of the variables in the scale have Cronbach's Alpha coefficient = 0.803 > 0.6, which ensures high reliability.	

[Source: Analytical results from SPSS 21]

Below is a summary table of Cronbach's Alpha coefficient and the preliminary total correlation coefficient of the scales of 118 questionnaires.

Bảng 3.32. Cronbach's Alpha coefficient and the preliminary total variable correlation of the scales

Factors	Number of variables	Cronbach's Alpha	Coefficient of correlation of total variables (min & max value)	Number of variables removed
GD	5	0,801	0,395; 0,523	0
CN	4	0,786	0,398; 0,541	0
LD	4	0,732	0,452; 0,573	0
VH	5	0,579	0,286; 0,427	1
QL	5	0,798	0,390; 0,568	0
KT	4	0,750	0,429; 0,595	0
PTNNL	6	0,803	0,335; 0,561	0

[Source: Analytical results from SPSS 21]

b. Evaluation of the reliability of the official scales with the number of questionnaires put into use is 566 questionnaires and surveys

1. Education and training scale (GD)

Reliability Statistics

Cronbach's Alpha	N of Items
.819	5
Total correlation coefficient (corrected item-total correlation with 5 observed variables: GD1, GD2, GD3, GD4, GD5), the lowest at 0.547, is higher than 0.3, showing that all observed variables are used for analysis. exploratory factor analysis EFA.	

[Source: Analytical results from SPSS 21]

2. Science and technology scale (CN)

Reliability Statistics

Cronbach's Alpha	N of Items
.782	4
Total correlation coefficient (corrected item-total correlation with 4 observed variables: CN1, CN2, CN3, CN4), the lowest reached 0.442, all higher than 0.3, showing that all observed variables are used for multivariable analysis. EFA discovery factor.	

[Source: Analytical results from SPSS 21]

3. Labor force scale (LD)

Reliability Statistics

Cronbach's Alpha	N of Items
.775	4
Total correlation coefficient (corrected item-total correlation with 4 observed variables: LD1, LD2, LD3, LD4) was 0.553, all > 0.3, showing that all observed variables were used for factor analysis. Discover EFA.	

[Source: Analytical results from SPSS 21]

4. State management scale on human resource development at central level (QL)

Reliability Statistics

Cronbach's Alpha	N of Items
0.801	5
Total correlation coefficient (corrected item-total correlation with 4 observed variables: QL1, QL3, QL4, QL5), the lowest was 0.345, all higher than 0.3, showing that all observed variables were used for multivariable analysis. EFA discovery factor. However, removeing variable QL2 (Cronbach's Alpha coefficient = 0.806 > 0.801)	

[Source: Analytical results from SPSS 21]

5. Economics scale (KT)

Reliability Statistics

Cronbach's Alpha	N of Items
.768	4
The lowest item-total correlation coefficient (corrected item-total correlation with 3 observed variables KT1, KT2, KT4) is 0.532, all higher than 0.3, showing that all observed variables are used for exploratory factor analysis. EFA. However, removing variable KT3 (Cronbach's Alpha coefficient = 0.797 > 0.768).	

[Source: Analytical results from SPSS 21]

6. Scale of development of highly qualified human resources of Nam Dinh (PTNNL)

Reliability Statistics

Cronbach's Alpha	N of Items
.803	6
Total correlation coefficient (corrected item-total correlation with 6 observed variables: PTNNL1, PTNNL2, PTNNL3, PTNNL4, PTNNL5, PTNNL6), the lowest reached 0.444, all higher than 0.3, showing that all observed variables were used. for exploratory factor analysis EFA.	

[Source: Analytical results from SPSS 21]

3.1.3. Exploratory factor analysis (EFA)

The first EFA analysis for the groups of factors, the results show that KMO = 0.855 > 0.5, the Sig of Bartlett's test = 0.000 < 0.05 is satisfied. However, the observed variable

QL5, PTNNL4 in the Pattern Matrix[a] table is not satisfied with the factor loading factor >0.5. Therefore, these variables are in turn excluded from the model.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.855
Bartlett's Test of Sphericity	Approx. Chi-Square	5193.628
	df	351
	Sig.	.000

Pattern Matrix[a]

	Factor					
	1	2	3	4	5	6
GD5	.732					
GD4	.721					
GD1	.718					
GD2	.670					
GD3	.616					
KT1		.879				
KT2		.761				
KT4		.681				
LD3			.751			
LD2			.664			
LD4			.655			
LD1			.652			
PTNNL1				.739		
PTNNL2				.666		
PTNNL6				.555		
PTNNL3				.511		
PTNNL5						
QL4					.712	
QL3					.676	
QL1					.592	
QL5					.471	

CN3						.653
CN4						.632
CN1						.611
CN2						.509
PTNNL4						.423

Thus, the data is suitable for EFA factor analysis, the significance level is sig < 0.05, so it can be concluded that the observed variables are correlated with each other. Through the table, we see that the proposed factors explain 56,198% > 50% of the variables with the stopping point used reaching 2,680 > 1, satisfying the requirements.

Pattern Matrix[a]

	Factor					
	1	2	3	4	5	6
GD5	.740					
GD1	.739					
GD4	.722					
GD2	.655					
GD3	.620					
LD3		.740				
LD2		.673				
LD1		.656				
LD4		.655				
PTNNL1			.752			
PTNNL2			.655			
PTNNL6			.596			
PTNNL3			.506			
PTNNL5						
KT1				.890		
KT2				.775		
KT4				.678		
CN3					.678	
CN4					.636	

CN1					.543	
CN2					.515	
QL4						.716
QL3						.690
QL1						.581

Extraction Method: Principal Axis Factoring.

[Source: Analytical results from SPSS 21]

Thus, through testing the reliability of the scale, analyzing factors, factors and the remaining 24 observed variables, 6 factors were obtained, of which 5 factors are independent variables affecting development. The HQHRs of Nam Dinh province are as follows:

Factor 1: GD5, GD1, GD4, GD2, GD3 ; Factor 2: LD3, LD2, LD1, LD4

Dependent factor 3: PTNNL1, PTNNL2, PTNNL6, PTNNL3, PTNNL5

Factor 4: KT1, KT2, KT4; Factor 5: CN3, CN4, CN1, CN2

Factor 6: QL4, QL3, QL1

3.2. Research hypothesis and proposed research model

The research hypotheses (H) include: (H1): Eucation and training have a positive impact on the development of HQHRs in Nam Dinh province; (H2): The characteristics of the labor force have a positive impact on the development of HQHRs in Nam Dinh province; (H3): The economy has a positive impact on the development of HQHRs in Nam Dinh province; (H4): Science and technology have a positive impact on the development of HQHRs in Nam Dinh province; (H5): State management of HRs development at the central level has a positive impact on the development of HQHRs in Nam Dinh province.

- Proposed research model:

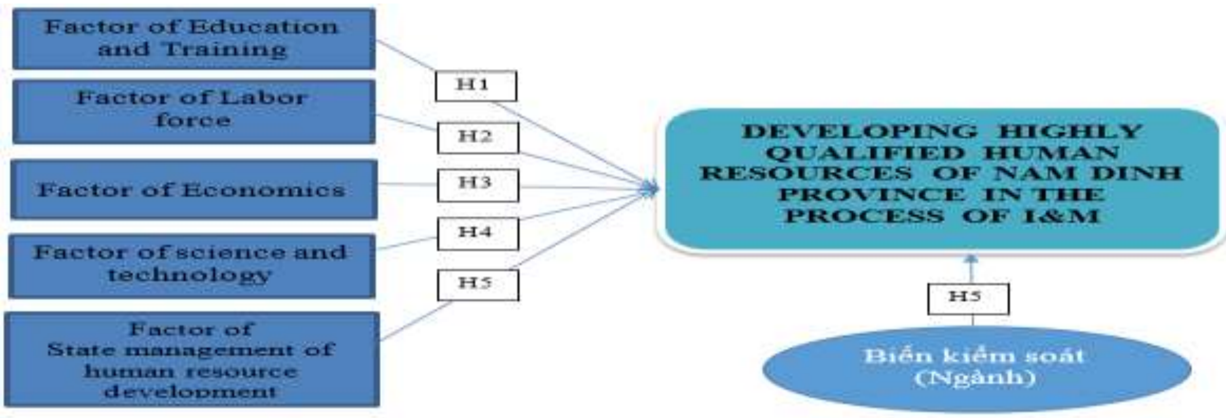


Diagram No1. Proposed research model

With the above model structure, studying the factors affecting the development of highly qualified human resources in Nam Dinh province has the form of a linear regression function:

$$\mathbf{Y = \beta o + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + Ui \quad ;}$$

Independent variables (X1): GD5, GD1, GD4, GD2, GD3

Independent variables (Y): LD3, LD2, LD1, LD4

Dependent factor 3: PTNNL1, PTNNL2, PTNNL6, PTNNL3, PTNNL5

Independent variables (X3): KT1, KT2, KT4;

Independent variables (X4): CN3, CN4, CN1, CN2

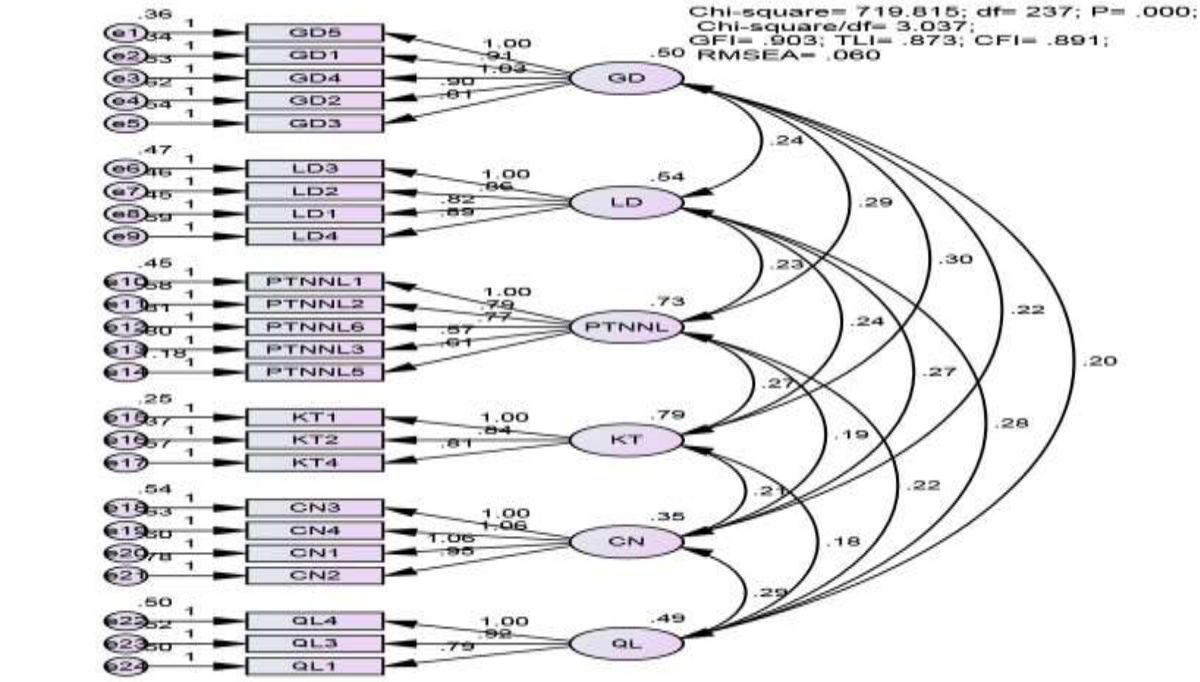
Independent variables (X5): QL4, QL3, QL1

Control variable (Ui): In the research model, the control variable is the industry for the development of highly qualified human resources in Nam Dinh province.

3.3. Confirmatory factor analysis results CFA

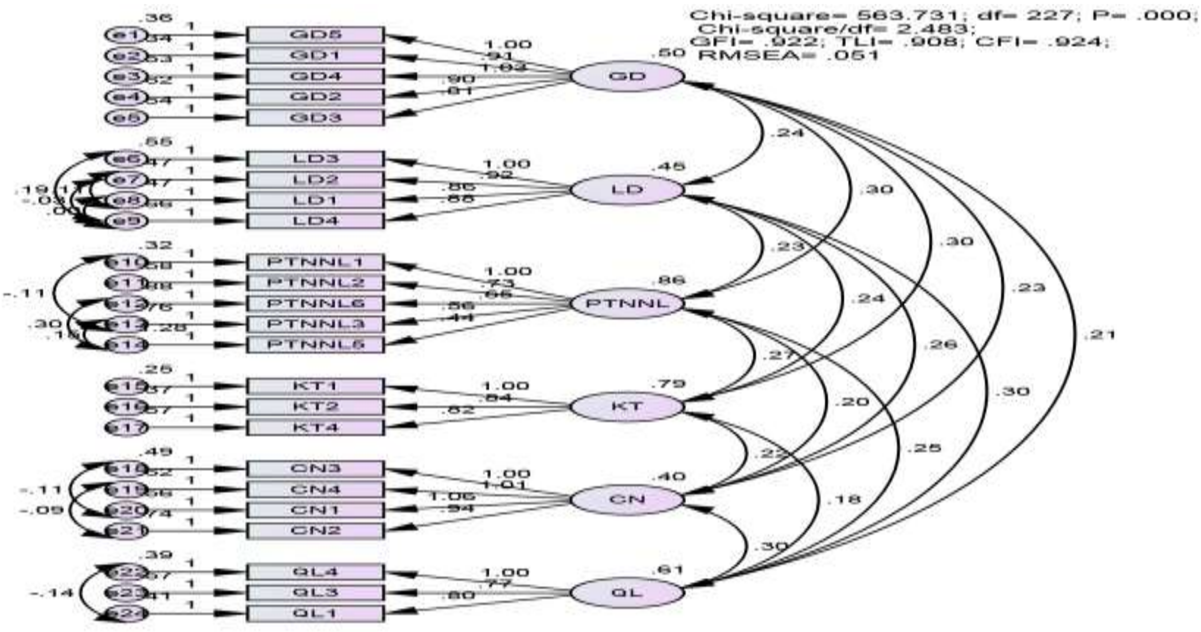
To measure the fit of the scale with the collected data, confirmatory factor analysis (CFA) method was used through AMOS software version 21.

After testing the scale and analyzing the EFA exploratory factor, the authors conducted a confirmatory factor analysis CFA with 6 factors including 24 observed variables. These factors create groups of scales and are included in the CFA analysis to consider the fit of the model to market data. The evaluation criteria include: unidirectionality, convergent value, discriminant value and theoretical correlation value. Criteria from 1 to 3 are evaluated in the critical scale model, while the theoretical correlation value is evaluated in the theoretical model.



[Source: Analytical results from SPSS 21]

The first CFA results of the scale model are presented in Fig. This model has 237 degrees of freedom. The figure above shows the value of the Chi-squared index = 719,815 with p = .000. Other indicators: Chi-squared/df = 3.037, GFI = 0.903 higher than 0.9 (Bentler & Bonett, 1980), RMSEA = 0.060 < 0.08 (Steiger, 1990). However, TLI = 0.873, CFI = 0.891 do not satisfy the condition. So to improve the model in Covariances concatenate the following observations: e22-e24; e19-e21; e18-e20; e13-e14; e12-e14; e10-e13; e8-e9; e7-e9; e7-e8; e6-e9.

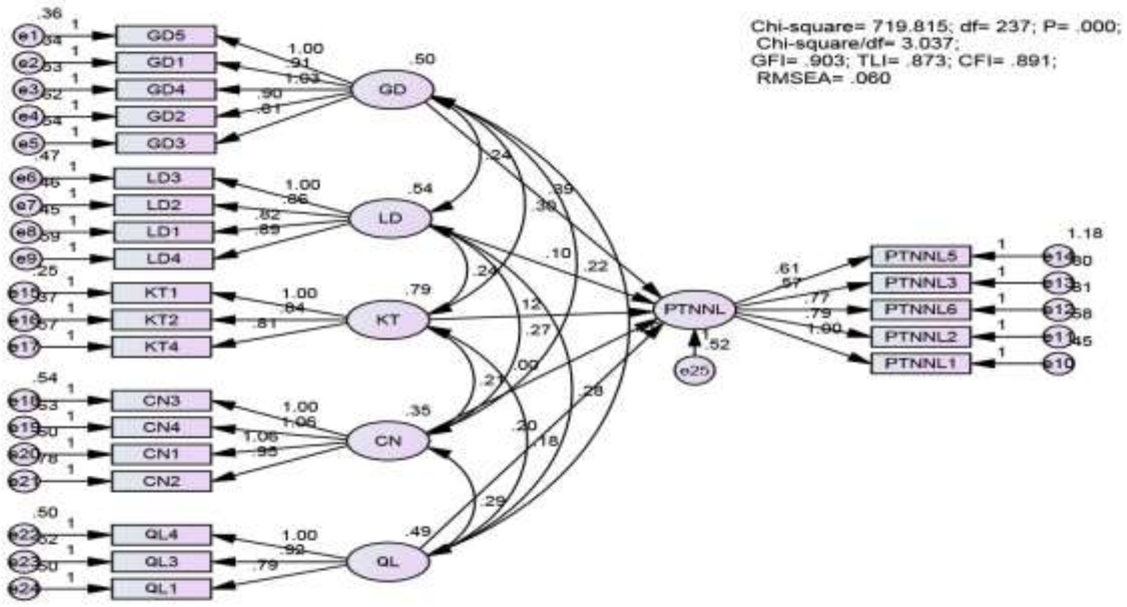


[Source: Analytical results from SPSS 21]

The results of the CFA confirmatory factor analysis of the scale model are presented in the figure above. This model has 227 degrees of freedom. The figure above shows the value of the Chi-squared index = 563,731 with p=000. Other indicators: Chi-squared/df = 2.483, GFI = 0.922, TLI = 0.908, CFI = 0.924 are all higher than 0.9, RMSEA = 0.051 < 0.08. This can infer that the model is considered suitable for the market data because it ensures unidirectionality, convergent validity and discriminant validity.

3.4. Analysis of the linear structural model SEM

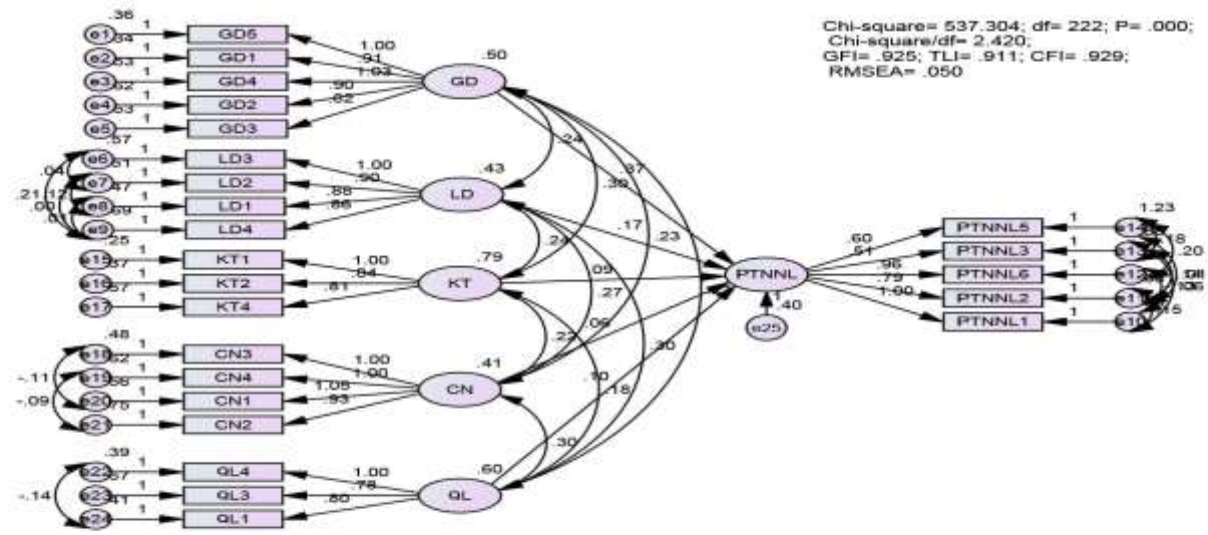
After running on the software, we obtain the SEM model for analysis below:



[Source: Analytical results from SPSS 21]

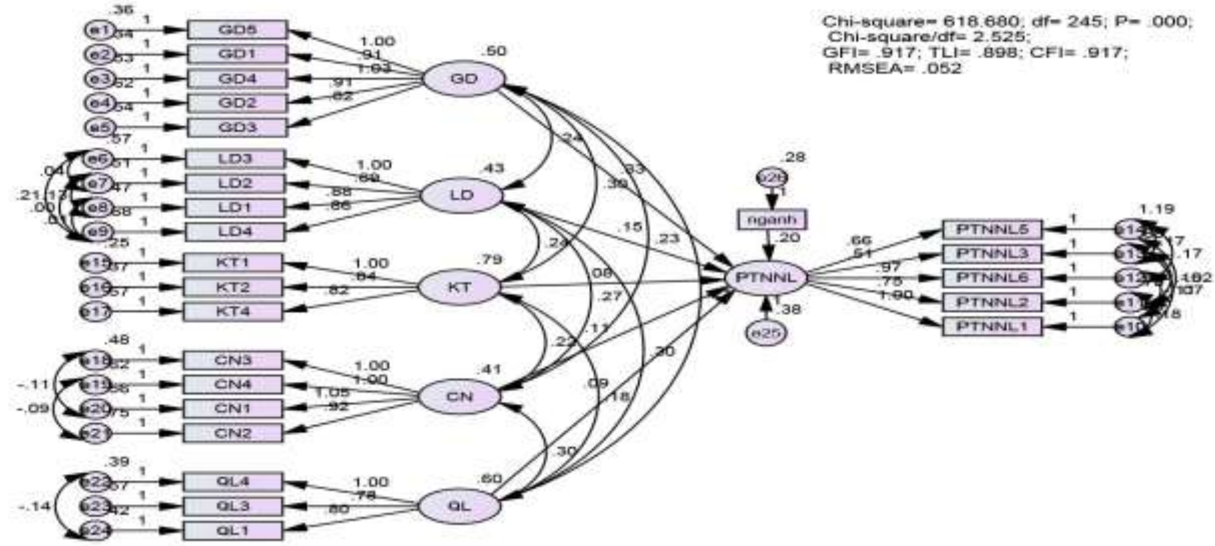
The results of running the 1st SEM model of the scale model are presented in the figure. This model has 237 degrees of freedom. I see the value of the Chi-squared index = 719,815 with p=000. Other indicators: Chi-squared/df = 3.037, GFI = 0.903 higher than 0.9 (Bentler & Bonett, 1980), RMSEA = 0.060 < 0.08. However, TLI = 0.873, CFI = 0.891 do not satisfy the condition. So to improve the model in Covariances concatenate the following observations: e22-e24; e19-e21; e18-e20; e13-e14; e12-e14; e11-e14; e11-e13; e11-e12; e10-e14; e10-e13; e10-e11; e8-e9; e7-e9; e7-e8; e6-e9.

The results of running the 2nd SEM model of the scale model are presented in the figure below. This model has 222 degrees of freedom. The figure above shows the value of the Chi-squared index = 537,304 with a value of p=000. Other indicators: Chi-squared/df = 2.420, GFI = 0.903, TLI= 0.911, CFI=0.929 all higher than 0.9 (Bentler & Bonett, 1980), RMSEA = 0.050 < 0.08 (Steiger, 1990). Thus, this research model achieves compatibility with market data.



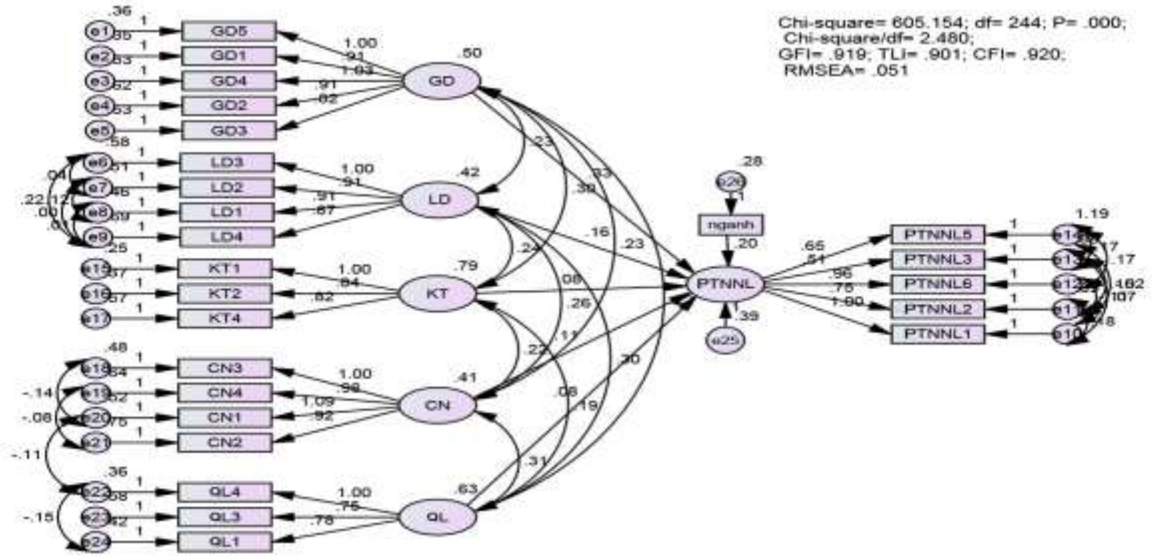
[Source: Analytical results from SPSS 21]

To test the influence of the industry control variable on the development of highly qualified human resources in Nam Dinh province, we run the 3rd SEM model with the following results:



[Source: Analytical results from SPSS 21]

The results of running the 3rd SEM model of the model with industry as the control variable in the figure. This model has 245 degrees of freedom. The figure above shows the value of the Chi-squared index = 618,680 with a p=000 value. Other indicators: Chi-squared/df = 2.525, GFI = 0.917, CFI = 0.917 higher than 0.9, RMSEA = 0.052 < 0.08 (Steiger, 1990). However, TLI= 0.898 < 0.09 is not satisfied. Therefore, to improve the model, we proceed to join e in Covariances' suggestion that is e20-e22 concatenation.



The results of the last SEM model run of the model with industry as the control variable are presented in the figure. This model has 244 degrees of freedom. The figure above shows the value of the Chi-squared index = 605,154 with p=000. Other indicators: Chi-squared/df = 2.480, GFI = 0.919, TLI= 0.901, CFI=0.920 all higher than 0.9 (Bentler & Bonett, 1980), RMSEA = 0.051 < 0.08 (Steiger, 1990). Thus, this research model achieves compatibility with market data.

3.5. Research hypothesis test results

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
PTNNL	<---	GD	.428	.177	4.251	***	
PTNNL	<---	LD	.363	.112	3.673	***	
PTNNL	<---	KT	.252	.152	3.535	***	
PTNNL	<---	CN	.210	.107	2.034	***	
PTNNL	<---	QL	.185	.075	1.576	***	
PTNNL	<---	nganh	.127	.062	1.101	.006	

[Source: Analytical results from SPSS 21]

The results of SEM analysis show that there are 6 factors in the model that have an impact on the development of highly qualified human resources in Nam Dinh province, including factors of education-training, labor force, economy, science and technology, and state management of human resource development. central and sectoral levels. All 6 factors are at 10% significance level due to P-value < 0.1. The above regression weights all have positive signs, showing that the above factors have a positive influence on the development of highly qualified human resources in Nam Dinh province.

Table of Hypothesis test results

Hypotheses	***Result***
(H1): Eucation and training have a positive impact on the development of HQHRs in Nam Dinh province.	Accept
(H2): The characteristics of the labor force have a positive impact on the development of HQHRs in Nam Dinh province.	Accept
(H3): The economy has a positive impact on the development of HQHRs in Nam Dinh province.	Accept
(H4): Science and technology have a positive impact on the development of HQHRs in Nam Dinh province.	Accept
(H5): State management of HRs development at the central level has a positive impact on the development of HQHRs in Nam Dinh province.	Accept
With the industry control variable included in the analysis, and the sector factor also has a positive impact on the development of resettlement human resources of Nam Dinh province.	Have a positive impact

We see that all five hypotheses are initially accepted, the factors of Education and training, Labor force, Economics, Science and technology, State management on human resource development at central level and one more factor is considered as a control variable. Industry" also has a positive and positive impact on the development of highly qualified human resources in Nam Dinh province with the results of quantitative research with linear regression equations as follows:

$$\mathbf{PTNNL = 0{,}428.GD + 0{,}363.LD + 0{,}252.KT + 0{,}210.\ CN + 0{,}185.\ QL + 0{,}127.nganh}$$

3.6. Discuss research results

Thus, through the results of quantitative research, it shows that the development of highly qualified human resources in Nam Dinh province is influenced by the following factors: Education and training factor contributes 0.428 points; the labor force factor of Nam Dinh province contributed 0.363 points, the economic factor contributed 0.252 points; science and technology factor contributed 0.210 points; State management factor on human resource development at the central level contributed 0.185 points and lastly, the sectoral factor contributed 0.127 points to the development of highly qualified human resources in Nam Dinh province. Thus, the theoretical model tested in Diagram No1 is the only and official model used and explains the factors affecting the development of highly qualified human resources in Nam Dinh province.

4. Conclusion

Theoretical and practical research shows the important role of HQHRs in socio-economic development at provincial level. In order to ensure that there is enough scale, structure and quality of HQHRs for the realization of the I&M goals, the work of developing HQHRs has a fundamental position and is an important basis for promoting I&M promote socio-economic development at provincial level in the direction of industry and modernity. In this paper, we focus on researching the macro factors affect to the development of HQHRs of Nam Dinh province to caculate the degree of each factor which contributes into developing HQHRs for socio-economic development in Nam Dinh.

5. References

1. Nguyen Thi Canh Cành (2016), Scientific research method textbook, Economics and Laws, Ho Chi Minh city National University, Ho Chi Minh city.
2. Tran Xuan Cau & Mai Quoc Chanh (2012), Human resources textbook, National University of Economics, Hanoi.
3. Communist Party of Vietnam, *Documents of the eleventh National Party Congress*, National Political Publishing House, Hanoi, 2011.
4. Nam Dinh Committee, *Socio-Economic Development Strategy in Nam Dinh 2011-2020*.
5. Nam Dinh Committee, *Human resource development plan of Nam Dinh 2011 -2020.*

SESSION 2:

BUSINESS ADMINISTRATION

STATEGIC RISKS OF REAL ESTATE ENTERPRISES IN VIETNAM MARKET

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Abstract

In recent years, our country's economy has made great progress, the economic growth rate of the following year is always higher than that of the previous year. The real estate market (real estate) also develops strongly and extensively, is considered a market full of potentials and opportunities. Many domestic and foreign investors have seen and grasped these opportunities, a series of new urban areas, supermarkets, hotels, shopping malls, offices for lease, .. have sprung up in succession at Big cities meet the increasing demands of the people. The volatility of the real estate market happens very complicatedly, with erratic heat and cold, sometimes there is a "fever", sometimes "freezing". Because this is a large capital-occupying market, negative changes in the real estate market will strongly affect the economy, which can cause crises to the economy. Therefore, it is necessary to identify strategic risks in order to have appropriate solutions to avoid and minimize losses and damages. Subject: "Strategic risk analysis of domestic and foreign real estate businesses operating in the Vietnamese market" will highlight common strategic risks in the real estate market, as well as provide solutions to solutions and recommendations to effectively prevent and overcome risks.

Keywords: *strategic risks, real estate market, Vietnam market*

1. Introduction

The real estate market is the place where real estate activities and goods exchange between related parties take place, where the purchase, sale, transfer, lease, mortgage and other adversities take place. cases related to real estate such as intermediaries, brokers, consulting ... among actors in the market where the role of State management has a decisive impact on the promotion of development or inhibiting activities doing business in the real estate market. In 1986 Vietnam transformed its centrally planned economy into a socialist-oriented market economy. A series of domestic real estate companies have been established and operated very effectively such as: Vingroup, Sun Group, Vihajico, Novaland, Sunshine Group, ...

Vietnam has been increasingly integrated with the world economy, especially the process of attracting foreign investment and absorbing modern science and technology, increasing demand for industrial real estate, many corporations. Large foreign countries are choosing Vietnam as a country to place production plants and make long-term investments, becoming the premise and conditions for forming industrial real estate demand. Typically Keppel Land is one of the early foreign real estate investors in Vietnam, with 20 licensed projects and a development orientation plan of more than 25,000 housing units in Vietnam, Keppel Land affirms its name, is a leading foreign real estate developer. Typical projects of this developer include Saigon Center (commercial complex, office and apartment), The Estella, Estella Heights, Villa Riviera Point…; CapitaLand Vietnam is a member of Singapore-based CapitaLand Real Estate Group, to date, CapitaLand has provided the housing market in Ho Chi Minh City and Hanoi about 8,000 quality apartments with 12 housing projects, two retail zones. Ascott Limited, a 100% owned subsidiary of CapitaLand, has a portfolio of more than 4,800 serviced apartments in 21 buildings in the above big cities and provinces; ... Foreign investors' investment in Real estate in Vietnam is an opportunity but also a great challenge for the sustainable development of the Vietnamese economy.

However, for input product markets that have important implications for the development of production and business such as capital markets, labor markets, especially the real estate market, is only in the early stages. formation and development, with many limitations and existing risks. Stemming from that fact, it is extremely necessary to analyze the risks and find solutions to perfect the development of the real estate market.

2. Method

The process of analyzing and synthesizing:

+ Analysis research the documents, theoretically from different sources like the newspaper books, the Internet. Next we divide them into separate parts, separate classes to find out specific and profound about the strategic risk of domestic businesses.

+ The synthesis method: is linking each side, each part of the analyzed information creates a new complete and profound theoretical system on the above risks.

+ System protocol: to arrange knowledge to be a system on a basis of a theory that would make sense of the thorough strategic risk. The statistical method is to gather data from different sources later, and then arrange them to establish their own level. A little influence or a lot of business interests, this method will help us determine the risk that affects a lot, the risk that affects less, The degree of influence is how many words come out of prevention options as well as maximum restrictions of risk to business. The methods of efficiency, the overall means to illuminate the problems of reasoning, are to collect the number of all the facts. In fact, through business reports, documents, documents from the professionals, And then rewind it to ascertain the abnormal risk, the cause of the risk, the level of risk of risk, how other businesses, the risk, the success, and the failure of another enterprise, learned to business.

3. Results

3.1. Theoretical basis

3.1.1. Risk

Risk is understood as the quantification of the likelihood of any damage occurring or a lower return than expected. There are many types of risks such as exchange rate risk, market risk, legal risk, credit risk, interest rate risk, real estate risk ...

Risk management is the process of identifying risks and finding ways to manage and limit those risks to the organization. In general, it is the process of looking at the overall performance of the organization, identifying potential hazards and their likelihood. Since then there is the preparation of appropriate actions to minimize those risks to the lowest level. In the past, when it comes to risk management, most people thought of insurance activities. These are package services, in which the insurance buyer will not bear the risk in case it happens. However, the concept of risk management today has changed a lot. With the requirements of the law, the requirements of the employees, risk management has become an increasingly important management factor such as financial management or the management of other resources in the organization.

Real estate investments can make great profits but also face a lot of risks. Real estate risk is expressed through 4 aspects: capital safety, reliability of expected returns, degree of conversion to money and complexity of asset management. These risks can be grouped into two categories: factors affecting investment items that the investor cannot control, called systemic risks and factors that affect only one or two items. The investment can be controlled, called individual risks.

+ Systemic risk: It is difficult for investors to judge and deal with systemic risks such as inflation risk, market supply and demand, conversion into money, interest rates, policy and caused by disasters.

+ Specific risks: Most of the individual risks are related to the misjudging analysis of certain factors of the market such as wrong valuation, incorrect prediction of consumer tastes, inaccurate location selection ...

3.1.2. Real estate management

Real estate business administration of a business is a process of continuous, organized, targeted impact of the real estate corporate governance level in a scientific and artistic way to the process. Real estate business to best use all potentials and opportunities to best perform all real estate production and business activities of the enterprise, in order to achieve the goals set out in accordance with the Law on Real Estate Business and social rate in the volatile conditions of the real estate business environment, with optimal efficiency.

Real estate business activities include: real estate trading and real estate services business:

- Real estate trading is the investment of capital to carry out construction activities, buy, sell, receive transfer for sale. transfer; lease, sublease, lease purchase real estate; real estate brokerage services; real estate trading floor services; real estate consulting services or real estate management for profit purposes.

- Real estate services business is activities that support real estate business and real estate market, including real estate brokerage services, real estate valuation, real estate transaction floors, Real estate consulting, real estate auctions, real estate advertising, real estate management.

Some features of real estate business: Real estate business operates locally and regionally; Real estate business is a big and long-term investment activity; Real estate business is a sensitive activity, strongly influenced by law and policy; Real estate business is both a multi-disciplinary business and a unique business activity. The goal of real estate business administration is to control operations and minimize costs of businesses, improve profits in production and business activities.

3.2. The results of the study and the discussion

3.2.1. Overview of Vietnam's real estate market

The real estate market is one of the markets with an important position and role for the national economy, having direct relationships with the financial and monetary markets, construction markets, building materials markets, labor markets ... The development and effective management of this market will contribute significantly to the process of promoting socio-economic development, creating the ability to attract investment capital for the country's economic development, making a practical contribution to the process of sustainable urban and rural development towards industrialization. , modernizing the country. In the period of the previously centralized planning economy, this market has not had the conditions to develop. But when moving to develop the market economy, the real estate market in Vietnam has gradually formed and developed at a fast pace, which has contributed significantly to economic growth. After a period of formation and development, the real estate market has also revealed shortcomings in market operation mechanisms, legal systems, market participants, in terms of goods structure, transaction, information, management.... The world financial crisis that a resulted from real estate mortgage lending in the United States was a fundamental driver of the recession of most countries around the world demonstrating the enormous impact the real estate market has on the economy. Therefore, the operation of the real estate market to promote the positives and limit the negative effects is a matter of research concern.

3.2.2. Research results

The project "hanging" is one of the biggest and common risks. The hanging project is a hot message causing many frustrations in society. To explain the hanging phenomenon, many people have brought "hundreds of mulberry trees to the head of silkworms", such as:

"hands do not capture the enemy" (do not have capital), tricks of pinning the land for speculation, planning and approving projects.

In Vietnam at present, not only private investor projects are suspended but also a series of projects hanging on the State side. Starting planning is hanging, planning is finished leaving it not implemented. Next was the suspended project, approved the project, built a few stakes and then stopped. Next is the hanging promise, continuously moving the commencement date, the end date of the project; apologize to people many times, promise to return to businesses. Then the profit hangs, there are projects that do not know what to do, the investment purpose is not clear, so when put into use, the more loss. The main risks that a real estate investment project may encounter:

a) Risk on the investor's side:

+ The risk of the investor's financial capacity: The risk occurs when the capital of the enterprise is limited, the solvency of the business is poor, has to borrow with a higher interest rate, so the risk will be higher when the business can be financially active. Currently, most real estate companies in Vietnam operate with low professionalism. The number of enterprises registered for real estate business is very large, but most of them have small capital scale, not suitable for market requirements ... For example, in Ho Chi Minh City, there are currently more than 6,000 real estate businesses but There are only nearly 4,200 enterprises registered for business, of which only nearly 50 enterprises with capital over 100 billion. However, all are still active in a strong way, everyone, whatever they like to do ...

An additional risk and also the current situation of the real estate market is the situation of real estate investment in "fashion". Immediate high profit is the reason why businesses jump into the real estate market. However, not all businesses have a specific market research to come up with an appropriate business strategy. Due to lack of knowledge of the market, many businesses have led to rampant investment, wastefulness, and even speculation, adversely affecting the market. This has been warned to cause turmoil in the real estate market and has a negative impact on businesses themselves.

+ Risk of legal capacity: Real estate is an important asset of each country, real estate transaction relationships often have a strong impact on most socio-economic activities. Therefore, real estate is strongly governed by law and State management. In investment, especially in the real estate sector, even the smallest legal risk can kill the investor ... Risks occur during the appraisal of legal capacity of the investor when there are not enough documents. Proof of legal capacity in accordance with current regulations. Documents proving the legal capacity of the investor include: legal documents, business activity reports, other references.

The unhealthy business environment is the direct cause of many employees - business leaders falling into the labor circle, many times they accidentally violate the law or even not fully aware of the wrong doings. Instead of abiding by the law, market participants casually accept to commit illegal acts if it is already inertia and jointly done by a large number of competitors. Raising interest rates above the ceiling is the inertia of the banking market, which exists long before the banking cases are heard. Some defendants at the time of the breach simply thought that they were doing the same as the market competition.

+ Business capacity risk: Operational capacity risks are corporate governance risks that arise when the leaders do not have the capability and qualifications to lead the business or are unable to lead due to their age, reacting less flexibly to market fluctuations. Another case is that the leader, despite having good qualifications and capabilities, is incapable of internal unity and unity. The lack of consensus of the members will result in inaccurate decision-making. Profitable decisions are sometimes not made. Instead, decisions can undermine the benefits of the business.

Resource-based views suggest that entrepreneurship is seen as a valuable and rare resource that competitors can hardly copy or copy, thus contributing to creating sustainable and valuable competitive advantage. An entrepreneur is a person who directs and acts to lead the business of an enterprise. Their business decisions are influenced by their personal characteristics, knowledge, skills, and abilities. Therefore, entrepreneurs need to have a wide variety of knowledge and skills to fulfill their complex roles in the business, while taking on the three basic roles that are the entrepreneur's role.

b) Project risks:

+ Risks of mechanisms and policies: Changes in policy lines of the State and local authorities may have impacts on the operation of the real estate market in general and the investment into real estate in particular. Specifically:

• Policies that have indirect effects such as: the encouragement of external investment in the locality can increase the demand for real estate, thereby causing real estate prices to rise.

• Direct impact policies such as:

♣ Policies allowing overseas Vietnamese to buy real estate in Vietnam.

♣ Policy allows people who do not have a city registration to buy houses in the city.

♣ Financial policies apply to people who are allocated or leased land by the State ...

♣ Credit policies for investment activities in real estate

♣ State tax policies for real estate

Currently, the Vietnamese legal system is still not uniform; the tax system has not been renewed; The real estate registration system is divided, not enough conditions for a public and transparent management system; it is not easy enough in exercising the right to mortgage, guarantee, contribute capital with real estate to increase investment capital from the hidden capital in real estate; has not been able to mobilize people's savings to invest in real estate; land use planning is still weak; the system of management agencies and managers still has many inadequacies, not yet well served the people; There are still many mistakes in the application of new laws on land ... Administrative procedures are too cumbersome to unnecessary, costing time and money, and missed investment opportunities ...

The lack of professionalism is shown in many aspects, including the legal system: An incomplete and not strong legal corridor has caused the overall inconsistency to adjust. Policies mechanisms with overlaps, shortages and low effectiveness make it difficult to apply in practice. Issues that are considered to be the biggest hindrance are: investment procedures, land allocation procedures are still complicated, not linked to the rights of users and owners; compensation, site clearance and issues related to planning... For example, the state management of housing markets, new urban areas, condominiums and offices for rent lack some adequate regulatory mechanisms in the transaction. It is a fact that many products of new urban housing projects, apartments, offices for rent have been bought from the project's inception. There are many projects that have been renamed, changed owners and the owners selling products are not entirely the investors.

In order to be able to buy land and houses in new urban areas at an acceptable price, most investors have to accept to pay the investor when the investor is not legally eligible to sell a house (not finished the foundation). Therefore, both investors and home buyers have to circumvent the law in the form of business capital contribution contracts or investment contracts. Because it is not protected by the law, there will be a lot of trouble when disputes arise.

+ Macroeconomic risk: The price of real estate depends on macroeconomic factors such as:

- The situation of real estate supply and demand in the region
- Characteristics of the people participating in the real estate market Regional Real Estate
- Regional real estate market conditions
- Current status of the neighborhood (infrastructure such as roads, water supply and drainage systems, electricity supply, communication ...)
- Annual GDP growth rate of the region
- Average annual income of people in region (high, medium or low) compared to other regions
- The ability to meet the credit needs of the credit system in the region;
- Number of plots, vacant land plots in the region
- Average price of land in the region
- Tax rate and tax rate
- General inflation
- Labor market, stock market, market credit in the region.

+ Interest rate risk: Interest rate directly affects the cost of capital and then investment efficiency. Assuming that in the context of rising inflation, the State Bank of Vietnam decides to increase the required reserve ratio, increase the base interest rate in VND and issue compulsory bills of credit to credit institutions to enforce the monetary tightening policy and curbing inflation. These measures have led to a race of deposit rates among credit institutions and as a result increased VND lending rates. The result of this increase in interest rates will directly affect businesses to borrow money from banks to maintain operations and expand production, causing interest expenses to increase, leading to a decline in business results.

On the other hand, real estate investment requires a huge amount of capital, so investors usually have to borrow money from many sources. Re - loans are usually medium and long term loans. But the interest burden is proportional to the length of the project. Therefore, interest rate is a variable that has a great impact on the discounted cash flow of invested capital. Whether the project brings more or less benefits depends greatly on the interest rate.

+ Financial risks: The financial security of the project is the content to be considered in the financial appraisal of an investment project. It is an important basis for evaluating the financial feasibility of a project. Financial risks occur when capital cannot be guaranteed, capital stagnation occurs. The expected capital security is shown in the legality and practical basis of mobilized sources. If it is equity or joint venture, there must be a commitment on the progress and the amount of capital contributed by the shareholders or the joint venture parties. If it is equity capital, there must be an explanation of the business operations of the establishment 3 years ago and now proving that the establishment has been, is and will continue to operate effectively, with accumulation. and thus ensure capital is available for project implementation.

Risks may occur due to the calculation of the proportion of capital mobilized capital accounts for in the total investment. When determining the funding sources of the project, the capital structure of the project was not properly determined. Or the incorrect calculation of the annual fund needed due to price fluctuations or inflation. During the appraisal, it is necessary to check the capital commitment of the capital contributor, lender or sponsor. Checking commitments to ensure credit capital open L / C at funding agencies.

+ Market, income and payment risks: The market greatly affects the success or failure of real estate investment projects because its price depends largely on the supply-demand relationship in the market. When demand is greater than supply, real estate prices are often pushed up; On the contrary, when demand is lower than supply, real estate prices tend to decrease. Real estate prices also depend on factors stemming from market defects such as "monopoly", "speculation", "unfair competition".

The demand for real estate in Vietnam is huge, but this does not mean an abundance of purchasing power. The reason is that people's income is still very low. However, many assessments of the real estate market of many real estate management companies mostly focus on emphasizing, even excessively, the demand for real estate, creating heat in the speculative market. A part of businesses, short-term investors have benefited from the increase in real estate sale / rental prices. However, in the long run, this situation will have serious consequences for the entire economy.

Real estate prices in major cities in Vietnam are currently considered too high compared to the level of income of the people as well as the level of economic development and the real value of real estate. This situation has directly affected the socio-economic development process and makes housing creation of most low-income people difficult. Not only that, high land prices cause great pressure for investors, especially investors in the industrial infrastructure sector. Team project costs increased significantly due to the constantly increasing volatility of compensation costs, site clearance, land access.

+ Construction and construction risks: During the construction and construction process, real estate projects can face many risks such as insufficient capital, materials not meeting the requirements, skills of workers, ... these risks have a great impact. to the completion of the project. Specifically, divide risks into two main groups as follows:

- Construction location: affect investment capital, price, competitiveness, determine the effectiveness of real estate investment projects. Risks occur when the location is inconsistent with the long-term economic development forecast, the local transport network construction plan, the existing facilities of the investment site are inappropriate, the climate of the places with fluctuations ... It is necessary to learn about natural conditions (climate, hydrology, water sources ...), social conditions (population, customs, economic activities ...), conditions of regional development plan, plan, and economic factors of the site.
- Construction scale: Risk occurs when the total cost estimate, cost estimate of each work item is omitted, incorrect, the items needing investment that have not been estimated, or investment in the items is not required. set. When appraising, it is necessary to check the price contracts of the project. For example, the construction does not guarantee proper construction techniques, the labor safety measures are not guaranteed, causing accidents. The Can Tho Bridge collapse on September 26, 2007 caused over 40 billion VND in damage, 54 deaths, and 80 injuries is an example of how great a construction risk occurs.

Therefore, it is necessary to propose suitable bidding, selection of contractors, and contract guarantee. Consider and evaluate whether construction proposals and solutions are appropriate to the norms and construction needs for each work item?

+ Risk of supply: Raw materials, suppliers, tax policy, .. are the things that affect the ability to provide inputs to the project. When the supply of inputs is not guaranteed, it will affect the construction progress of the works. When appraising, it is necessary to check package contracts and contract guarantees, assess the reputation of suppliers of materials.

+ Operational and maintenance risks: Depends on the investor's ability to manage real estate. Especially in Vietnam today, there is a lack of professional managers because this is a relatively new profession. There are always risks in operating a real estate. Although in the process of planning the project, the investor has to research carefully, but because the information is not perfect and everything is always for development, there will always be unexpected events happening. On the other hand, due to the long real estate construction process, when put into operation the technical standards will no longer be guaranteed, the original design will no longer be appropriate.

+ Social environmental risks: Social factors also have a great impact on real estate values. An area where the population density suddenly increases due to the growth of the mechanical population, the value of real estate there will increase as the supply-demand balance is broken. On the other hand, other factors in the region such as quality of health care services, education, people's education, security issues, and local people's habits also affect the value of real estate. Status of people living in real estate, health status, occupation and employment status, family and social relationships of people living together ... The issues related to feng shui must also is scrutinized.

4. Conclusions and Recommendations

4.1. Conclusions

Nowadays, real estate is primarily a commodity. Real estate creation and real estate price formation always include natural, economic and social factors in addition to internal factors such as the law of supply - demand, and the law of value. The real estate market is objective, but risky and includes many opportunities for great returns, especially in a developing economy like Vietnam. Capital for the real estate market must always be a medium to long term source and is often in the same direction as the market price and size. Because the real estate market not only depends on the law of pure value, it is a double-edged sword for investment capital in general and the real estate market in particular, so capital solutions for the real estate market products must be strategic, stable, transparent and professional.

In general, although the market in general and real estate businesses in particular in the coming time will have difficulties, the advantages are still many. The most obvious is the capital story when the market is about to enter a more difficult and quiet period. This is a challenge for the market in general but also an opportunity for large, reputable, potential and long-term businesses.

+ Operational and maintenance risks: Depends on the ability of the investor to manage the property. Especially in Vietnam, there is a shortage of professional managers because this is a relatively new profession. In operation, a real estate is always potentially risky. Although in the process of making the project the investor has to study thoroughly but due to imperfect information and everything is always mobilized to develop, there will always be unexpected events. On the other side, due to the long construction of real estate, when put into operation technical standards will no longer be guaranteed, the original design will no longer be suitable.

+ Social environmental risks: Social factors also have a big impact on real estate values. In an area where population density suddenly increases due to the growth rate of the mechanical population, the value of real estate there will increase due to broken supply and demand balance. On the other behalf of other factors in the region such as: quality of health services, education, people's intellectual level, security issues, customs of people in the region also affect the value of real estate. Status of people living in real estate, health status, occupation and employment status, family and social relationships of people living together ... Matters relating to feng shui theory must also be scrutinized.

4.2. Recommendations

Nowadays real estate is first and fore fore fore fore foreth over the world. The creation of real estate and the formation of real estate prices always include natural, economic and social factors besides internal factors such as the law of supply and demand, the rule of value. Real estate is objective, but full of risks and includes many opportunities for large income, especially in a developing economy like Vietnam. Capital for real estate always has to be a medium and long-term source and often has the same proportions as the price and size of the market. Real estate investment is not only dependent on the law of value, so it is a double-edged knife for investment capital in general and real estate in particular, so the capital solution for real estate investment must be strategic, stable, transparent and professionalized. The key tools to solve the capital problem for real estate investors are: discount works, investors, investors, medium and long-term commitments have enough evidence to be protected by law to reduce risks and even solutions to discount real estate debt when the conditions that form that real estate are qualified.

Overall, although the market in general and real estate businesses in particular in the coming time have difficulties, but the advantages are still many. The most obvious is the capital story as the market prepares to enter a new, more difficult and quiet phase. This is a challenge for the market in general but also an opportunity for large, reputable, potential and long-term businesses.

Recommendation:

Plan ahead: many investors buy a home because they think they have a good deal and then try to figure out what to do with it. This is actually a reverse mindset. Accordingly, first of all, they must find out their plan first, then find a house or real estate suitable for that plan. Remember, you must choose the investment model before looking for the asset to match it.

Having a reliable information network: the key to early investor success is to build a reliable and appropriate team of experts. At the very least, they need to have a good relationship with a real estate agent, an appraiser and a professional lawyer. Because these are the people who will provide all useful information for an investor from accessing the real estate until officially owning it, to avoid investors falling into the case of buying or being deceived.

Always keep stable cash flow: Real estate has quite poor liquidity, so keep the cash flow very stable. If your real estate investment strategy is to buy, then sublease to more than one person, then you need to have enough cash to cover expenses such as maintenance costs, damage repairs ...

Don't get cornered: Many people buy a property and get stuck with it because they have only one way out, a single plan to do. Suppose the investor has only one plan, to sell the property or lease it out. But when the investors can't sell, or they can't rent out, what happens? So always having at least 2, preferably 3 different plans, will be a way to help investors avoid being cornered. For example, if an investor buys a house with plan A to restore the house and then resell it, then plan B could be to keep the house and lease it to cover the costs, plan C, which is to sell to another investor at a price slightly above or below the market price, hoping to still make a profit.

Some effective real estate marketing strategies to help increase revenue:

+ Identify and research target markets

+ Expand budgets for marketing campaigns

+ Develop project websites and use digital marketing channels

+ Promote sales through word of mouth marketing

+ Responding to customer needs quickly

+ Regularly posting about real estate projects

+ Branding

5. References

1. Nguyen Quang Thu (2002), *Business risk management*, Statistical Publishing House.
2. Doan Thi Hong Van, (2002), *Risk management and crisis,* Statistics Publishing House.
3. Tien, NH (2019), *Determinants of Real Estate Bubble in Vietnam*, International Journal of Research In Finance And Management, Vol. 2, No. 2, 75-80.
4. Tien, NH (2019*), Analysis of Strategic Risk of Domestic and Foreign Real Estate Enterprises Operating in Vietnam's Market*, International Journal of Commerce And Management Reseach, Vol. 5, No. 5, 36-43.
5. http://www.managejournal.com/download/897/5-4-43-596.pdf
6. Ngoc, MN, Tien, NH (2016), *Professional Risks in Real Estate Valuation in Commercial Banks*, Enterprise of The Future, No 2/2016, 79-90. UTH Chodkowska University in Warsaw.
7. Ngoc, NM, Tien, NH, & Dinh, N V. (2020), *Real Estate Brokerage Human Resource Training*: *Current Situation and Proposal to Amend the Training Program for the Issuance of Practicing Certificate*, Proceedings of National Scientific Conference: Real Estate and Price Valuation Application Oriented Human Resource Training, 45-55, University of Finance - Marketing, Ho Chi Minh City.

TRAVEL SOCIAL MEDIA INFLUENCER VALUE (TSMIV) BASED ON THE PERSPECTIVE OF GEN Z IN HANOI

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Abstract

With the explosion of The Internet and online media, travel becomes more accessible to everyone, especially the younger generation through online marketing. Rooted in the emergence of travel influencers, one form of online promotion, namely influencer marketing, has become a trending media channel for tour operators. According to the relevant survey of 821 zoomers occupying in Hanoi (of which 800 valid samples are included in the analysis), after the qualitative analysis, regardless of 10 original categories of Travel Social Media Influencer Value (TSMIV) respectively (1) Informative value, (2) Entertainment value, (3) Expertise, (4) Trustworthiness, (5) Attractiveness, (6) Similarity, (7) Familiarity, (8) Likability, (9) Personality and (10) Number of followers, the authors addressed two additional ones, namely (11) Interaction, (12) Occupation. The Exploratory Factor Analysis (EFA) then was concluded with 7 newly adjusted classifications of TSMIV characteristics or aspects including (1) Charisma and trustworthiness, (2) Similarity and familiarity (3) Informative value, (4) Communication and interaction methods, (5) Degree of identification, (6) Level of pervasiveness and (7) Professionalism in tourism.

Key words: *Influencer, travel influencer, Travel Social Media Influencer Value (TSMIV)*

1. Introduction

The growth in tourist arrivals is the key to tourism success. Therefore, marketing strategies are always stimulated and periodically changed by tourism managers in each stage of the society in order to catch the trend, to attract domestic and foreign tourists to their destinations and to help increase tourism demand. To create effective strategies, it is necessary for the managers to understand customers' needs and desires for information and brands related to their destinations as well as the change in customer perception when approaching each type of marketing. One of the decisive factors that affect their decision is the trust and positive brand attitude toward the destination built with data collection from reference sources, to which influential people in the tourism sector significantly contributed.

According to a report by We are Social and Hootsuite which are two organizations that publish annual reports on digital and social media trends around the world, the number of social media users in Asia Pacific (APAC) increased by 9.8%, reaching 2.14 billion people by 2020. The statistics further indicated that in February 2020, there were 67 Vietnamese people using the Internet with 6 hours and 42 minutes spent online on average, of which an average of 2 hours and 32 minutes is for surfing on social networks and 2 hours 31 minutes is for watching live streams or online videos. These above figures already demonstrated the influence of the internet and social networks in daily life of every single Vietnamese, especially Generation Z, who are always the fastest and keenest adapting to technology evolution. The Internet in general and social networks in particular, consequently, is successfully used as invisible referential sources for them to seek the answers to all kinds of questions as well as to satisfy their curiosity. Understanding customers' mindsets, travel influencers have appeared as destination ambassadors to convey messages and raise destination brand awareness among young travelers. It is influencer marketing that takes advantage of their vast popularity to inspire people and spread the word via social networking sites with the content compiled by organizations, businesses or by themselves based on their personal experience and their own feelings. However, their popularity and influence on tourism among young followers is obviously unlike celebrities'.

Involved with Travel Social Media Influencer Value (TSMIV) considering the perception of Gen Z (11–26 years old), this paper can be deployed and regarded as the foundation and premise for further research on other age groups as well as other local and foreign communities to come up with suitable development strategies for different customer markets and a variety of geographic target ones.

2. Method

Data collection methods

The research team accomplished collecting data with two methods:

- Secondary data collection method is adopted in the early stage of the study through reports and statistics from research organizations, relevant research papers on reported topics; involved agencies and departments in general and particularly ones in Hanoi; Vietnam National Administration of Tourism and Hanoi Tourism Department.

Likewise, the group of authors also collected data from a number of reputable journals concerning tourism marketing and influencers. In addition, the group conducted research on some specific local and foreign influencers through online media to add data to the research paper.

- Primary data collection method practiced in the later stages of the study through surveying Generation Z- research subjects- in Hanoi is accompanied by two sub-methods: in-depth interviewing and online survey via questionnaires. In detail, in-depth interviews were conducted prior to the official investigation, to detect and reference arising opinions during the research process in comparison with previous studies. The officially selected method of data collection is an online survey with questionnaires on social networks, Facebook, to be specific- which records the largest number of users nowadays on account of its high authenticity and easy access to a great deal of subjects aged 11 - 26 in Hanoi.

Data analysis methods

For zoning the scope and object of the study as well as to achieve the research targets, the authors decided to apply both qualitative and quantitative research methods in this paper.

Accordingly, qualitative research is adopted to discover new factors or observational variables that contribute to the trust and perspective of the generation Z toward the destination brand through tourism influencers who have not been proven or verified yet in previous relevant papers. In detail, qualitative data collection through in-depth interviews with Hanoi citizens from gen Z, chosen with the target sampling method is to supplement and adjust the research design matching with the set criteria as well as ensuring the research context updates.

Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis (EFA) is designed to explore the nature of response underlying constructs to reduce data (J DeCoster, 1998) or simply to eliminate inappropriate scales and discover new factor groups. While Cronbach's Alpha's test helps the research team check the reliability of the scales, EFA factor analysis in the later step is responsible for evaluating the convergence and divergence of the factors. According to Meyers L.S., Gamst G., Guarino A.J. (2000), regarding factor analysis, Principal Components Analysis merging with Varimax rotation is the most commonly used.

Measurement scale development

After referencing and selecting data from previous studies on related topics and obtaining the result from the qualitative research (using in-depth interviewing method), the research team managed to summarize and arrange those measurement scales for groups of factors in the table proposed below

The degree of influence of the scales on the trust and perception of the destination brand of Generation Z in general and Generation Z in Hanoi in particular through influencers in the tourism sector is quantified according to the Likert 7 scale instead of the usual Likert 5 scale because in the view of The degree of influence of the scales on the trust and perception of the destination brand of Generation Z in general and Generation Z in Hanoi in particular through influencers in the tourism sector is quantified according to the Likert 7 scale instead of the usual Likert 5 scale because in the view of Barnes et al (1994) that the 7-point scale does not affect the analysis of scales and factors while improving reliability. of the answers. In particular, the points of the respective scale are: 1 = Totally disagree; 2 = Strongly disagree; 3 = Disagree; 4 = Confused, neutral; 5 = Agree; 6 = Strongly agree; 7 Totally agree.

Table 1. Constructs and Measurements

Constructs	Measurements	Item	Studies/Source
Informativeness	Advertisements supply relevant information on destinations.	TT1	Robert H. Ducoffe (1995)
	Advertising provides timely information on destinations.	TT2	
	Advertisements tell people about destinations when they need the information.	TT3	
	Advertisements indicate travel influencer's responsibility.	TT4	Qualitative research results
	Advertisements are similar to what we found.	TT5	
Entertainment	Advertisements are entertaining.	GT1	Robert H. Ducoffe (1995)
	Advertising is enjoyable.	GT2	
	Advertisements are pleasing.	GT3	
Expertise	Knowledgeable.	KTCM1	Roobina Ohanian (1990)
	Expert.	KTCM2	
	Experienced.	KTCM3	
	Qualified.	KTCM4	
	Skilled.	KTCM5	
Trustworthiness	Travel influencer is dependable.	UT1	Martensen et al. (2018); Chen Lou & Shupei Yuan (2019); Dreifaldt et al, (2019); Jiang, M. (2018); Deatara et al. (2019) Applbaum and Anatol (1972); Bowers and Phillips (1967); Simpson and Kahler (1980-81); Whitehead (1968)
	Travel influencer is honest.	UT2	
	Travel influencer is reliable.	UT3	
	Travel influencer is trustworthy.	UT4	

	Travel influencer has personal brand.	UT5	Qualitative research results
	Travel influencer has no scandals.	UT6	
	Travel influencer is guaranteed by brands.	UT7	
	Travel influencer does not earn money from third party.	UT8	
Attractiveness	Travel influencer is attractive.	SHSC1	Agrawal & Kamakura,1995 Misha & Beatty,1990; DeSarbo and Harshman (1985)
	Travel influencer is charismatic.	SHSC2	
	Travel influencer is good-looking.	SHSC3	
	Travel influencer is persuasive.	SHSC4	Qualitative research results
Similarity	I have a lot in common with the influencer I follow.	STD1	Martensen et al. (2018); Ruef et al., (2003); Dreifaldt et al, (2019); Chen Lou & Shupei Yuan (2019); Kamran Siddiqui (2011)
	I and the influencer use the same product (we have the same taste in products).	STD2	
	I and the influencer have the same style.	STD3	
	I and the influencer have the same hobby/ies.	STD4	
Familiarity	I have followed the influencer for a long time.	STT1	Russell and Puto, (1999); Martensen et al. (2018); Deatara et al. (2019); Martensen et al. (2018); Dreifaldt et al, (2019)
	The influencers that I follow are personal on social media.	STT2	
	I relate to the influencer on a personal level.	STT3	
	I know what kind of person the influencer is.	STT4	
	I often come across travel influencer's posts.	STT5	Qualitative research results
Likability	Travel influencer is friendly.	TNDDN1	Stephen Reysen (2005)
	Travel influencer is likeable.	TNDDN2	Drachman, deCarufel, and Insko (1978)
	Travel influencer is warm.	TNDDN3	Stephen Reysen (2005)
	Travel influencer is approachable.	TNDDN4	
	I would ask travel influencer for advice.	TNDDN5	
	I would like to be friends with travel influencer.	TNDDN6	Carli et al. (1991)
	I will not believe in travel influencers that I have prejudice.	TNDDN7	Qualitative research results
	Travel influencer knows how to behave with people and culture at	TNDDN8	

	destinations.		
Interactivity	Travel influencer uses popular social networks.	STgTac1	Qualitative research results
	Travel influencer has a high ratio of likes and shares.	STgTac2	
	Travel influencer often interacts with his/her followers.	STgTac3	
	Travel influencer often organizes minigames and give gifts to his/her followers.	STgTac4	
	Travel influencer gets a high ratio of likes and shares from my friends and family.	STgTac5	
Occupation	Travel influencer is an expert .	NgNg1	Qualitative research results
	Travel influencer is a celebrity.	NgNg2	
	Travel influencer is a person using popular social networks.	NgNg3	
Number of followers	1M+ followers (the rich & famous)	SLNTD1	Colin Campbell, Justin Rapp Farrel (2020)
	1M+ followes (the every day celebrity)	SLNTD2	
	100k-1M+ followers	SLNTD3	
	100k followers	SLNTD4	
	10-100k followers	SLNTD5	
	0-10k followers	SLNTD6	
Personality	Travel influencer is extraverted.	TC1	Digman & Takemoto-Chock, 1981; Peabody & Goldberg, 1989
	Travel influencer is conscientious	TC2	
	Travel influencer is agreeable.	TC3	
	Travel influencer has emotional stability.	TC4	
	Travel influencer is intellectual.	TC5	
Trust	Travel influencer cannot be trusted at times.	MDTT1	
	Travel influencer can be counted on to find information about destinations.	MDTT2	
	Travel influencer has high integrity.	MDTT3	
Destination brand awareness	I can picture what destination looks like in my mind.	NTDD1	Woodside and Lysonski, 1989 Gartner, 1993 Kim & Kim, 2005 Kwun & Oh, 2004; Oh, 2000
	I am aware of the place as a travel destination.	NTDD2	
	I can recognize the destination among other similar travel destinations.	NTDD3	
	I can quickly recall the marketing about the destination.	NTDD4	
	Some characteristics of the destination come to my mind quickly.	NTDD5	

(Source: Created by authors, 2021)

3. Results

3.1. Literature Review

Influencers and Travel Influencers

In the era of social media appeared a new type of celebrity - micro-celebrity, involving with self-expression on social media and self-branding by creating a distinctive public image to attract a large number of followers' attention (Khamis, Ang, & Welling, 2016; Marwick, 2015; TM Senft, 2008; T Senft, 2013). Micro-celebrities on social media are often referred to as influencers. In fact, "influencers" can be ranged from either "potentially famous" or not widely well-known actresses and models, fitness coaches, friends of celebrities and the wealthy whose love for high-end products to pretty high-school girls (Abidin, 2016; Marwick, 2015; Saul, 2016). (Chae, J. (2017)).

On the other hand, according to Keller and Fay (2016), tastemakers can be depicted as consumers who perform higher-than-average possibilities of information seeking by which they continue to share ideas, information, and suggestions with others. These can be accomplished by actively giving comments on their preferred products and services, gaining relevant knowledge while searching for advice and their brand insights.

While discussed in Freberg et al. (2011), social media influencers (SMI) represent a new independent third party who shapes audience attitudes through blogs, tweets and other mediums. There was a completed document on public relations identifying influential spokespersons' characteristics but the audience perceptions of SMI is, still, a recondite matter.

Social media influencers represent "a new type of independent third party endorser who shape audience attitudes through blogs, tweets, and the use of other social media" (Freberg, Graham, McGaughey and Freberg, 2011, p. 90). Recognized as opinion leaders, they can enhance the influence of information that is passed on to others (Jalilvand, 2017; Uzunoğlu & Kip, 2014). Other studies on different areas rather than tourism, such as culture (Magno, 2017) and fashion (Halvorsen, Hoffmann, Coste-Manière, & Stankeviciute, 2013), have recorded increasing engagement of influencers in the digital environment and the mechanisms by which they control the attitudes and decisions of their followers. These matters can be further approached through current research notes.

According to Ed Keller and Brad Fay (2016), influencers, especially ones in tourism can be considered as upscale inspirational promoters on social networks, who are renowned among the cyber communities. They perform higher-than-average possibility of exploring the information about destinations, sharing informative ideas and recommending travel tips for their followers.

To summarize, travel influencers are those who have a large following on social networking platforms, creating and sharing informative contents regarding tourism. This group may include (1) Professionals in tourism (lecturers, PhDs, experts in tourism); (2) Celebrities (actors, singers ...); (3) Individuals working on social media (travel bloggers, vloggers …) ...

Characteristics of social media travel influencers

- *Advertising Value (Informative and Entertainment Value)*

As stated in Sheth and Uslay (2007), from a marketing perspective, value was recognized to be created and exchanged via marketing practices while marketing services were proposed to possibly satisfy consumers' needs. In particular, advertising value refers to "a subjective evaluation of the relative worth or utility of advertising to consumers" (Ducoffe, 1995, p.1). To further research, Ducoffe (1996) investigated the determinants of online advertising value: informativeness, entertainment and irritation. Additionally, he made a proposal of consumer perceptions of advertising value, positively predicting their attitudes toward online adverbs. The informative value of advertising refers to the ability of an advertisement to inform customers of alternative products in order to promote consumers' satisfaction (Ducoffe 1996). Meanwhile, the entertainment value matches with the assumptions in a valid practical study of McQuail in 1983 where adverbs are considered as media contents and the entertainment impact on consumers was also mentioned (Ducoffe 1996). On the other hand, irritation describes how advertising can annoy, offend and manipulate consumers, or take their attention away from the content of speech (Ducoffe 1996). In short, the information and entertainment value reflect positive perceived and emotional values of advertisement, while irritation represents the negative consumers' response to the ad, rather than its value (Sun et al. 2010). Besides, Dao et al. (2014) examined how the value of advertising on social networks affects consumers' online shopping intention. They then demonstrated that those ads furnishing the audience with informativeness, entertainment, and credibility establish consumers' perceptions of advertising value, which accordingly influences their buying intent.

- *Source credibility (expertise, attractiveness, similarity, trustworthiness)*

The credibility level of a communicator or a transmitted message can be considered as a significant determinant of its persuasiveness (Hovland và Weiss 1951). Hall (2015) used to describe social media influencers as "micro-endorsers" (compared to "bigger" celebrity endorsers) who, in advertising, often play the same role as message sources in the persuasion process, whilst multiple earlier researchers utilized the degree of reliability to evaluate source impact on the persuasive efficacy of messages (e.g., Giffin 1967; Hovland and Weiss 1951; McGuire 1985). At first, Hovland, Janis and Kelley (1953) proposed two factors determining source credibility: expertise and trustworthiness. Expertise is defined as the capacity or qualification of the source, including the specialized knowledge or skills, of making a statement about a certain subject (McCroskey 1966). Trustworthiness is related to an individual's perception of a source as being reliable, sincere, or honest (Giffin 1967). McGuire then in 1985 proposed a third component of source reliability: charisma, which refers to the physical attractiveness or likability of a source. Likewise, Ohanian (1990) defined source reliability as a three-dimensional structure, based on previous research topics including credibility, expertise, and available charisma.

- *Number of followers*

The number of followers plays a critical role in enhancing the approach of influencers' messages (Arora et al., 2019; Belanche et al., 2020: Djafarova and Rushworth, 2017). It also serves as a measure of influencers' popularity. In fact, influencers are categorized based on different levels of popularity (i.e. large, macro, and micro) which are suggested in their follower count (Childers et al., 2019; De Veirman and partner, 2019). However, a larger number of followers does not parallel with better customers' engagement (De Veirman et al., 2017; Djafarova and Rushworth, 2017). As noted in De Verman et al. (2017), popularity on social media is not equivalent to influencers' capacity of guiding their followers' respective. In contrast, follower count may be negatively related to the engagement. The main reason why the followers continued to accompany those influencers is their perceptions of influencers as individuality, authenticity and relevance (Belanche et al., 2020; Jin et al, 2019; Lou and Yuan, 2019; Schouten et al., 2020). However, when a sizable number of followers on social media is accumulated, the sense of connection with those tastemakers might disappear, which then results in diminished interactive behaviors.

- *Familiarity*

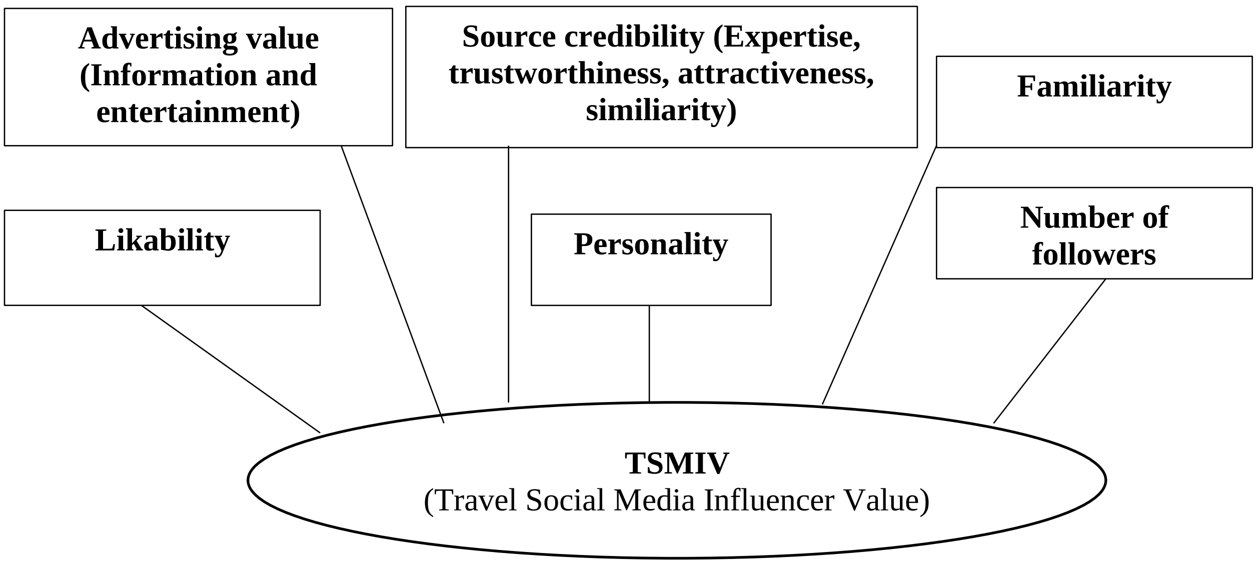
Customer familiarity with a source depends on the amount of information exchanged in the past (Martensen et al. 2018) which means that the intimacy provides the audience with a certain degree of comfort, thus making received messages seem more convincing. Martensen et al. (2018) and Hoffner (2008) further explained that concerning the relationship between social media influencers and their followers, even though the interaction is considered one-sided, they often feel connected and sympathetic to their influencees. In both Deatara et al. (2019) and Martensen et al. (2018), researchers agreed that the intimacy between those bethwether and their followers can foster their trustworthiness. In other words, if consumers perceive their familiarity, they are more likely to trust them which, thereby, positively affects their purchase intent. Researchers, Lee and Watkins, in 2016, demonstrated that influencers positively influence consumer buying intent when promoting brands in their posts while in Chapple and Cownie (2017), an interview study, consumers replied that they regularly follow their followees' recommendations for products by purchasing or further inducing them to people around.

- *Likability*

Unlike several foregoing studies in which likability was used interchangeably with available charisma (Maddux & rogers, 1980), current studies indicated that trend adopters influenced by the charisma / personality of the ambassador, or their intimacy / familiarity with the observers (DeSarbo & Harshman, 1985; Giffin, 1967). Teven (2008) also found that likability is positively correlated with the perceived credibility of political candidates. In another case, Brodsky, Neal, Cramer and Ziemke (2009) discovered witnesses' likability can affect the perceived trustworthiness of their evidence provided in the court. Witnesses with a higher degree of likability were considered to be more reliable than ones with lower levels (Brodsky et al., 2009).

- *Personality*

Personality can be the main determinant of the application of different influence tactics. In detail, Bond (1983) discovered that the personality of travel influencers affected their followers' attitudes and behaviors.



(A summary by the group author, 2021)

3.2. Research result

Demographic characteristics

The overall official research samples on this topic consist of several members in gen Z living, studying and working in Hanoi and the sample data are collected from passed-on online surveys. The total number of responses collected by the research team was 821. After 21 invalid responses were rejected (due to invalid information / identical votes), there were 800 valid responses involved in quantitative data analysis.

Table 2. Demographic characteristics

	Measurement	Frequency	Ratio (%)
Gender	Male	312	39.0
	Female	477	59.6
	Do not want to specify	11	1.4
Age	11-15	140	17.5
	16-18	115	14.4
	19-22	397	49.6
	23-26	148	18.5
Occupation	Student	628	78.5
	Office staff	71	8.9
	Workers, engineers	30	3.8
	Teacher	28	3.5
	Others	43	5.4
Frequency of traveling	Rarely	251	31.4
	Occasionally	343	42.9
	Often	206	25.8
Frequency of using social media	Rarely	10	1.3
	Occasionally	27	3.4
	Sometimes	191	23.9
	Often	572	71.5

(Souce: Analyzed by authors, 2021)

Exploratory Factor Analysis (EFA)

After the preliminary assessment on the reliability, The observable variables will be included in the exploratory factor analysis EFA to reduce data, and at the same time the reliability (Sig) will be measured to test the correlation between the observed variables and help the research team discover new groups of factors, re-adjust the research design and hypotheses stated in previous chapters.

Table 3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.972
Bartlett's Test of Sphericity	Approx. Chi-Square	39494.974
	Df	1830
	Sig.	.000

(Source: Analyzed by authors, 2021)

The KMO value = 0.972 satisfying the condition $0.5 \leq KMO < 1$ and the value of Significance level was < 0.05. Thus, on the whole, each observed variable of the factors driving the level of trust and perception among people from Gen Z in Hanoi of destination brands through tourism influencers interrelates with all the others.

After three times of conducting exploratory factor analysis EFA (of which the result each time is removing those scales with < 0.5 factor loading or showing < 0.5 factor loadings in two columns with their difference is > 0.3 (Jabnoun & Al-Tamimi, 2003)), it is included that those factors are divided into 7 groups named according to the significance of the scale. Since the load coefficients are > 0.5, they are considered to be practically significant The total variance extracted is 69.747%, > 50%. The new factor groups were continuously included in Cronbach's Alpha coefficient analysis and all received Cronbach's Alpha values > 0.6.

Table 4: Rotated Component Matrix

	Component							**Rename**	**Cronbach 's Alpha**
	1	**2**	**3**	**4**	**5**	**6**	**7**		
TNDDN8	.775							Charisma & trustworthiness	0.961
TC2	.774								
TC3	.767								
TNDDN2	.750								
TC4	.732								
TC5	.722								
TNDDN4	.708								
TNDDN1	.678								
SHSC4	.667								
SHSC3	.638								
UT4	.619								
UT2	.614								
UT1	.592								
UT3	.577								
SHSC1	.566								
GT2	.531								
STT1		.734						Similarity and familiarity	0.912
STT2		.728							
STT5		.670							
STD4		.668							
STD1		.664							
STD2		.662							
STD3		.662							
STT4		.600							
TT1			.631					Informative value	0.855
TT2			.571						
TT5			.564						
TT3			.545						
STgTac3				.635				Communication and interaction	0.799
GT3				.625					
STgTac4				.617					

GT1				.509					
SLNTD5					.912			Degree of identification	0.890
SLNTD6					.894				
SLNTD4					.813				
SLNTD2						.760		Level of pervasiveness	0.845
SLNTD1						.691			
SLNTD3						.659			
NgNg2						.517			
KTCM4							.775	Professionalism in tourism	0.771
KTCM2							.707		
NgNg1							.663		

(Source: analyzed by authors, 2021)

After data processing, the independent variables are categorized into 7 factor groups (which all perform appropriate Cronbach's Alpha values), namely:

- Group 1: Charisma and trustworthiness: TNDDN8, TC2, TC3, TNDDN2, TC4, TC5, TNDDN4M TNDDN1, SHSC4, SHSC3, UT4, UT2, UT1, UT3, SHSC1, GT2.

- Group 2: Similarity and familiarity: STT1, STT2, STT5, STD4, STD1, STD2, STD3, STT4.

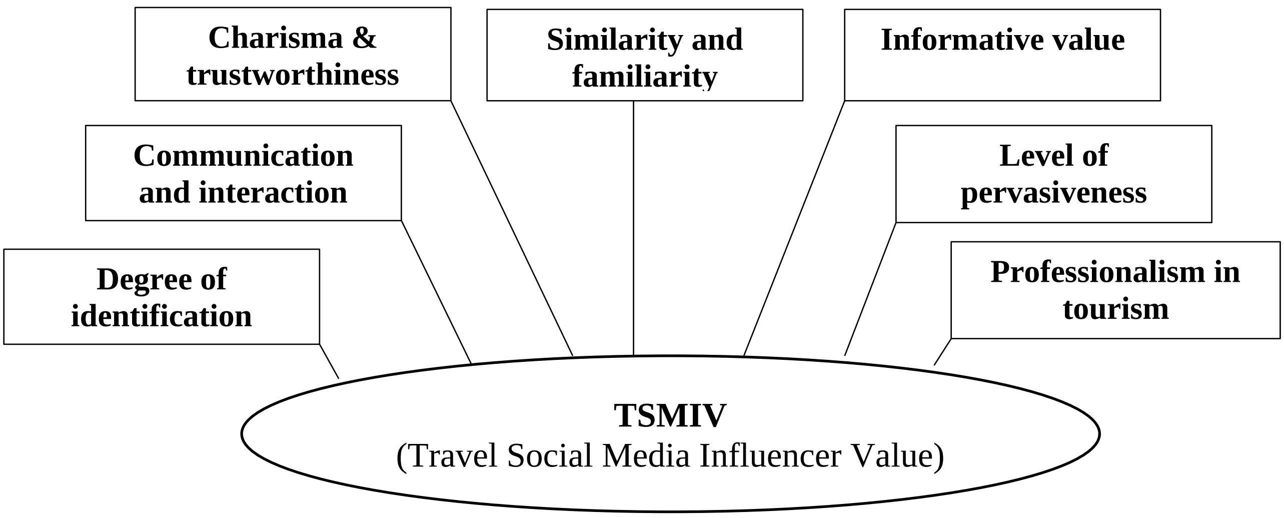
- Group 3: Informative value: TT1, TT2, TT3, TT5.

- Group 4: Communication and interaction methods: STgTac3, GT3, STgTac4, GT1.

- Group 5: Degree of identification: SLNTD5, SLNTD6, SLNTD4.

- Group 6: Level of pervasiveness: SLNTD2, SLNTD1, SLNTD3, NgNg2.

- Group 7: Professionalism in Tourism: KTCM4, KTCM2, NgNg1.



(An summary of EFA results by authors, 2021)

4. Discussion and Conclusion

The research results by the authors issued 7 groups of factors showing the characteristics of tourism influencers that affect the trust and perspective of generation Z in Hanoi toward destination brands. Among them, there are factors being similar to those included in the original SMIV model as well as in other studies, and added with new scales through qualitative research.

The original SMIV model in Lou, C., & Yuan, S. (2018) introduced factors of influencers that impacted on confidence and perception of brand image in business and services, including trustworthiness, charisma, similarity, expertise, informativeness and entertainment value. The research by the author resembles this model as through the data research, processing and analysis with qualitative and quantitative analysis software and tools, it retained the scales of factor measurement of Similarity and familiarity, Informative value, Professionalism, Charisma and Trustworthiness which influence the dependent variable of brand, confidence and perception. Two groups of factors: Degree of Identification and Pervasiveness are synthesized from Colin Campbell's research and Justin Rapp Farrel (2020) in which 2 scales are excluded from the model base, Number of followers, respectively “Over 100,000 - 1,000,000 people"” and “100,000 people”. The factor groups remain, Methods of communication and interaction, including two scales referenced by Robert H. Ducoffe (1995), “the influencers’ speech is highly entertaining and relaxing” and “the influencers’ statements are amusing” and two further scales discovered during the qualitative research by the author, “Those influencers in tourism often interact directly with their fans” and “Those influencers frequently organizes minigames and gives gifts to fans”. Underlying that similarity is that most of previous related papers did not focus on specific groups of subjects marketing-related activities and influencers in general. Therefore, working with a certain target group, Generation Z in Hanoi ,in a particular field of marketing, tourism branding, this study by the group of authors still covers basic characteristics satisfying those factors mentioned in previous ones.

Moreover, due to the up-to-dateness of the research context, along with the diversity of the survey samples, there is a number of new additional scales emerging. In detail, the scale “The information that influencers in tourism provides matches the information I have searched before" is added to the factor group, Informative value, while the scale, “Influencers in tourism have persuasive skills” is included in Charisma and trustworthiness.

In Martensen et al (2018); Agrawal and Kamakura (1995); Misha & Beatty (1990); DeSarbo and Harshman (1985); Stephen Reysen (2005); Digman and Takemoto-Chock (1981); Peabody and Goldberg (1989), groups of factors regarding personality, charisma, likability and trustworthiness are checked and verified to independently impact the subjects' confidence and perceptions of shared areas, non-specific fields. However, according to the research results in Chapter 3, the authors have obtained a group of factors concerning Charisma and trustworthiness with a series of collected scales that generally express personality, available charisma, likability and trustworthiness, showing the distinction in the samples of research subjects compared to the former. Unlike the study based on the number of followers in Colin Campbell, Justin Rapp Farrel (2020), the research by the author group divided Number of followers into 2 subgroups of factors, Degree of identification and Level of pervasiveness, demonstrating the importance of tourism influencers' accessibility to their followers conforming to the perspective of Generation Z in Hanoi. The method of communication and interaction group is composed of scales on approaching methodologies by which influencers can approach their followers and the desire of generation Z in Hanoi to convey creative statements. As regards Professionalism in tourism, Roobina Ohanian (1990) indicated 5 scales measuring the expertise of travel influencers, of which only two remained after the EFA analysis, namely, "The influencer in tourism must be a tourism expert" and "The influencer in tourism must be someone with professional qualifications (diplomas, certificates)", affirming that thanks to the development of online social networks, Generation Z can easily obtain information about the destinations from a variety of sources, and consequently, they desire to access those statements by the more qualified and trustworthy.

In conclusion, according to results of the research by the author group, among 7 groups of factors demonstrating the characteristics of travel influencers, including (1) Charisma and trustworthiness; (2) Similarity and familiarity; (3) Informative value; (4) Communication and interaction methods; (5) Degree of identification; (6) Level of pervasiveness; (7) Professionalism in tourism, there are 4 ones (1) Charisma and trustworthiness; (2) Similarity and familiarity; (3) Informative value; (4) Professionalism in tourism, after the assessment, serving the similar model with the original, of which two scales are newly discovered and included. The other three junior groups, (1) Communication and interaction methods; (2) Degree of identification; (3) Level of pervasiveness are recently added to the model based on previous studies and the results of qualitative research by the authors.

5. Reference

1. Khamis, S., Ang, L., & Welling, R. (2016). Self-branding, "micro-celebrity" and the rise of Social Media Influencers. Celebrity Studies, 8(2), 191–208.

2. Abidin, C. (2016). Visibility labour: Engaging with Influencers' fashion brands and #OOTD advertorial campaigns on Instagram. Media International Australia, 161(1), 86–100.

3. Ducoffe, R. H. (1995). "How Consumers Assess the Value of Advertising." Journal of Current Issues & Research in Advertising, 17(1), 1–18.

4. Reza Jalilvand, M. và Samiei, N. (2012), "The impact of electronic word of mouth on a tourism destination choice: Testing the theory of planned behavior (TPB)", Internet Research, Vol. 22, No. 5, pp. 591 – 612.

5. J DeCoster (1998), Overview of factor analysis.

6. Meyers L.S., Gamst G., Guarino A.J. (2006), "Applied multivariate research: Design and interpretation", Nhà xuất bản Thousand Oaks, CA: Sage, Canada.

7. Colin Campbell, Justin Rapp Farrel (2020), More than meets the eye: The functional components underlying influencer marketing, Business Horizons, Volume 63, Issue 4, July–August 2020, pp. 469 – 479.

8. Ohanian, R. (1990). Construction and Validation of a Scale to Measure Celebrity Endorsers' Perceived Expertise, Trustworthiness, and Attractiveness. Journal of Advertising, 19(3), 39–52.

9. Zainab Al-Darraji, Zahra Al Mansour, Shilan Rezai (2020). Similarity, Familiarity, and Credibility in influencers and their impact on purchasing intention

10. Morgan, R. M., & Hunt, S. D. (1994). The Commitment-Trust Theory of Relationship Marketing. Journal of Marketing, 58(3), 20–38.

11. Tafesse, W., & Wood, B. P. (2021). Followers' engagement with Instagram influencers: The role of influencers' content and engagement strategy. Journal of Retailing and Consumer Services, 58, 102303.

12. Jun, S., & Yi, J. (2020). What makes followers loyal? The role of influencer interactivity in building influencer brand equity. Journal of Product & Brand Management, ahead-of-print(ahead-of-print).

13. Xiao, M., Wang, R., & Chan-Olmsted, S. (2018). Factors affecting YouTube influencer marketing credibility: a heuristic-systematic model. Journal of Media Business Studies, 1–26.

14. Sun, H., & Bond, M. H. (2000). Choice of Influence Tactics: Effects of the Target Person's Behavioural Patterns, Status and the Personality of the Influencer. Management and Organizations in the Chinese Context, 283–302.

15. Ducoffe, R. H. (1995). How Consumers Assess the Value of Advertising. Journal of Current Issues & Research in Advertising, 17(1), 1–18.

16. Tafesse, W., & Wood, B. P. (2021). Followers' engagement with Instagram influencers: The role of influencers' content and engagement strategy. Journal of Retailing and Consumer Services, 58, 102303.

A THEORETICAL MODEL ON INFLUENCE OF EWOM ON TRAVELERS' INTENTION TO CHOOSE DOMESTIC DESTINATION

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Abstract

In the recent years, various studies on roles of electronic word of mouth in the information researching process of online clients have been a topic of great interest for researchers. However, the majority of the researches center on the impact of online evaluations on customers' buying decisions of common goods. Even fewer studies pay attention to tourism sector, especially to travelers' intents in selecting tourist destinations. This paper, therefore, attempts to evaluate the impact of electronic word of mouth (EWOM) on travelers' intention to choose domestic destination through the combination of the theory of planned behavior (TPB) and the self-congruity theory. This particular approach provides interesting implications in development of destinations, promotion of travelers' interests.

Key words: *Electronic word of mouth (EWOM), Self-congruity theory, Theory of planned behavior (TPB), Travelers' intention.*

1. Introduction

The tourism industry has been playing an increasingly important role in economic development of Viet Nam. Often viewed as an attractive and safe destination for domestic and foreign tourists, Vietnam's tourism industry has experienced a strong and fairly solid growth in recent years. Specifically, Vietnam's tourism has grown continuously over the years with an average growth rate of over 10% per year and Vietnam is among the top 10 fastest growing tourist destinations in the world. In 2019, the number of foreign visitors reached over 18,008 million, the highest ever so far, with an increase of 16.2% compared to 2018 (General Department of Statistics, 2018, 2019). In 2020, the tourism industry is heavily affected by the Covid-19 epidemic, losing US$ 23 billion, reducing 80% of international visitors, 50% of domestic tourists (Minister of Culture, Sports and Tourism Nguyen Ngoc Thien told the National Assembly). Vietnam National Administration foresees the tourism industry will still have to face with further difficulties. Thus, to develop domestic tourism, one of the more viable solutions is to attract more Vietnamese people by helping them form interest on selecting domestic destinations.

One of the method to improve domestic interest as by travel reviews. Travel reviews are useful for travel decision-making as they provide travelers with indirect experiences. Previous studies have shown that a large number of travelers consult different sources of information before making a decision to buy a product or choose a travel destination for their trip (Fodness, 1997, Lim, 2016, Lizbeth Marie J Lim, 2016). Here we can see that information plays an increasingly important role in influencing the behavioral intent of visitors, especially “word of mouth” from people with travel experience through internet communication channels. So we can come to an early conclusion, EWOM has a significant impact on tourism (Jalilvand andSamiei, 2012).

Theory of Planned Behavior (TPB) developed in 1991 focused on customer intent instead of their actual behavior (Ajzen, 1991). According to Hale, intent is the best predictor and central to the behavior, and is an individual's willingness to perform specific behaviors (Hale et al., 2002). TPB has been applied in many studies of social behavior, especially in the field of tourism (Lam andHsu, 2006, Phosikham et al., 2015, B. Sparks andPan, 2009). As such, the adoption of TPB model is suitable in the tourism context to predict visitors' behavior and intentions in selecting destinations. Additionally, Theory of Planned Behavior (TPB) is a theory of expected value which assumes that people are rational and have a plan when they engage in behavior and try to maximize satisfaction through communication. In other words, buying is also a way for consumers to express themselves through the product (Dittmar andDrury, 2000). Yeon Ho Shin also confirmed that the self-congruity theory is related to the intention of behavior in TPB (Shin, 2014). In contrast, Ibrahim stated that self-congruity has a significant effect on attitude, but did not find a direct link between self-congruity and planned behabior (Ibrahim andNajjar, 2008). In this study, self-congruity is considered to be the premise of TPB variables, and has indirect effects on planned behavior.

With regard to studies on destinations in Vietnam, recent studies are more about assessing the satisfaction and loyalty of travelers to a specific destination such as Danang (Ki Minh Ho, 2010, Minh Duc Phan andTan Buu Le, 2016) or assessing the ability of a destination in attracting tourists like Hue (Thi Tam Bui andLe Quyen Mai, 2012); analysis of tourism motives of domestic tourists (Thanh Huong Bui andJolliffe, 2011); factors affecting the typical choice of Hanoi residents: studying Hue and Da Nang (Thi Phuong Thao Hoang andTrong Tam Nguyen, 2017). Based on that, strategies are proposed to attract tourists as well as destination branding.

It is clear that so far no domestic and foreign studies have investigated the impact of electronic worth of mouth (EWOM) on the intention to select destinations in Vietnam, in conjunction with theory of planned behavior and self-congruity theory in order attract tourists. So far no research has been conducted to examine the causality relationship of EWOM and the intention to select destinations, as well as the relationship between EWOM with the variables of the theory of planned behavior and self-congruity theory. To fill in the gaps, based on the theory of planned behavior and self-congruity theory, this research aims to explore the answer for the following questions

- Could EWOM directly influence on travelers' intention to choose domestic destination?

- Could EWOM influence on travelers' intention to choose domestic destination via the mediating role of TPB's variables (attitudes, subjective norm, and perceived behavioral control)?

- Could self-congruity play the mediating role in the relationship between EWOM and travelers' intention to choose domestic destination?

2. Literature Review

2.1. Electronic Word of Mouth (EWOM)

In recent years, consumers prefer to make purchasing decisions that can be independent from information provided by businesses. It is a trend signifying power shifting from company to consumers. Prior to making a decision to buy a product, consumers look at the image of the product or brand through experiences, recommendations, reviews and analysis of other consumers. According to Chevalier, words of mouth was gradually considered as an important source of information affecting consumer behavior (Chevalier andMayzlin, 2006). Opinions, comments from users are refered to as more updated, interesting, and reliable information than marketing information from businesses. A study by Bickart and Schindler, as well as by Kumar et al. showed that the development of the Internet today provides a good approach for people to collect product information and advice from other consumers through electronic word of mouth (Bickart andSchindler, 2001, Kumar andBenbasat, 2006).

According to Hennig-Thurau et al., EWOM is any positive or negative statement made by potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via the Internet. EWOM platform is the technological means through which customers communicate with each other and communicate with sellers. EWOM makes data more relevant and reliable by expanding the engagement of past customers. EWOM is also characterized by indirect and public communication that often has little relationship between the message sender and the message recipient. An EWOM proposal is described as a positive, unbiased or negative information about the supplier published on website by a consumer (Hennig-Thurau et al., 2004).

The Internet provides a platform for customers to discuss their views, therefore words of mouth can spread information at an incomparable speed and is much cheaper than regular forms of word of mouth. Stephen W. Litvin argued that online reviews provided a reliable source of information. Litvin defined EWOM as all informal communications directed at consumers through Internet-based technology related to the usage or characteristics of particular goods and services, or their sellers. This includes communication between producers and consumers as well as those between consumers themselves (Litvin et al., 2008). EWOM is not simply a means to facilitate the communication of marketing information, but it is a central position in e-commerce.

According to Park and Allen, online reviews became an important source of information and has impact on consumers' decisions, especially through EWOM. Consumers give and seek opinions online, which greatly affects the choice of goods and services (S.-Y. Park andAllen, 2013). Jalilvand stated that EWOM has a direct impact on purchasing intent (Jalilvand et al., 2013). Customers when choosing goods may be influenced by online reviews, so companies need to be clearly aware of the negative or positive information. A high-end brand can be weakened by a multitude of negative online reviews. Whereas positive reviews can increase customers' buying intent, create a good image of the company and its brand. The research of Hamouda and Tabban also confirmed that EWOM has a significant impact on purchasing intent. This impact is crucial, especially when the attitude towards the proposed product is positive, thus creating a higher consumer buying intent. The role of EWOM has been increasing in all steps of the buying decision process of consumers (Hamouda andTabbane, 2013).

Electronic Word of Mouth in Tourism Industry

Travel products are intangible, and cannot be measured, touched or felt in different ways before tourists experience them. To avoid potential purchasing risks and uncertainty when choosing a destination, tourists depend on EWOM (Mohammed Abubakar, 2016). Google and Ispos MediaCT proved that the internet is the number one source of information in travel planning (Google and Ispos MediaCT andStudy, 2014). Research by Lizbeth Marie Lim (2016) has shown that EWOM has a significant and positive impact on tourism intention (Lim, 2016).

Study by Park et al. indicates that traveler reviews are helpful for making travel decisions and provide indirect experiences for visitors. Online reviews have a dual role: it provides information on products and services, and it also serves as a recommendation. These two roles can completely meet the information needs of visitors (D.-H. Park andKim, 2008). Gretzel and Yoo (2008) note that finding travel-related information is one of the most popular activities conducted online. EWOM plays an important role in the travel planning and decision-making process. Social media helps tourists make informed decisions basing on other people's past travel experiences, be it online reviews or blog posts, additionally EWOM increases travelers' confidence in their decision making, reduces risk, and helps with trip planning. Gretzel and Yoo also suggested that those comments are more updated, more interesting and more reliable than information (Gretzel andYoo, 2008).

The tourism and hospitality industry is increasingly dependent on EWOM via the media. Visitors rely much on online referrals to determine travel plans such as destinations, accommodation and activities as of their budgets and desires (Litvin et al., 2008, Yoo andGretzel, 2011, Zhang et al., 2009). The report shows that hundreds of millions of potential travelers use online reviews as a source of pre-holiday reference. 84% of travelers use online reviews as a source of reference upon booking a trip (travelindustrywire.com, 2007).

2.2. Theory of Planned Behavior (TPB)

The theory of planned behavior (TPB), developed by Ajzen in 1991, aims at describing how behavior is formed. According to TPB, attitudes along with subjective norm and perceived behavioral control influence the intention to perform a certain behavior. As of now TPB has been applied in many researches on social behavior, especially in the field of tourism.

Sparks et al. (2009) tested a TPB model to show that a theoretical approach is useful for investigating visitor behavior. Subjective norm, basing on the social influence, closely relates to the behavioral intention and percieved control also correlates with the behavioral intention. Nonetheless, the attitude towards vacationing at the destination has no meaning in predicting the Chinese intention to vacation in Australia. The conclusion of this study supported that of Lam and Hsu (2006), whereby attitudes seem to have little effect on tourism intent. Therefore, it is possible that for tourism behavior, potential tourists place greater importance on subjective norm and perceived control than attitude. Chinese tourists are more likely to choose a destination when friends, family, colleagues or travel agents make positive comments. The collectivism of Chinese culture can explain the power of social influence in the stated intention of behavior (B. Sparks andPan, 2009). Chinese people's behavioral intention is more influenced by social norms and less influenced by attitudes than Americans. In another research Phosikham et al. (2015) states that visitors' attitudes in choosing destinations is very important because positive attitudes can bring satisfaction to visitors. According to the study by Albarq, tourists' attitudes and perceptions can change behaviors, and behaviors influence decision-making processes because attitudes have a strong impact on tourist intentions in their choice of destinations (Albarq, 2014).

As such, it is highly appropriate to adopt the TPB model in the tourism context to predict visitors' behavior and intentions in selecting destinations.

2.3. Self-congruity Theory

The Self-congruity theory was developed to explain the self-concept in consumer behavior. According to this theory, individuals use brands or products to express themselves or improve awareness of their personal image. As such, people tend to choose products that have similarities with their personality traits. The greater the suitability, the higher the probability of purchase (Sirgy, 1985). This theory has been extensively studied in the literature on consumer behavior in many different fields but there are a few studies on tourism sector (Luna-Cortés et al., 2019, Usakli andBaloglu, 2011). From a marketing perspective, Moore et al. (1995) and Waitt (1996) have similar viewpoints that personal image is considered to be a variable influencing tourist destination selection processes (Moore et al., 1995, Waitt, 1996). Applying the basic concept of self-congruity theory in the tourism context can be propose that when there is a fit between the destination and the concept of the visitor himself, it is likely that visitors will have a positive attitude to destinations (Sirgy andSu, 2000). This attitude can lead to a visit or word of mouth. Therefore, understanding the relevance between the destination personality and the visitor's self-concept is very important to further understand the complex nature of tourism behavior.

Matzler et al. argues that when there is a match between the national identity and visitors' personal identity, there will have a significant impact on the intention to visit a destination (Matzler et al., 2016). This hypothesis is grounded on Sirgy's self-concept in 1982 and suggests that tourists seeing the fit between destination perception and their own image will have more incentive to visit the destination. Matzler's and Stokburger-Sauer conclude that brand identity as a driving force of visit intention (Stokburger-Sauer et al., 2012). Similarly, Research by Usakli and Baloglu (2011) showed that self-congruity has significant imapct on the behavioral intention and therefore supports the the self-congruity theory. In contrast to the above studies, other researchers argue that there is insufficient evidence on the effect of self-congruity theory on tourists' intention in choosing destinations (Boksberger et al., 2011, Litvin andGoh, 2002).

It is apparent that tourist decisions are a complex process. To date, there have been no unified consumer behavior theory or model that has been largely accepted. The effect of self-congruity on the decision-making process of tourists up on visiting a destination is a topic of research which has not been paid sufficient attention to in literature (Chon, 1992, Litvin andGoh, 2002, Sirgy andSu, 2000). It is necessary to develop and test an integrated self-congruity model to measure visitor intentions in destination selection.

3. Propositions

3.1. Electronic word of mouth and theory of planned behavior in the tourist context

Jalilvand et al. (2012) explained the impact of EWOM in the destination selection process. TPB provides an interesting concept of a decision-making process about a tourist destination. The conclusion has shown that EWOM in the tourism sector has a significant, positive and direct impact on attitudes, subjective norm and peceived behavioral control. It also has a huge impact on travel intent. Attitude towards a destination, subjective norm and pervcied behavioral control are all considered important determinants of travel intent to a defined destination. Similarly, Yulin Miao conducted the study on “The influence of Electronic-WOM on Tourists' Behavioral Intention to Choose a Destination: A case of Chineses Tourists Visiting Thailand”. The TPB has been used to examine the the effect of EWOM on tourist behavioral intentions in selecting specific tourism destinations. Results showed that EWOM has a significant effect on the behavioral intention of Chinese tourists visiting Thailand. EWOM, though TPB, has also been proved to have imapct on attitudes, subjective norm and perceived behavioral control (Miao, 2015).

Kwong Goh (2015) indicates that the effect of electronic word of mouth on intention to book accommodation via online peer-to-peer platform through EWOM is significant, positive and direct to the attitude, subjective norm and perceived behavioral control of visitors. In addition, attitudes, subjective norm and perceived behavioral control have significant effect on the intention to use peer-to-peer online applications or websites (Goh, 2015). Study by Ngo Thi Hien Trang looked at whether the EWOM information impact travelers' intention to choose a tourist destination when they come to Danang and its magnitude of impact. The results showed that EWOM has effect not only on the intention to choose tourist destinations, but also on the perception of usefulness, feeling of enjoyment, attitudes, subjective norm and perceived behavioral control (Thi Hien Trang Ngo, 2017).

From the above agruments, the following propositions are presented:

P1: EWOM has positive influence on travelers' intention to choose domestic destination

P2: EWOM has positive influence on attitude toward domestic destination

P3: EWOM has positive influence on subjective norm toward domestic destination

P4: EWOM has positive influence on perviced behavioral control toward domestic destination

P5: Attitude has positive influence on travelers' intention to choose domestic destination

P6: Subjective norm has positive influence on travelers' intention to choose domestic *destination*

P7: Perceived behavioral control has positive influence on travelers' intention to choose domestic destination

3.2. Electronic word of mouth and the self-congruity theory in the tourism context

Tourists are able to develop strong emotional relationships with certain destinations and even assign human personality to these destinations. Destination personality refers to the brand personality in the tourism context. Ekinci and Hosany (2006) define destination personality as 'The set of personality traits associated with a destination' (p. 127), adapted from the brand personality terminology of Aaker (Aaker, 1997). Similar to brand personality, a unique destination personality can make a difference from other destinations, create a competitive advantage, and will therefore influence visitors' decision-making behavior (Murphy et al., 2007).

A study by Feli et al. examines the importance of word of mouth as an important source of information and its influence on the formation of destination personality. The study asserted that word of mouth has a positive impact and a significant effect on destination personality and visitor loyalty. Typically, people who have traveled to a certain place will tell others about their travel experiences. Trip experiences and accounts may be more acceptable than other sources of information (Feli andAzizi, 2016). As such, EWOM is an important tool in creating and developing destination personalities. From there, the proposition is given as follows:

P8: EWOM has positive influence on destination personality.

Currently, where tourism is concerned there are only a few researches on the influence of brand personality on self-congruity. Emperical research by Usakli and Baloglu (2011) is among those few studies. Researchers have demonstrated that destination personality influences the response of individuals through self-congruity, suggesting that the more a destination personality is in line with the self-concept, the more positive attidue tourists have toward that destination, and the higher ratio of choice they make. Research by Chua et al. (2019) shows that brand personality has positive effects on self-conguity. This study takes a closer look at the influence of brand personality and the appropriateness of the self-concept in predicting the behavioral intent of air travelers (Chua et al., 2019). The special and attractive destination personality is able to convey individual images, as a way to shape and reinforce the self-concept of visitors.

From the above studies, it is possible to form this proposition:

P9: Destination personality has positive influence on self-congruity.

3.3. Correlation between the theory of planned behavior and self-congruity theory

Self-congruity has proved to be a theoretical framework for many studies across different areas of behavioral research. Sparks and Shepherd examined the role of Self-identity in relationship with the theory of planned behavior and the intent of green consumerism (P. Sparks andShepherd, 1992). While Sparks and Guthrie (1998) conducted their research in the United Kingdom to prove the predictive effectiveness of self-identity to the consumption intent of a diet low in animal fats. This study has incorporated TPB variables but the self-identity structure has been proven to be independent from the effect of consuming low-fat diets (P. Sparks andGuthrie, 1998).

According to Yeon Ho Shin (2014), the self-congruity theory is associated with the behavioral intent in TPB. The overall signigicance of the TPB model will increase with the participation of the self-conguity theory. Results indicated:

- Self-conguity has positive effect on attitude. This correlation is supported by many empirical studies such as Ibrahim and Najjar, and Kang et al. (Ibrahim andNajjar, 2008, Kang et al., 2012). Individuals who think that their personality is suitable for local food users will have a positive attitude towards buying local food. In the tourism context, when a tourist thinks that her own personality fits the destination personality, they will have a positive attitude towards the destination (Sirgy andSu, 2000). Thus, the next proposition is given:

P10: Self-congruity has positive influence on attitude toward domestic destination

- The correlation between self-congruity and subjective norm is positive. Those who think that their personality is suitable for local food consumers, they will feel more pressure to buy the product and think the reference group will support them in the food purchase process (Shin, 2014). In the tourism context: the visitor's personality in line with the destination personality will affect the reference group such as his parents, colleagues or friends. The author formulates the proposition:

P11: Self-congruity has positive influence on subjective norm toward domestic destination

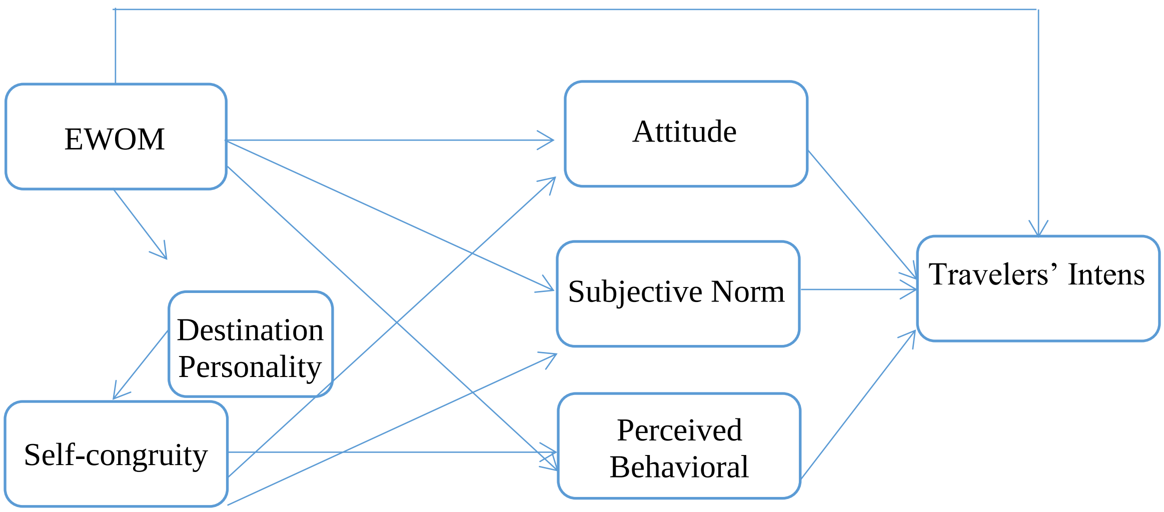
- Self-conguity has also positive effect on perceived behavioral control. People who think their personality are similar to local food consumers will feel more in control of their behaviors (Shin, 2014). The next proposition is that, when visitors' personality matches the destination personality, they will have a better sense of control over their destination selection behavior.

P12: Self-congruity has positive influence on perceived behavioral control toward domestic destination

A number of studies have shown that personal values such as the self-concept are considered as the premise of attitude, subjective norm and perceived behaviorial control (Arvola et al., 2008, Hagger et al., 2007, Kang et al., 2012). Therefore, the self-congruity variables have indirect effect on the intention through the TPB model.

4. Research model

From the given propositions, the author proposes the following research model:



Source: Authors

5. Conclusions

Theoretically, this is the first study to examine the correlation of EWOM with the intent of choosing destinations, and the correlation of the components of the planned behavior theory and the self-congruity theory in the context of tourism. The model was built to show the psychological movement of visitors. From words of mouth, visitors search for information through internet sources, evaluate options. Then attitude, subjective norm and awareness of perceived behavioral control are formed. From words of mouth, they can express themselves, and from which their behavioral intentions are formed.

From the practical perspective, managers will first of all be able to, basing on this research, encourage visitors to engage in discussions in online communities. This can be a useful strategy to increase words of mouth about a certain destination via cyberspace. The higher the number of guest reviews are, the more information about a given destination there will be. This will have impact on potential travelers and as a result, the ability to choose a destination will increase. Secondly, destination managers can build an online travel community and through community tourism websites, tourists will exchange information online, and they are encouraged to share their travel feelingss, previous travel experiences, restaurant services, and hotel, etc. Also managers can monitor EWOM's volume exchange to assess destination images and traveler perceptions through online reviews. Last but not least, tourism planners should attempt to provide tangible products suitable to visitors, and create beautiful memories for them. An interesting experience will create a suitable mental image in the minds of tourists, they can develop strong emotional relationships with certain destinations.

6. References

1. Aaker, J. L., (1997), *Dimensions of brand personality*, Journal of Marketing Research, 34(3), 347-356.

2. Ajzen, I., (1991), *The theory of planned behavior*, Organizational behavior and human decision processes, 50(2), 179-211.

3. Albarq, A. N., (2014), *Measuring the impacts of online word-of-mouth on tourists' attitude and intentions to visit Jordan: An empirical study*, International Business Research, 7(1), 14.

4. Arvola, A. and et al., (2008), *Predicting intentions to purchase organic food: The role of affective and moral attitudes in the Theory of Planned Behaviour*, Appetite, 50(2-3), 443-454.

5. Bickart, B. and Schindler, R. M., (2001), *Internet forums as influential sources of consumer information*, Journal of interactive marketing, 15(3), 31-40.

6. Boksberger, P. and et al., (2011), *Self-congruity theory: To what extent does it hold in tourism?*, Journal of Travel Research, 50(4), 454-464.

7. Chevalier, J. A. and Mayzlin, D., (2006), *The effect of word of mouth on sales: Online book reviews*, Journal of Marketing Research, 43(3), 345-354.

8. Chon, K.-S., (1992), *Self-image/destination image congruity*, Annals of Tourism Research, 19(2), 360-363.

9. Chua, B.-L. and et al., (2019), *The role of brand personality, self-congruity, and sensory experience in elucidating sky lounge users' behavior*, Journal of travel & tourism marketing, 36(1), 29-42.

10. Dittmar, H. and Drury, J., (2000), *Self-image–is it in the bag? A qualitative comparison between "ordinary" and "excessive" consumers*, Journal of economic psychology, 21(2), 109-142.

11. Feli, R. and Azizi, A., (2016), *Examining the Effects of Word of Mouth on Loyalty of Tourists Towards Tourism Destination with Mediating Role of Destination Personality and Tourists' Satisfaction*, Journal of Administrative Management, Education and Training, 12, 177-188.

12. Fodness, D. M., B., (1997), *Tourist information search* Annals of Tourism Research, 24(3), 503-523.

13. Goh, S.-K., (2015), *The effect of electronic word of mouth on intention to book accommodation via online peer-to-peer platform: Investigation of theory of planned behaviour*, The Journal of Internet Banking and Commerce.

14. Google and Ispos MediaCT and Study, T. (2014). *The 2014 traveler's road to decision*

15. Gretzel, U. and Yoo, K. H., (2008), *Use and impact of online travel reviews*, Information and communication technologies in tourism 2008, 35-46.

16. Hagger, M. S. and et al., (2007), *Aspects of identity and their influence on intentional behavior: Comparing effects for three health behaviors*, Personality and Individual Differences, 42(2), 355-367.

17. Hale, J. L. and et al., (2002), *The theory of reasoned action*, The persuasion handbook: Developments in theory and practice, 14, 259-286.

18. Hamouda, M. and Tabbane, R. S., (2013), *Impact of electronic word of mouth evaluation on purchase intention: the mediating role of attitude toward the product*, International Journal of Online Marketing (IJOM), 3(2), 20-37.

19. Hennig-Thurau, T. and et al., (2004), *Electronic word-of-mouth via consumer-opinion platforms: what motivates consumers to articulate themselves on the internet?*, Journal of interactive marketing, 18(1), 38-52.

20. Ibrahim, H. and Najjar, F., (2008), *Assessing the effects of self-congruity, attitudes and customer satisfaction on customer behavioural intentions in retail environment*, Marketing Intelligence & Planning, 26(2), 207-227.

21. Jalilvand, M. R. and et al., (2013), *Electronic word of mouth effects on tourists' attitudes toward Islamic destinations and travel intention: An empirical study in Iran*, Procedia-Social and Behavioral Sciences, 81, 484-489.

22. Jalilvand, M. R. and Samiei, N., (2012), *The impact of electronic word of mouth on a tourism destination choice: Testing the theory of planned behavior (TPB)*, Internet Research: Electronic Networking Applications and Policy, 22(5), 591-612.

23. Kang, J. and et al., (2012), *Understanding customer behavior in name-brand Korean coffee shops: The role of self-congruity and functional congruity*, International Journal of Hospitality Management, 31(3), 809-818.

24. Ki Minh Ho, (2010), *Nghiên cứu hành vi và đánh giá của khách du lịch nội địa đối với điểm đến Đà Nẵng*, Tạp chí Phát triển Kinh tế Đà Nẵng, 02, 11-18.

25. Kumar, N. and Benbasat, I., (2006), *Research note: the influence of recommendations and consumer reviews on evaluations of websites*, Information Systems Research, 17(4), 425-439.

26. Lam, T. and Hsu, C. H., (2006), *Predicting behavioral intention of choosing a travel destination*, Tourism management, 27(4), 589-599.

27. Lim, L. M. J., (2016), *Analyzing the impact of electronic word of mouth on purchase intention and willingness to pay for tourism related products*, Asia Pacific Business & Economics Perspectives, 4(1), 22-50.

28. Litvin, S. W. and Goh, H. K., (2002), *Self-image congruity: a valid tourism theory?*, Tourism management, 23(1), 81-83.

29. Litvin, S. W. and et al., (2008), *Electronic word-of-mouth in hospitality and tourism management*, Tourism management, 29(3), 458-468.

30. Lizbeth Marie J Lim, (2016), *Analyzing the impact of electronic word of mouth on purchase intention and willingness to pay for tourism related products*, Asia Pacific Business and Economics Perspectives, 4(1), 22-40.

31. Luna-Cortés, G. and et al., (2019), *Self-congruity, social value, and the use of virtual social networks by generation y travelers*, Journal of Travel Research, 58(3), 398-410.

32. Matzler, K. and et al., (2016), *Brand personality and culture: The role of cultural differences on the impact of brand personality perceptions on tourists' visit intentions*, Tourism management, 52, 507-520.

33. Miao, Y., (2015), *The Influence of Electronic-WOM on Tourists' Behavioral Intention to Choose a Destination: A case of Chinese Tourists Visiting Thailand*, AU-GSB e-JOURNAL, 8(1).

34. Minh Duc Phan and Tan Buu Le, (2016), *Hình ảnh điểm đến, giá trị tâm lý xã hội tác động đến sự hài lòng và lòng trung thành của du khách đến Đà Lạt,* luận án Tiến sĩ(28), 50-67.

35. Mohammed Abubakar, A., (2016), *Does eWOM influence destination trust and travel intention: a medical tourism perspective*, Economic Research-Ekonomska Istraživanja, 29(1), 598-611.

36. Moore, K. and et al., (1995), *Behavioral conceptualization of tourism and leisure*, Annals of Tourism Research, 22(1), 67-85.

37. Murphy, L. and et al., (2007), *Destination brand personality: Visitor perceptions of a regional tourism destination*, Tourism Analysis, 12(5-6), 419-432.

38. Park, D.-H. and Kim, S., (2008), *The effects of consumer knowledge on message processing of electronic word-of-mouth via online consumer reviews*, Electronic commerce research and applications, 7(4), 399-410.

39. Park, S.-Y. and Allen, J. P., (2013), *Responding to online reviews: Problem solving and engagement in hotels*, Cornell Hospitality Quarterly, 54(1), 64-73.

40. Phosikham, T. and et al., (2015), *Tourists' attitudes towards tourism development and heritage preservation in the world heritage town of Luang Prabang, Lao PDR*, International Journal of Business and Social Science, 6(8), 37-45.

41. Shin, Y. H. (2014). *Local food purchase behavior of US consumers: Application of an extended theory of planned behavior and self-congruity theory.* Oklahoma State University. Retrieved from https://shareok.org/bitstream/handle/11244/15122/Shin_okstate_0664D_13187.pdf

42. Sirgy, M. J., (1985), *Using self-congruity and ideal congruity to predict purchase motivation*, Journal of Business Research, 13(3), 195-206.

43. Sirgy, M. J. and Su, C., (2000), *Destination image, self-congruity, and travel behavior: Toward an integrative model*, Journal of Travel Research, 38(4), 340-352.

44. Sparks, B. and Pan, G. W., (2009), *Chinese outbound tourists: Understanding their attitudes, constraints and use of information sources*, Tourism management, 30(4), 483-494.

45. Sparks, P. and Guthrie, C. A., (1998), *Self-identity and the theory of planned behavior: A useful addition or an unhelpful artifice? 1*, Journal of applied social psychology, 28(15), 1393-1410.

46. Sparks, P. and Shepherd, R., (1992), *Self-identity and the theory of planned behavior: Assesing the role of identification with" green consumerism"*, Social Psychology Quarterly, 388-399.

47. Stokburger-Sauer, N. and et al., (2012), *Drivers of consumer–brand identification*, International Journal of Research in Marketing, 29(4), 406-418.

48. Thanh Huong Bui and Jolliffe, L., (2011), *Vietnamese Domestic Tourism: An Investigation of Travel Motivations*, ASEAS - Austrian Journal of South-East Asian Studies, 4(1), 10-29.

49. Thi Hien Trang Ngo, (2017), *Mô hình nghiên cứu sự ảnh hưởng của truyền miệng điện tử đến ý định lựa chọn điểm đến Đà Nẵng*, Chuyên đề Khoa học và giáo dục, (8), 83-92.

50. Thi Phuong Thao Hoang and Trong Tam Nguyen, (2017), *Sự chấp nhận thông tin truyền miệng điện tử và niềm tin thương hiệu trong lĩnh vực du lịch Việt Nam*, Tạp chí Khoa học Đại học Mở Tp Hồ Chí Minh, (52), 15-27.

51. Thi Tam Bui and Le Quyen Mai, (2012), *Đánh giá khả năng thu hút khách của điểm đến Huế*, Tạp chí Khoa học, Đại học Huế, 72B(3), 295-305.

52. Travelindustrywire.com. (2007). Travel reviews-Consumers are changing your brand and reputation online.

53. Usakli, A. and Baloglu, S., (2011), *Brand personality of tourist destinations: An application of self-congruity theory*, Tourism management, 32(1), 114-127.

54. Waitt, G., (1996), *Marketing Korea as an international tourist destination*, Tourism management, 17(2), 113-121.

55. Yoo, K.-H. and Gretzel, U., (2011), *Influence of personality on travel-related consumer-generated media creation*, Computers in Human Behavior, 27(2), 609-621.

56. Zhang, L. and et al., (2009), *An exploratory study of travelers' use of online reviews and recommendations*, Information Technology & Tourism, 11(2), 157-167.

THE EFFECTS OF CORPORATE SOCIAL RESPONSIBILITY ON CUSTOMERS' PURCHASING INTENTION: A STUDY IN HANOI

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Abstract

This study investigates customers' perception of four types of responsibilities in Carroll's CSR pyramid (1991), including economic, legal, ethical and philanthropic responsibilities; and the effects of their perception of CSR on purchasing intention. The findings show some interesting points. Firstly, the importance level of four responsibilities from customers' perspective is different from that of Carroll model (1991). Secondly, purchasing power does not affect the relationship between customers' perception of price fairness on purchasing intention. Lastly, customers' perception of CSR has positive effect on purchasing intention. These research findings are a valuable reference for enterprises in implementing CSR to retain customers' loyalty.

Keywords: *Corporate Social Responsibility, Customers' Purchasing Intention, Customers' Perception of CSR.*

1. Introduction

1.1. Rationale of the study

In Vietnam, Corporate Social Responsibility (CSR) has been increasingly playing a paramount important role in promoting a clear, transparent and friendly business environment, contributing to the improvement of people's life quality, ensuring social welfare for sustainable development in the long-term. Vietnamese government has also been developing and completing the legal frameworks in order to create conditions for enterprises to fulfill their CSR as well as to provide a firm basis for strict and comprehensive state management. Especially a series of alarming recent incidents relating to CSR have eroded the belief of local residents, for example, Vedan's destruction of Thi Vai River through releasing unprocessed wastages, chemicals and contaminated water; the marine environment and ecology destruction of Formosa Ha Tinh company; the potato bitterness of PepsiCo Vietnam, Frieslandcampina's allergy-prone milk recall... These cases represent not only the enterprises' lack of awareness and understanding of CSR but also the weaknesses in defining the challenges and issues that protect the interests of the businesses itself in the long-term.

However, there are many MNCs which focus on CSR as key element in their overall business strategy in order to creatively solve problems and actively face up with challenges in the business development process. Successful implementation of CSR will not only helps businesses to ensure high growth rate, generate higher revenues and profits, enhance brand images, maintain well-known reputation, but also helps the companies address strategic issues related to environmental, legal and social issues for sustainable development. More importantly, the implementation of CSR has huge impacts on customers' behaviors, their satisfaction and loyalty to the brand name.

1.2. Definitions of CSR

The World Business Council for Sustainable Development (2006) defined CSR as the continuing commitment by business to behave ethically and to contribute to economic development while improving the quality of life of the workforce and their families, as well as that of the local public and society at large; management studies have defined CSR as a company's obligation to operate in an economically and environmentally sustainable way at the same time recognizing the interest of all stakeholders and maximizing social, economic and environmental values (Waddock and Post, 1990; Wood, 1991; Matten et al., 2003; Waddock, 2004).

As per World Bank (2001), CSR is the commitment of businesses to contribute to sustainable economic development working with employees, their families, the local community and society at large to enhance their quality of life in ways that are both for business and good for international development. World banks definition is almost same as world business council's definition with a broader point about developing at international levels.

1.3. CSR Models

Carroll Model (1991)

According to Carroll (1991), four types of responsibility composing CSR includes: economic responsibilities, legal responsibilities, ethical responsibilities and philanthropic responsibilities.

Economic responsibility

Throughout history, the businesses were set up to become an economic entity with an aim to providing goods and services for the society. The profit goal is built as the most basic motivation of the business. Before achieving any other goals, the enterprises are the basic economic components of society. Therefore, the basic target of the businesses is producing the goods and services that the consumers need and want, and create the acceptable profits through business process. All these other kinds of corporate responsibilities are built based on economic responsibility.

Legal responsibility

The society not only expects the enterprises to operate under profit target but it also expects them to abide the law, operate under the rules and regulations set by the government and the authorities. Companies are expected to pursue its economic mission within the legal frameworks. This responsibility applies not only to the whole enterprises but also each individual of these enterprises.

Ethical responsibility

Ethical responsibility includes activities that are expected or banned by members of society, although these activities are not mentioned in law. Ethical responsibility includes standards, or expectations that reflect the company's concern about what consumers, employees, shareholders, and the whole society regard as fairness or rightness. The company shows respect for the moral norms that the entities mentioned above respect and protect. Moral responsibility can affect legal responsibility. It promotes greater accountability and sets higher expectations for entrepreneurs to do more than the law.

Philanthropic responsibility

Philanthropic responsibility includes the activities of the businesses that respond to the expectations of the society, showing that the businesses are well-performing the obligations of good corporate citizens. It includes a direct commitment of the business in action or the design of programs to promote the prosperity of the whole society, for example, contributing financial, human or other resources to culture, arts, education or community activities.

In short, according to Carroll, CSR consists of four components, namely economic responsibility, legal responsibility, moral responsibility, and philanthropic responsibility. In other words, a CSR company should try to make profit, abide the law, behave in accordance with ethical standards of society and become a good citizen in the community.

Carvalho et al. (2010)

In order to study the impacts of customers' perception of CSR on their purchasing intention, the model proposed by Carvalho et al. (2010) will be applied in this study. The original model includes the key elements: customers’ perception of CSR, price fairness, personal satisfaction, purchasing power, purchasing intention, complaining intention, and switching intention.

Customers’ perception of CSR: This factor shows the level of customers' appreciation for CSR activities which demonstrate whether they perceive the enterprises' concern in the environment, community, law, morality and whether these activities are worth doing or not.

Price fairness: This factor determines whether consumers are willing to pay a higher price for a company's product than their competitors'.

Personal satisfaction: This factor helps assess whether when consumers use products from a company well-performing CSR, they themselves feel pleased and comfortable or not.

Purchasing power: This factor is measured through income, the higher the income, the greater the purchasing power.

Purchasing intention: The likelihood that consumers will choose to purchase a company's products.

Complaining intention: This factor measures the extent to which consumers are inclined to complain and spread negative rumors of a company.

Switching intention: This factor determines the likelihood that the consumers will no longer use a company's products, and switch to another provider.

According to this model, Carvalho et al. proposed the following hypotheses:

H1: Consumers’ perception of CSR has positive effects on their perception of price fairness, personal satisfaction, purchasing intention and negative impacts on complaining intention and switching intention.

H2: Consumers’ perception of price fairness and personal satisfaction mediate the relationship between consumers’ perception of CSR and purchasing intention, as well as complaining intention and switching intention.

H3: The mediating effect of perception of price fairness in the relationship between perception of CSR and the purchasing intention is increased for consumers with lower purchasing power compared with consumers with higher purchasing power.

H4: The mediating effect of personal satisfaction in the relationship between CSR perception and complaining intention, between CSR perception and switching intention is increased for consumers with higher purchasing power compared with consumers with lower purchasing power.

The study was conducted with a sample of 400 consumers in Brazil. According to the findings, the extent to which Brazilian consumers perceive whether a company is socially responsible or not can be predicted as a result of the transaction with that company, as well as switching intention and complaining intention about rising prices caused by CSR. Moreover, these relationships are mediated by the extent to which consumers perceive whether price increases caused by CSR are fair or not and personal satisfaction because of supporting a socially responsible company. Finally, the results showed that these intermediate effects depend on purchasing power. More specifically, the mediating effect of price fairness in the relationship between CSR perception and purchasing intention is stronger with lower income consumers than with higher income ones. Meanwhile, the mediating effect of personal satisfaction in the relationship between CSR perception and switching intention and complaining intention is stronger with higher income consumers than with lower income ones.

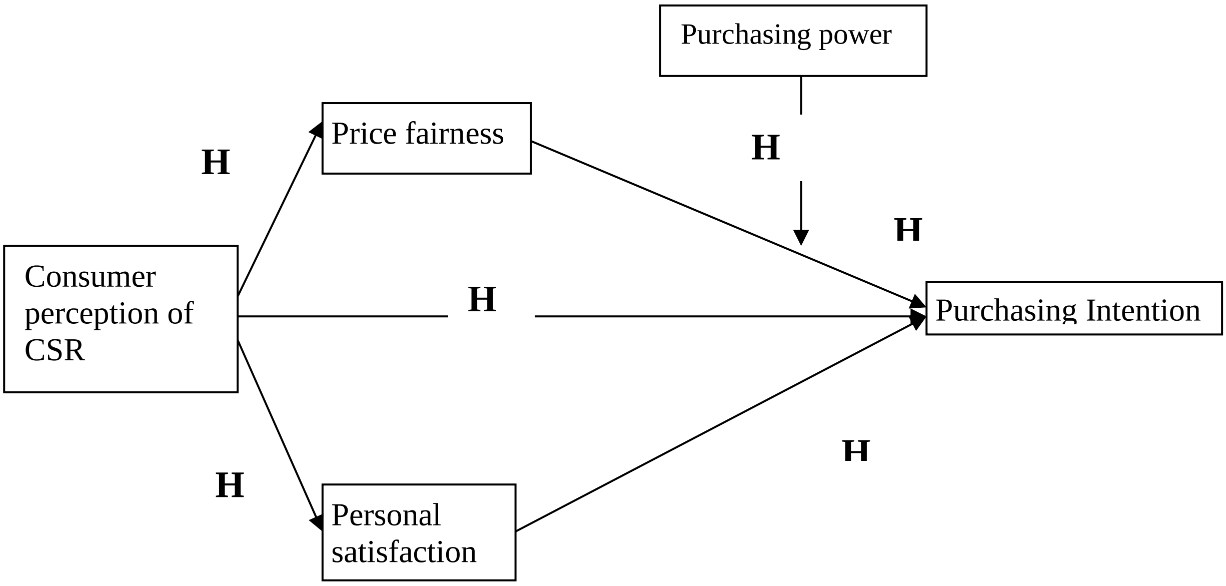
However, the study by Carvalho et al. did not investigate in depth consumers' perception of CSR. Specifically, in their study, there were only questions about philanthropy responsibility without questions to understand consumers' perception of the remaining three types of responsibilities (economic, moral and ethical responsibility). The results did not indicate whether there is a correlation between the age, income, gender, occupation, education level of the respondents and their perception of CSR or not. Their study did not arrange the importance level of four types of CSR from the perspectives of the consumers. Therefore, in order to find out more about the issues that Carvalho and his colleagues have not clarified yet, this study will revise the original model, adding research questions to understand consumers' perception of CSR. The objective of this study is to focus only on the relationship between consumer perception of CSR and their purchasing intention.

2. Method

2.1. Research framework

Starting from research goals, this study is based on model of Carvalho et al. (2010). However, unlike Carvalho et al, this study investigates in depth about the customers' perception of four types of responsibilities in CSR of the Carroll model (1991), while investigating the level of effect of customers’ perception of CSR on their purchasing intention. In this model, the factors that influence the consumer's purchasing intention include: consumers' perception of CSR, perception of price fairness, personal satisfaction, and purchasing power (measured through income). One particular feature is that purchasing power does not directly affect purchasing intention; it will affect the impact of the perception of price fairness on purchasing intention.

Figure 1: Research framework



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2.2. Data collection

The sample subjects

The sample subjects of this research includes people from different age groups (18 – 24; 25 – 35, 35 - 45, over 45); different genders (male, female); different occupations (office workers, students, others); different income (below 5 million, 5 – 10 million, 10 – 15 million, 15 – 20 million, over 20 million); different education level (college/university bachelor, master/doctor, high school student).

The structure of questionnaire

The questionnaire consists of two main sections, which were formulated with questions combined and edited from the questionnaire of two studies by Aril et al. (2009) and Carvalho et al. (2010).

The first part consists of questions to measure the consumers' perception of CSR which rooted from the study by Arli et al. (2009).

The second section includes questions that measure the impact of CSR perception, price fairness, personal satisfaction and purchasing power which rooted from the study by Carvalho et al. (2010).

The method of data collection

After completing the questionaire, the trial survey will be conducted. The purpose of this trial survey is to determine whether the questionnaire is easy to understand or not, as well as whether the language used in the questionnaire should be changed or not. This survey will be conducted by delivering questionnaires to ten subjects, without further explanation of the questionnaire for them to assess and evaluate. After that, the questionnaire will be revised again. Then a second trial survey will be conducted before entering the official one. When conducting the official surveys, the author issued the surveys both online (through facebook, email and messenger) and offline (through supermarkets, convenience stores, shops, commercial centers, universities, hospitals and high schools). All of the respondents are customers of different ages, genders, occupations, income levels and educational backgrounds in Hanoi. Therefore the sample is quite diversified and comprehensive. After 7 days, the author collected 200 completed surveys of 200 respondents, in which there are 189 valid ones.

2.3. Research methodology

In this research question, the methodology the researcher chooses to use is causal research. This is the most appropriate method because the aim of this research question is to analyze and evaluate the effects of CSR on customers' purchasing intention, i.e. the cause - effect relationship. It helps the researcher identify the reasons why the customers make decision to purchase products/services of a CSR company, what factors affect the purchasing intentions of customers and the relationship between these variables: consumers' perception of CSR, perception of price fairness, personal satisfaction, purchasing power, purchasing intention.

189 valid questionnaires were collected from total 200 questionnaires issued in Hanoi. In order to achieve the research objectives, data analysis methods used in this study include: data descriptive statistics, scale reliability analysis, analysis of variances (ANOVA), linear correlation analysis and linear regression analysis.

Scale reliability analysis will be assessed through the Cronbach Alpha coefficient to eliminate unsuitable variables and limit the extraneous variables in the research model.

Accordingly, unsuitable variables will be eliminated if the Corrected Item - Total Correction <0.3 and the scale will be accepted when the Cronbach Alpha coefficient >0.6.

ANOVA method is used to analyze the relationship between qualitative cause variables and quantitative effect variables, based on the calculation of intra-group variation and the variation between group averages, from which concludes whether there is a difference in the evaluation of the significance of a factor between different groups of people or not.

Linear correlation analysis was used to measure the relationship between two quantitative variables, based on the Pearson correlation coefficient (denoted by r). Absolute value of r demonstrates the degree of linearity. The absolute value of r approaches 1 when two variables have a close linear relationship. When all dispersed points are arranged in a straight line, the absolute value of r = 1 (Hoang Trong and Chu Nguyen Mong Ngoc, 2008).

After determining two variables having close linear correlation through the correlation coefficient r, the study quantifies their causal relationship by a linear regression model in which a variable is called is the dependent variable (or variable that is explained - Y) and a variable called the independent variable (or variable explaining -X). In this study, the regression model used would be a multiple linear regression model.

From the research model, the following hypotheses are given:

H1: Consumers' perception of CSR has a linear correlation with their perception of price fairness

H2: Consumers' perception of CSR has a linear correlation with personal satisfaction

H3: Consumers' perception of CSR has a positive effect on their purchasing intention

H4: Consumers' perception of price fairness has a positive impact on their purchasing intention

H5: The consumer's personal satisfaction has a positive impact on their purchasing intention

H6: Consumers' purchasing power has a positive effect on the relationship between consumers' perception of price fairness and purchasing intention.

The linear correlation and linear regression analysis were performed to test the hypotheses.

Linear correlation analysis

Linear correlations were used to test hypotheses H1 and H2, and also to examine the variability between independent variables before conducting regression analysis.

Linear regression analysis

The aim of linear regression analysis is to model the causal relationship between a dependent variable and one or more independent variables. In this study, multi-variable regression analysis will be conducted to determine the importance level of each component: Perception of CSR (CSRb), Perception of Price Fairness (PF), Personal Satisfaction (PS), Purchasing Intention (PI). In addition, the impact of purchasing power (INCOME) on the relationship between perception of price fairness and purchasing intention will also be examined through the PFxINCOME variable in the regression model.

Independent variables: CSRb, PF, PS, PFxINCOME

Dependent variable: PI

The regression model in this study will be in the form:

$Y = \beta 0 + \beta 1 * X1 + \beta 2 * X2 + \beta 3 * X3 + \beta 4 * X4$

In which:

Y: Consumers' Purchasing Intention

X1: Consumers' Perception of CSR

X2: Consumers' Perception of Price Fairness

X3: Personal Satisfaction

X4: Purchasing Power x Perception of Price Fairness

3. Results

3.1. Descriptive statistics

The age proportion in the sample is quite equal. The age group accounting for the highest proportion is 25 - 35 (37.70%), followed by 18 - 24 (31.38%), 35 - 45 (29.26%) and over 45 (2.66%).

Regarding to the gender, there is a considerable difference between the proportion of male and female, with female accounting for 75% and male accounting for 24.47%

In terms of occupation, the highest percentage is office workers (53.19%), the second is students (34.57%), the third is teachers (12.23%) and other occupations account for a small minority.

In terms of income, the highest proportion is the income level of 5 - 10 million (38.83%), followed by below 5 million groups (34.57%). Income level of 10 - 15 million accounts for 15.96%. Income level of 15 - 20 million and over 20 million accounts for quite small proportion (3.72% and 6.91% respectively).

In terms of education level, the highest percentage is college/university bachelor (72.87%), followed that is master/doctor (23.40%), which is suitable with the population features in such a large city as Hanoi where concentrates many universities and colleges. The lowest percentage is high school students (3.72%).

3.2. Testing the scale

Scale reliability analysis

The variables in the study measure the following factors:

- Consumers' perception of CSR includes 11 variables, in which:

• 8 variables measure consumers' perception of CSR derived from the study by Arli et al. (2009): numbered from CSR1 to CSR8. These variables are mainly used to compare the CSR perception of different consumer groups. These variables will not be included in the regression model.

• 3 variables measure consumers' perception of CSR derived from the study by Carvalho et al. (2009): numbered from CSR9 to CSR11. These variables will be included in the regression model.

- Consumers' perceptions of price fairness: 3 variables numbered from PF1 to PF3

- Personal satisfaction: 4 variables numbered from PS1 to PS4

- Purchasing intention: 1 variables PI

After testing, all scales have Cronbach Alpha coefficient > 0.6 (see in Table 1). There is one variable in the consumers' perception of CSR scale that have correlation coefficient < 0.3 that is CSR1, but this variable will not be included in the factor analysis for running regression model since this variable is not included in the Carvalho et al. model. They are primarily used to measure consumers' perception of CSR; therefore, this variable is retained.

Table 1: Result of scale reliability analysis

Test scale	Cronbach Alpha coefficient
Perception of CSR	0.8200
Personal satisfaction	0.9118
Purchasing intention	0.8737

Source: Complied and calculated by the author from Stata14's results

Analysis of variances (ANOVA)

The research compares the perception of four responsibilities in CSR among consumers of different age, gender, occupation, income, educational level through analysis of variance (ANOVA). After the analysis, based on the mean value identified, some results are given in Table 2. ANOVA testing has p-value = 0.0002 < significance level = 1%. Therefore, it can be concluded that there is statistically significant difference in the CSR perception among consumers of different educational level groups: the higher the educational level is, the higher the CSR perception is. Bartlett's test for equal variances has p-value = 0.525 > significance level = 1%. From that, it can be concluded that there is no variance difference in the CSR perception among consumers of different educational level groups.

Table 2: The results of analysis of variances

Criteria	Results	Perception of CSR	Perception of Price Fairness	Personal satisfaction	Purchasing Intention
Education level	Mean	12.675532	11.670213	15.170213	8.6223404
	p-value (ANOVA test)	0.0002	0.0000	0.0001	0.0000
	p-value (Bartlett's test)	0.525	0.611	0.432	0.684
Gender	Mean	12.675532	11.670213	15.170213	8.6223404
	p-value (ANOVA test)	0.7654	0.5315	0.5054	0.6425

Criteria	Results	Perception of CSR	Perception of Price Fairness	Personal satisfaction	Purchasing Intention
	p-value (Bartlett's test)	0.629	0.525	0.108	0.941
Age	Mean	12.675532	11.670213	15.170213	8.6223404
	p-value (ANOVA test)	0.4746	0.0519	0.1296	0.6558
	p-value (Bartlett's test)	0.689	0.600	0.686	0.575
Occupation	Mean	12.675532	11.670213	15.170213	8.6223404
	p-value (ANOVA test)	0.0327	0.0000	0.7433	0.0141
	p-value (Bartlett's test)	0.374	0.611	0.780	0.290
Income level	Mean	12.675532	11.670213	15.170213	8.6223404
	p-value (ANOVA test)	0.2498	0.0016	0.0302	0.0311
	p-value (Bartlett's test)	0.743	0.015	0.381	0.058

Source: Complied and calculated by the author from Stata14's results

Similarly, from the result tables, it can be concluded that there is no statistically significant difference and no variance difference in the CSR perception among consumers of different age groups, gender groups and income groups. However, there is statistically significant difference but no variance difference in CSR perception among consumers of difference occupation group.

In a similar way, the result tables show that there is no statistically significant difference and no variance difference in price fairness perception and personal satisfaction among consumers of different age groups, gender groups, occupation groups, income groups. However, there is statistically significant difference but no variance difference in price fairness perception and personal satisfaction among consumers of different educational level groups. In terms of purchasing intention, the result tables show that there is no statistically significant difference and no variance difference among consumers of different age groups and gender groups but there is statistically significant difference but no variance difference among consumers of different income groups, educational level groups and occupation groups.

Based on the mean value of the four CSR variables, consumers ranked the importance level of four types of responsibilities in descending order: legal, moral, philanthropic and economic. Thus, in the context of this study, the subjects surveyed assessed legal responsibility as the most important factor and economic responsibility as the least important factor. In other words, for consumers, they think that the business needs to do beyond just looking for profits.

Table 3: The findings from analysis of variance

Hypothesizes	**Results**	**Findings**
There are differences in the CSR perception among consumers of different gender groups	Rejected	
There are differences in the CSR perception among consumers of different age groups	Rejected	
There are differences in the CSR perception among consumers of different occupation groups	Accepted	Teacher groups has the highest CSR perception, followed by student and office worker groups
There are differences in the CSR perception among consumers of different educational level group	Accepted	The higher the educational level, the higher the CSR perception
There are differences in the CSR perception among consumers of different income level group	Rejected	
The consumers evaluate the importance level of four components of CSR in accordance with Carroll model	Rejected	The consumers evaluate the importance level of four components of CSR in descending order: legal, ethical, philanthropic and economic

Source: Author's compilation

3.3. Testing the model

Linear correlation analysis

The analysis result using Pearson coefficients (in Table 4) shows that the variables CSR, PF, PS, IPF have a correlation with PI (sig = 0.0000 <0.05).

Table 4: The results of linear correlation analysis

	CSR	**PS1**	**PS**	**PI**	**IPF**
CSR	1.0000				
PS1	0.4342 0.0000	1.0000			
PS	0.4749 0.0000	0.8777 0.0000	1.000		
PI	0.5420 0.0000	0.5339 0.0000	0.5993 0.0000	1.0000	
IPF	0.2031 0.0052	0.0712 0.3315	0.1754 0.0160	0.2007 0.0058	1.0000

Source: Complied and calculated by the author from Stata14's results

In addition, it can be concluded that there are correlations between the independent variables, therefore, after the regression analysis; it is needed to use the VIF coefficient to test the multicollinearity.

Linear regression analysis

The results of regression analysis are shown in the Table 5.

Table 5: The results of regression analysis

Source	SS	df	MS	
Model	409.731683	4	102.432921	Number of obs = 188 F(4, 183) = 44.16
Residual	424.454487	183	2.31942343	Prob > F = 0.0000
Total	834.18617	187	4.46088861	R-square = 0.4912 Adjust R-square = 0.4801 Root MSE = 1.523

PI	Coef.	Std.Err.	t	P>|t|	[99% Conf. Interval]	
CSR	.2358374	.0642874	3.67	0.000	.0684998	.4031749
PF	.2950308	.0748341	3.94	0.000	.1002405	.4898211
PS	.1540796	.051885	2.97	0.003	.0190248	.2891344
IPF	-2.18e-10	1.20e-09	-0.18	0.856	-3.35e-09	2.92e-09
_cons	-.1265352	.7204201	-0.18	0.861	-2.001761	1.748691

Source: Complied and calculated by the author from Stata14's results

Using VIF coefficient to test the multicollinearity (see in Table 6)

Table 6: VIF coefficient

Variable	VIF	1/VIF
PF	2.78	0.360290
PS	2.24	0.446749
CSR	1.49	0.670341
IPF	1.16	0.860801
Mean VIF	1.92	

Source: Complied and calculated by the author from Stata14's results

VIF coefficient < 10, therefore, it can be concluded that there is no multicollinearity phenomena.

According to the results from the regression analysis, Prob > F = 0 shows the model has statistical significance (the estimated coefficients are not equal to 0). Estimated coefficients $\beta 1$, $\beta 2$, $\beta 3$ are statistically significant (p-value = 0, 0, 0.003 respectively < 0.01 significance level. The estimated coefficient $\beta 4$ is not statistically significant (p-value = 0.856 > 0.01 significance level). Therefore, it is possible to conclude that consumers 'perception of CSR, consumers' perception of price fairness and personal satisfaction all have influences on consumers' purchasing intention. Meanwhile, the purchasing power of consumers (expressed by income) does not affect the consumers' purchasing intention. R-squared = 0.4912, which means that 49.12% of the difference in consumers’ purchasing intention can be explained by the dependent variables in the model.

Regression equation:

$$Y = - 0.1265352 + 0.2358374 * X1 + 0.2950308 * X2 + 0.1540796 * X3$$

From the correlation and regression analysis, conclusions about the hypotheses of the study could be drawn: Hypotheses H1, H2, H3, H4, H5 are accepted and hypothesis H6 is rejected (see in Table 7).

Table 7: The results and findings from testing hypothesizes

Hypothesizes	Results	Findings
H1: Consumers' perception of CSR have a linear correlation with their perception of price fairness	Accepted	There is a correlation between consumers' perception of CSR and their perception of price fairness
H2: Consumers' perception of CSR has a linear correlation with personal satisfaction	Accepted	There is a correlation between consumers' perception of CSR and their personal satisfaction
H3: Consumers' perception of CSR has a positive effect on their purchasing intention	Accepted	The higher the consumers' perception of CSR, the higher their purchasing intention

H4: Consumers' perception of price fairness has a positive impact on their purchasing intention	Accepted	The higher the consumers' perception of price fairness, the higher their purchasing intention
H5: The consumer's personal satisfaction has a positive impact on their purchasing intention	Accepted	The higher the consumers' personal satisfaction, the higher their purchasing intention
H6: Consumers' purchasing power has a positive effect on the relationship between consumers' perception of price fairness and purchasing intention.	Rejected	The increase in income level does not increase the effect of consumers' perception of price fairness on purchasing intention

Source: Author's compilation

From the results and findings of testing hypothesizes, table 8 demonstrates some differences between previous findings and the findings of this research.

Table 8: The differences between previous findings and the findings of this research

Researches	Previous findings	Findings of this research
Carvalho et al. (2010)	CSR perception of consumers is correlated with the perception of price fairness and personal satisfaction. The purchasing power affects the relationship between the perception of price fairness and the purchasing intention.	There is no correlation between consumers' perceptions of CSR and their perception of price fairness, while there is a correlation between consumers' perception of CSR and personal satisfaction. The purchasing power has no effect on the relationship between the perception of price fairness and the purchasing intention.
Carroll (1991). Arli et al. (2009)	The most important is economic responsibility.	The most important is legal responsibility, followed by philanthropic, ethical and economic responsibility.

Source: Author's compilation

4. Discussions and Conclusions

4.1. Discussions

Based on these findings, it can be concluded that consumers' perception of CSR, perception of price fairness and personal satisfaction have a positive effect on their purchasing intention. In detail, with the H3 hypothesis, that means that when the consumers perceive that a company well-performs CSR, its purchasing intention of this company's product is higher the competitors' one although the price of this product is higher than that of the competitors. This is similar to the H4 hypothesis, when the perception of price fairness increases, i.e. the consumers perceive that the increase in product's price which is caused by the contribution to the CSR policy of the firm is right, and their purchasing intention of the company's products will also increase. Finally, with the H5 hypothesis, when consumers feel self-satisfied because they perceive that purchasing a product of a company which well-perform CSR is a good thing to do for themselves. By making a contribution to society, they feel better and more self-satisfied, they will also accept to buy the products at a higher price than usual.

Besides the accepted hypotheses in the regression model, there is one rejected hypothesis; that is H6. It means that the purchasing power of consumers has no effect on the relationship between the customers' perception of price fairness and their purchasing intention. In the study scale in Hanoi, the income factor does not affect the relationship between customers' perception of price fairness and purchasing intention, in other words, higher income does not increase the effect of the perception of price fairness on the purchasing intention. This is consistent with the ANOVA analysis conducted for the above CSR variables. Income factor does not have the relationship with the consumers' perception of CSR.

4.2. Conclusions

First of all, from the perspective of the consumers, the importance level of four components of CSR in descending order is: legal, ethical, philanthropic, economic. This order differs from Carroll's (1991) when he arranged in descending order of economic, legal, ethical and philanthropic responsibility. The explanation for this may have been due to a series of scandals relating to the business operation of some enterprises, for example, the Vedan incident that dumped toxic wastewater out of the environment in 2008, Coca Cola's "transfer pricing" case in 2013, Formosa Ha Tinh's marine contamination in 2016, therefore, consumers suppose that it is important for businesses to operate within the legal framework. One remarkable thing is that economic responsibility is regarded as the least important. Consumers believe that businesses need to do things beyond the mere profits, and this finding is particularly important for entrepreneurs to control their business activities.

Secondly, the results show that there is no correlation between consumers' perception of CSR and their perception of price fairness; meanwhile, there is correlation between consumers' perception of CSR and their personal satisfaction. Besides, there is no difference in the CSR perception, price fairness perception, personal satisfaction and purchasing intention among consumers of different age groups, gender groups. There are many reasons from the facts in Vietnam to explain this conclusion. In term of gender groups, in "Human Development Report 2016" published by the United Nations Development Program, the United Nations regards Vietnam as a bright spot in the implementation of the Millennium Development Goals, one of the countries having high gender equality achievements. Vietnam is ranked at the top list of gender equality in Southeast Asia. This demonstrates Vietnam's remarkable progress in the implementation of gender equality, in which the chances to access education and information are one of the most important factors. Therefore, in Vietnam, the fact that both genders have quite similar perception of CSR is clearly apparent. In term of age groups, originating from the Vietnamese culture that the elderly often teach or pass down their knowledge and understanding from generations to generations, hence, Vietnamese people at any age groups, more or less, have basic understandings of the importance of CSR in this modern life. Moreover, in spite of age groups, almost Vietnamese people can easily get access to the information of CSR through internet, television or other mass media channels.

However, there is difference in the CSR perception, price fairness perception, personal satisfaction and purchasing intention among consumers of different educational level groups. The reasons to explain for this conclusion could be attributed to the positive CSR education in Vietnam. Nowadays, almost Vietnamese universities, institutions, organizations as well as corporations integrate CSR in many teaching and training programs. CSR becomes an integral part in business administration education. However, for people who have lower education level, the opportunities to access to CSR knowledge is quite limited due to the fact that Vietnamese curriculum from primary to high level tends to concentrate on academic knowledge but practical one. Meanwhile, CSR directly originates from and relates to practical situations.

Finally, the regression analysis revealed that consumers' perception of CSR, consumers' perception of price fairness and personal satisfaction had a positive effect on their purchasing intention. This means that the higher the customers' perception of CSR, the fairer they feel about the price, the more satisfied they feel themselves, the more likely they are to buy the company's products despite the higher price than those of the same category. The study, however, also shows that the purchasing power of consumers (here measured by income) does not have an effect on the relationship between the perception of price fairness and their purchasing intention.

4.3. Implications

From the research results, it can be seen that the perception of CSR has a positive impact on consumers' purchasing intention. Therefore, enterprises should have policies to better fulfill their CSR as this will not only benefit the community, but will also motivate the consumers to purchase the products of that business although the price may be higher than that of the competitors. The companies should conduct responsible business that meets the highest standards of ethics and professionalism. CSR policies fall under two categories: compliance and proactiveness. Compliance refers to the company's commitment to legality and willingness to observe community values. Proactiveness is every initiative to promote human rights, support communities and protect natural environment. In term of compliance, the legaltity plays the most important role. The companies should strictly respect and abide the national as well as local laws and regulations, honor their internal policies, ensure that all their business operations are legitimate and keep every partnership and collaboration open and transparent. The business ethics should also be especially concerned. That is conducting business with integrity and respect to human rights which include ensuring the health and safety of employees and community, respecting the rights of the consumers, appreciating anti-bribery and anti-corruption practices, avoiding the detrimental effects on the lives of local and indigenous people, supporting diversity and inclusion, ensuring equal opportunities, standard working and living condition for employers,… Besides, the enterpries must recognize the need to protect the natural environment, follow best practices when disposing and treating wastages, contaminated water, emissions and chemical substances. In term of proactiveness, the enterprises should preserve a certain budget to make donations to the community, encourage their employees to participate in volunteer and charity activities or sponsor volunteer events of other organizations, proactively protect the environment through recycling wastages, conserving energy, using renewable energy, applying environmental-friendly technologies in manufacturing and delivering, organizing reforestation excursions... Additionally, the companies may initiate and support community investment and educational programs. For example, they may begin partnerships with vendors for constructing public buildings, provide support to nonprofit organizations or movements to promote socio-economic and cultural development of global and local communities. In the long term, CSR policies include active investment in R&D to optimize production and operation procedures which are so called "green". More importantly, these CSR policies should be widely popularized to all employees in the enterprises, so that any individual of the enterprises behaves responsibly towards society in any way. CSR policies also need to be publicized, revised and updated in the annual reports on the website, mass media channels or modern social network platforms in order to improve consumers' insight and awareness of CSR of the companies.

This research also allows the author to conclude that the implementation of CSR policies into companies geared towards meeting the needs of consumers generates competitive advantages. That is to say that investing in CSR not only allows the companies to reduce the impact of business on society, but also leads to the generation of added value for the consumers. This study shows that the consumers are aware and appreciates that firms undertake CSR actions oriented to their needs. This in turn translates into an increase in the trust and commitment of the consumer to the companies that additionally intensifies consumer satisfaction and loyalty.

In addition, the Vietnamese National Assembly and the Government should complete legal systems relating to CSR, regulatory bodies should be firm in enforcing laws in corporations and CSR should be viewed as part of the code of ethics of any corporations. Also there should be a national policy from government to set parameters for CSR in Vietnam including employment policies, working conditions and welfare benefits, product quality, and on protecting the natural environment. The Government should also encourage the dissemination and sharing of examples of responsible businesses should be willing to be studied and the results disseminated widely. If a company operates ethically, the outcome of the study should be favourable, raising its reputation and position in the business community.

Moreover, the researcher also recommends that companies should deepen the performance of their CSR activities to cover more of environmental protection activities, performing in line with the legal requirements, meeting economic objectives and be ethical in their operations. Additionally, the quality of products/services provided by companies must also be critically paid attention to as they are paying critical attention to their CSR activities as well. It would be better to work all things in the right direction. This will make people see the firms as the best not only in the field of CSR performances but also the provision of better products. At the long run the profitability of the company would increase if they pay critical attention to these factors.

5. References

1. Arli, D. and Lasmono, H. (2009), Consumer‘s perception of CSR in a developing country”, *International Journal of Consumer Studies ISSN*, pp. 1-6.

2. Carroll, A. (1991), The Pyramid of Corporate Social Responsibility: Toward the Moral Management of Organizational Stakeholders, *Business Horizons*, pp.39-48.

3. Carroll, A. (1979), A Three - Dimensional Conceptual Model of Corporate Performance, *Academy of Management Review*, pp. 497-505.

4. Carroll, A. (1999), Corporate social responsibility evolution of a definitional construct, *Business & society*, 38(3), pp. 268-295.

5. Carroll, A. (2008), A history of corporate social responsibility: concepts and practices, *The Oxford Handbook of Corporate Social Responsibility*, Oxford University Press, pp. 19-46.

6. Carvalho, S. et al. (2010), Consumer Reactions to CSR: A Brazilian Perspective, *Journal of Business Ethics*, pp. 291-310.

7. Committee for Economic Development (CED) (1971). Social Responsibilities of Business Corporations, pp. 13-15.

8. Crane, A. and Matten, D. (2007), *Business Ethics*, Oxford University Press, 2nd edition, Oxford.

9. Davis, K. and Blomstrom, R.L. (1975), *Business and Society: Environment and Responsibility,* New York: McGraw-Hill.

10. Drucker, P.F. (1954), *The Practice of Management. Collins,* New York, USA.

11. Le, T.T.X. and Gregory, T. (2011), A review of the development of the definition in defining corporate social responsibility, *Journal of Science Technology Development,* 14, pp. 106-111.

12. Lois, A. M., Deborah, J. W. and Katherine, E. H. (2001), Do Consumers Expect Companies to be Socially Responsible? The Impact of Corporate Social Responsibility on Buying Behavior, *The Journal of Consumer Affairs*, pp. 35.

13. Matten, D., Crane, A. and Chapple, W. (2003), Behind the mask: revealing the true face of corporate citizenship, *Journal of Business Ethics,* 45, pp. 109–120.

14. Matten, D. and Moon, J. (2008), "Implicit" and "explicit" CSR: A conceptual framework for a comparative understanding of corporate social responsibility, *Academy of Management Review*, 33(2), pp. 404-424.

15. Turker, D. (2008), *How Corporate Social Responsibility Influences Organizational Commitment.*

16. Waddock, S. (2004), Parallel universes: companies, academics and the progress of corporate citizenship, *Business and Society Review*, 109, 5–42. pp. 40.

17. Waddock, S.A. and Post, J.E. (1990), Catalytic alliances for social problem solving, *Academy of Management Proceedings*, 41, pp. 342–346.

18. Wood, D. (1991), Corporate social responsiveness revisited, *Academy of Management Review*, 16, pp. 691–718.

FACTORS INFLUENCING PURCHASE INTENTION FOR VIETNAMESE LOCAL FASHION BRANDS IN SOCIAL COMMERCE: A CASE STUDY IN HANOI

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Abstract

Social commerce is a new business model marking a breakthrough in the area of online shopping. Its massive expansion has boosted e-commerce and increased the effectiveness of online marketing. In the context of the increasingly developing fashion industry, the study aims to understand factors that affect purchase intention for Vietnamese local brands in social commerce. The study used questionnaire as survey method and collected answers online via Facebook. 555 valid responses were analyzed by using SPSS software version 22.0. The results show that factors including enjoyment, perceived ease of use, online review, brand image, advertising positively influence online purchase intention. Especially, brand image has the strongest impact. Besides, perceived risk has a negative impact on consumers' intention to buy local brands. The findings have important theoretical and managerial implications helping businesses working in domestic fashion sector to come up with efficient strategies to increase customers' intention to purchase.

Keywords: *Purchase intention, social commerce, fashion, local brands.*

1. Introduction

With the advent of digital era, the Internet is becoming a significant means of communication. The increasing popularity of the Internet leads to the rapid growth of e-commerce and digital marketing. In particular, social networks have become a revolution that breaks down traditional barriers to information access, transform methods of conducting business activities as well. Social commerce is a modern business model emerging from the development of social media and e-commerce, aiming to promote product sales and influence customer buying behavior across a network of people on social websites (Sharma & Crossler, 2014; Huang & Benyoucef, 2013). Mark Zuckerberg, the founder of Facebook, states that social commerce will become a new trend in e-commerce because of its much greater growth potential than traditional e-commerce; especially since the government has figured out how to implement taxes on selling via social media; businesses have an extra opportunity to increase market share as tax implementation reduces the number of small retailers in social commerce (Social Times, 2011). As users are becoming more dependent on social media, social commerce will increase in importance and grow even more rapidly.

In Vietnam, with a population of 96 million people, there are 68 million Internet users, 65 million people are social networks' users, accounting for 67% of the total population (Digital, 2020). According to Statista (2020), Vietnamese spend more than 2 hours a day on social platforms using mobile devices. According to the report of Google & Teamaseak (2018), although the overall social commerce market in Vietnam has only reached the size of 3 billion USD, the growth rate amounts to 30% per year. It can be said that social commerce is a much more potential market than traditional e-commerce.

In addition to the strong development of online shopping, the continuous rise of incomes and living standards has caused the trend of shopping in the fashion sector to thrive. While several famous international brands entering the Vietnamese market, local brands are also increasingly asserting their position. Not only being distinguished by the quality in each product, local fashion brands catch up with prevailling trends by making use of benefits that technology bring. Particularly, using social networks as the main marketing channel has enabled Vietnamese fashion local brands to be more successful in attracting customers across the country.

A significant number of research has been conducted to undertand customers' behaviour in the context of online shopping. However, most of the research (Yin et al., 2019; Chen et al., 2018; Shi et al., 2016; Hajli, 2015; Ngo My Tran & Mai Vo Ngoc Thanh, 2017; Nguyen Thi Thanh Thao, 2017) just examine the intention to shop online for products in general. As social commerce is still a relatively new concept in Vietnam, research on the intention to buy products of local fashion brands in social commerce has not existed before. Thus, this study focuses on covering this gap. By examining attributes that affect customers' purchase intention in social commerce, the findings provide helpful insight for managers and brand owners to develop appropriate marketing strategies and manage social commerce business effectively.

The rest of the study is structured as follows. Section 2, the theoretical literature is reviewed to develop hypotheses and research model. Research methods carried out in the analysis are described in Section 3. Next, in Section 4, reliability and validity analysis are performed, the proposed hypotheses are also tested in this section. Finally, in Section 5, the conclusion and suggestion are listed.

2. Literature review

2.1. Social commerce

The term "social commerce" was first mentioned by Yahoo (2005) as a subset of e-commerce combined with social media that supports social interaction and user contributions. Liang et al. (2011) describes that social commerce is the application of Web 2.0 features, such as content creation tools, to enhance user interaction in e-commerce. Kim & Park (2013) consider social commerce as a new business model of e-commerce driven by social media that facilitates buying and selling products and services online. In other words, social commerce is a new model of conducting commerce using social media to reach customers and their online friends. In the study of Turban et al. (2017), social commerce, also known as social business, refers to e-commerce transactions distributed via social media. More specifically, it is a combination of e-commerce, e-marketing, technologies, and social media content. In this study, the authors use the definition of Turban et al. (2017) when referring to social commerce.

2.2. Local fashion brands

According to the American Marketing Association, a local brand is a brand that is marketed (distributed and promoted) and/or developed in a relatively small and limited geographical area. Local fashion brands are only available in a specific region (a country or narrow areas, such as a particular community or even a neighborhood) and customized to the unique needs and features of that local market (Dimofte et al., 2008). Local fashion brands are also known for being self-employed from the stage of ideas creation to production and distribution. Each of these brand is protected by law when registering the trademark at the copyright management agency (Yu Nguyen, 2020). In summary, local fashion brands are brands that do business in a specific area/geographical region and their trademark copyright must be registered and fully met legal sanctions at the same time.

2.3. Purchase intention

For online shopping, Delafrooz et al. (2011) suggest that purchase intention is the possibility that a consumer will make a purchase on the Internet. Pavlou (2003) emphasizes online shopping intention is the situation in which customers are willing to engage in online transactions. Online transactions here can be considered as the process of retrieving, transferring information and performing purchase activities. Therefore, intention to purchase online focuses on the extent to which consumers are willing to buy and pay for a certain product on online platforms; in this context social networking sites. Consumer's online purchase intention, which constantly changes, is an important aspect related to the online marketing and widely studied by market researchers to predict sales and consumer buying behaviours (Cronin, Brady, & Hult, 2000). The study of consumer purchase intention leads to different types of research such as customer loyalty testing, product and new product testing, packaging testing, advertising content testing and brand positioning.

Ghosh (1990) argues that purchase intention is an effective tool for predicting purchasing decision. In the online business environment, customers' behavior is related to how they have intention to buy products or services. Therefore, understanding the online purchase intention will contribute to determining consumers' online purchase behaviours (Salisbury et al., 2001).

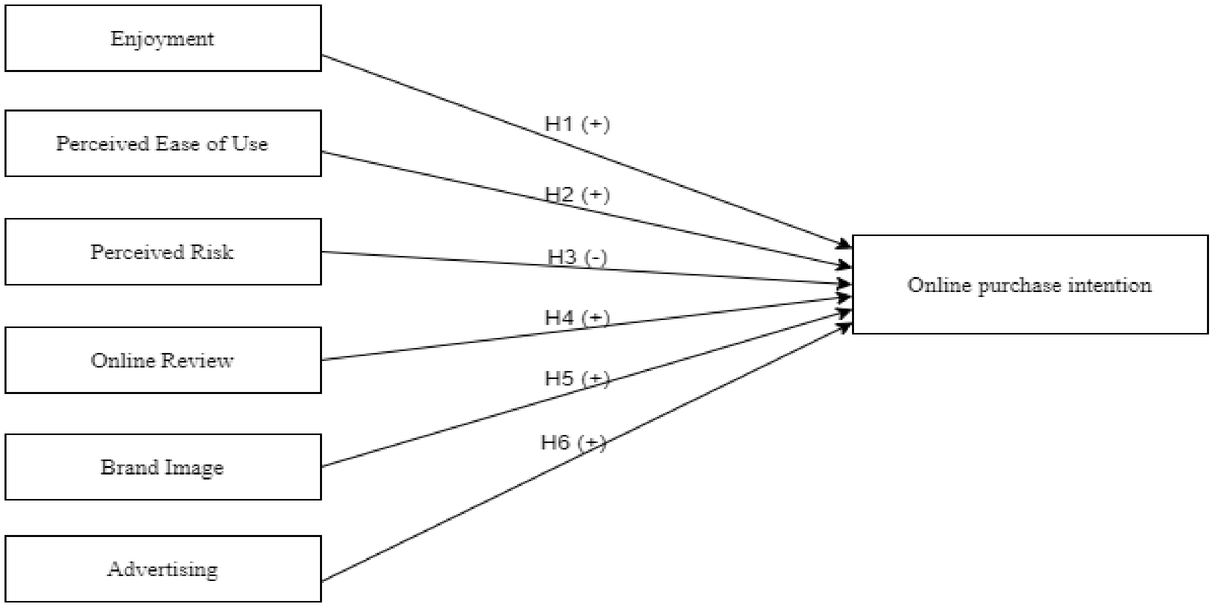
2.4. Research model

TAM (Technology Acceptance Model) model has been used in many previous studies with research field related to information system, focus on explaining how users come to accept and use a new technology. However, with the limitations of the TAM model, the Value-based Adoption Model (VAM) aims to explain the use of technology from the view of consumers. Therefore, this study combined TAM (Davis, 1989) and VAM (Kim et al., 2007) model as a theoretical basis to develop the research model in which factors influencing purchase intention for Vietnamese local fashion brands in social commerce include enjoyment, perceived ease of use, and perceived risk.

In addition to this, based on the study of the impact of advertising on the purchase intention of Ngo My Tran & Mai Vo Ngoc Thanh (2017), the authors propose to add advertising to the model. At the same time, consumers still worry about online shopping as they do not have direct contact with the sellers and products, so the intention to buy is influenced by the online reviews of other consumers. Besides, combined with the study of Park et al. (2007), online review is included in the model. On the other hand, the scope of the research is Vietnam's fashion market, brand image is considered an extremely important factor. Based on research by Zamrudi (2016), the authors add brand image to the model.

In summary, the proposed research model of factors affecting the purchase intention for Vietnamese local fashion brands in social commerce consists of six factors: (1) Enjoyment, (2) Perceived Ease of Use, (3) Perceived Risk, (4) Online Review, (5) Brand Image, (6) Advertising.

Fig 1. Research model



Source: Proposed by authors

According to Khoje et al. (2013), enjoyment is the pleasure gained from the online shopping process. In the context of information systems, this concept is understood as the level of satisfaction that consumers gain when making a purchase on a website, especially in terms of entertainment and stress relief it brings (Davis, 1989; Kim et al., 2007). According to Koufaris (2002), shopping enjoyment has a significant impact on attitude and intention to purchase online. Additionally, Jarvenpaa & Todd (1996) also conclude that the enjoyment of shopping has a great influence on the attitude, behaviour on the website and increases the purchase intention of customers. Hence, it is hypothesized that:

Hypothesis 1 (H1): Enjoyment has a positive impact on the purchase intention for Vietnamese local fashion brands in social commerce.

Perceived ease of use is defined as “the degree to which an individual believes that using a particular system requires no physical or mental effort” (Davis, 1985). In TAM model, perceived ease of use is an important factor assumed to have a positive relationship with using a technology. Based on the theory of task-technology fit, consumers often use social networking sites for their online shopping activities. Davis (1989) also suggests that when an individual perceives the ease of use of a system, they will form a positive feeling that leads to the intention to use that system. Hence, it is hypothesized that:

Hypothesis 2 (H2): Perceived ease of use has a positive impact on the purchase intention for Vietnamese local fashion brands in social commerce.

According to Featherman and Pavlou (2003), the perception of risk is an unwanted loss encountered in the process of completing an action. Hong & Yi (2012) argue that many customers feel brick-and click purchasing is more risky than the conventional one because consumers cannot physically check products when buying online, so they are concerned that the product is not up to their expectations. All the risks consumers perceive during the purchasing process directly influence their purchase intention (Garretson and Clow, 1999). Hence, it is hypothesized that:

Hypothesis 3 (H3): Perceived risk has a negative impact on the purchase intention for Vietnamese local fashion brands in social commerce.

Floh et al. (2013) admit that reading positive product reviews leads to an intention to purchase online. Online product reviews are one of two types of information consumers can access when shopping on social networks, which is what sets them apart from traditional shoppers. Consumer online reviews act not only as information but also as suggestions (Part et al., 2007). Hence, it is hypothesized that:

Hypothesis 4 (H4): Online review has a positive impact on the purchase intention for Vietnamese local fashion brands in social commerce.

Brand image is the perception of the consumer as reflected in the consumer's memory (Keller, 1993). Each consumer usually has a certain impression after seeing, hearing, reading or experiencing a product brand for himself through media such as TV, Internet and other channels (Kotler et al., 2002). According to research by Del Rio et al. (2001), research by Keller (1993), brand image is positively related with consumers' purchase intention. Hence, it is hypothesized that:

Hypothesis 5 (H5): Brand image has a positive impact on the purchase intention for Vietnamese local fashion brands in social commerce.

Attitude formed towards advertising helps to transform consumers' attitude towards products or brands until their purchase intention is shaped (Goldsmith and Lafferty, 2002). Qian He & Hongjian Qu (2018) suggest that the attractiveness of advertising has a significant influence on purchase intention. Social media advertising creates a greatly new dimension to advertising, as it provides interactivity for users, especially on Facebook, users can communicate and perform purchasing activities at the same time (Logan, Bright & Gangadharbatla, 2012). Hence, it is hypothesized that:

Hypothesis 6 (H6): Advertising has a positive impact on the purchase intention for Vietnamese local fashion brands in social commerce.

3. Method

To ensure the accurate and objective results, the authors used both qualitative and quantitative method. For the qualitative analysis, the research team conducted interviews with a group of 10 people living and studying in Hanoi. The interviewees all have knowledge of local fashion brands and have experience buying those products in social commerce. The results of the qualitative study show that there are 6 independent factors accepted by interviewees, including: enjoyment, perceived ease of use, perceived risk, online review, brand image, advertising. Next, the authors quantified analysis by building a scale to measure factors through 35 constructs. The scale is based on previous studies as well as from construction of the authors.

In the formal quantitative study, the authors used a five-level Likert scale to measure impact of factors. According to Hair et al. (2014), the minimum sample size is 175 (5*35), so to ensure the minimum sample size requirement and reliability, the study sample size should be at least 175 responses. Data is collected through a survey which was sent as a questionaire on Google Form to the sampled subjects who are living in Hanoi area. After removing 55 invalid answers from 610 responses, the total number of valid answers put in analysis is 555.

Quantitative analysis was carried out using the following methods: descriptive statistics, reliability testing, exploratory factor analysis (EFA), correlation analysis and regression analysis. The authors conducted data analysis on Statistical Package for the Social Sciences (SPSS) version 22.0.

4. Results

4.1. Descriptive analysis

Data were included in the analysis with sample size N = 555. The results show that female (73.2%) is likely to buy more often than male, especially for fashion products. Young people aging from 18-25 who are interested in shopping activities in social commerce account for the majority of respondents (96.8%). The buying group that account for the highest percentage is students with income below 5 million (95%). This result is expected because they are people who are often exposed to the Internet and online shopping. In terms of social platforms used to perform purchasing activities, it can be seen that Facebook is the most popular (80.5%).

Table 1: Results of descriptive analysis

Category	Information	Frequency	(%)
Gender	Male	148	26.7
	Female	407	73.3
Age	Under 18	10	1.8
	18 – 25	537	96.8
	26 – 35	6	1.1
	Above 35	2	0.4
Job	Students	530	95.5
	Working	6	1.1
	Unemployed	19	3.4
Income	Under 5 million VND	524	94.4

	5 – 10 million VND	22	4.0
	10 – 25 million VND	6	1.1
	Above 25 million VND	2	0.4
Social platforms used for shopping	Facebook	447	80.5
	Instagram	340	61.1
	Zalo	52	9.3
	Tiktok	23	4.1
	Others	17	3

Source: Collected and analyzed by authors

4.2. Reliability analysis

The proposed model includes 6 independent variables, 1 dependent variable with 35 observations. The results of Cronbach's Alpha coefficient analysis show that the total correlation coefficient of the variables is greater than 0.3 and the value of Cronbach's Alpha coefficient is greater than 0.75, so all factors meet this analysis requirements. However, in exploratory factor analysis (EFA), 4 observations are removed from the model because of factor loadings less than 0.5. Thus, authors only list the final results of reliablity test in table 2.

Table 2: Results of reliability analysis

Factor	Observations	Cronbach's Alpha	Total correlation
Enjoyment	6	0.847	0.555
Perceived Ease of Use	4	0.811	0.604
Perceived Risk	5	0.784	0.452
Online Review	5	0.791	0.601
Brand Image	3	0.825	0.577
Advertising	4	0.778	0.565
Purchase Intention	4	0.855	0.652

Source: Collected and analyzed by authors

4.3. Exploratory factor analysis (EFA)

27 constructs of the independent variables are classified into 6 groups of factors in exploratory factor analysis. KMO coefficient is 0.909 (0.5<KMO<1) with a statistical significance level (Sig.) of 0.000 (<0.05), emphasizing that the data used for analysis is appropriate and statistically significant. In addition, according to Egienvalues standard, the total variance extracted is 62.385% (>50%), which means that the results explain 62.385% of the variation of the data.

The results of factor analysis with the dependent variable shows that only one factor is extracted, and all the observations converge at the Egien value of 2,791 and the extracted variance is 69.781%. This reveals the scale of dependent variables are suitable with the load factor greater than 0.8. At the same time, the Bartlett test has the result of 963,912 with sig=0,000 (<0.05), indicating that the observed variables are correlated with each other.

4.4. Correlation Analysis

The results of the correlation matrix analysis with Pearson's coefficient demonstrate that the relationship between purchase intention and six independent variables is statistically significant (Sig<0.05). To be specific, the correlation coefficients of the variables range from 0.255 to 0.618 ($-1 \leq r \leq 1$). Thus, the correlation between factors is closely linear in the model. On the other hand, correlation coefficients scale ensure that there is no multicollinearity. Hence, regression analysis can be used to test the relationship between independent and dependent variables.

4.4. Regession Analysis

From the results of the regression analysis, the adjusted R^2 (Adjusted R-square) shown in the table 3 is 54.5%; it also means that 54.5% of the variation of purchase intention (Y) is explained by six mentioned factors, the remaining of 46.5% is caused by the influence of other attributes and random error. On the other hand, the F test (Sig=0.00 <0.01) in the ANOVA analysis proves that the constructed linear regression model is not only suitable for the research sample but also for the population. Thus, the research model is well-suited.

Based on the analysis results in Table 3, all standardized Beta coefficients are statistically significant (Sig.<0.05). Accordingly, brand image has the most significant impact (Beta = 0.279) and perceived ease of use has the weakest impact (Beta = 0.104) on purchase intention. The remaining factors have the level of impact in respective order: Enjoyment , Online Review, Advertising. Besides, perceived risk has a negative impact on purchase intention (Beta = -0.79 < 0).

Table 3: Results of regession analysis

Model	**Standardized coefficients**	**t**	**Sig.**	**VIF**
	Beta			
Constant		2,293	0,022	
Enjoyment	0,248	7,329	0,000	1,399
Perceived ease of use	0,104	2,691	0,007	1,803
Perceived risk	-0,079	-2,428	0,015	1,289
Advertising	0,157	4,087	0,000	1,786
Online review	0,212	5,439	0,000	1,843
Brand image	0,279	7,173	0,000	1,836

Source: Collected and analyzed by authors

$$\mathbf{PI = 0.279BRI + 0.248ENJ + 0.212ONR + 0.157ADV + 0.104PEU - 0.079PR} + \mu$$

Brand Image (BRI), Enjoyment (ENJ), Online Review (ONR), Advertising (ADV), Perceived Ease of Use (PEU), Perceived Risk (PR).

5. Discussion and Conclusions

5.1. Discussion

The study has built a model to understand factors that have impact on the purchase intention for Vietnamese local fashion brands. The authors provide empirical evidence by collecting, processing, and analyzing data of consumers with the ability and have experience with buying products of the local brands on social platforms in Hanoi, Vietnam. The results reveal that six factors affect the intention to purchase local fashion brands in social commerce. To be specific, the factors affecting consumers' purchase have different influence in this descending order: brand image, enjoyment, online review, advertising, perceived ease of use, and perceived risk.

The current study has both theoretical and empirical implications. First, it contributes to the literature by presenting new insights into level of factors' impact on intention to buy Vietnamese local fashion brand products in social commerce. It was concluded that brand image has the strongest positive impact. This finding is expected as most consumers, especially millennials usually pay attention to brand image before making a purchase decision. Particularly, for online shopping, customers cannot directly touch or try on products, brand image acts as a representation of garment attributes of a brand and reflects what the brand stands for in the customers' mind. In addition, perceived risk is shown to have a negative influence on consumer's purchase intention. This result adds to our understanding since we focused on the impact of individual components of perceived risk rather than risk as a whole. Thus, these findings offer informative insights for owners of social commerce websites so that they can build successful strategies to attract more online consumers.

5.2. Suggestions

For Vietnamese local fashion brands that are growing in social commerce, they firstly need to focus on building and consolidating communities of consumers on social platforms to enhance brand image and reduce customers' risk perception when purchasing online. A community available with different reviews from customers who have purchased products and useful information from followers interested in the brand will increase the intention to purchase of other customers. Second, brands should regularly change and add appealing messages into advertising campaigns to increase the effectiveness of marketing and attract more buyers. For example, a local brand with environmentally - friendly products can emphasize its message by participating or sponsoring environmental conservation programs. Third, brands need to diversify and update styles to keep up with new trends and expand the customer base. Many people expect that when using products of Vietnamese local fashion brands, they will have an impressive and unique style. Therefore, the more brands diversify styles and products, the more customers they attract.

For Vietnamese local fashion brands that tend to participate in social commerce, they need to determine the right target consumers and clearly define the brand's image and style at first. Hence, they would be able to create an important premise to make an impression on the customers. Clearly defining fashion styles before entering social commerce allows new brands to attract potential customers on social networking sites. Second, brands need to grasp new trends in the fashion market quickly and wisely. Local fashion brands' identifying trends of the target market is a good way to seize opportunities and create ideas for advertising and marketing strategies on social platforms. Third, local brands should have the consistency for style image on different platforms. To be more specific, posters and advertisements presented on Facebook, Instagram, Twitter should be consistent, aligned with the image and identity of the brands.

For customers, they should consider joining the communities that local brands set up (if any) to get the realistic and comprehensive reviews from customers who have had experience purchasing products of that brand before. At the same time, actively participate in reviewing honestly is a way to build a trustful community of consumers.

For Vietnam Textile and Apparel Association, authors suggest developing a website that provides in-depth articles to orientate and raise customers' awareness of local brands. By doing this, Vietnamese fashion local brands can have the opportunity to introduce their collections and reach buyers more efficiently. Organizing competitions or events so that consumers can vote for their favorite brands (for example, top 10 most popular collections of street style local brands) will also create fair competition environment among brands and act as an official information channel for customers' reference.

5.3. Limitations

Like any other studies, this study has some limitations. As respondents are mainly young consumers from 18-25 years old, the representativeness is not very high; other age groups should be investigated further. Moreover, online purchase intention is affected by many other factors that have not been mentioned in this study. The inclusion of more factors would have produced applicable results of even greater interest for social commerce sites. Besides, the concepts of "social commerce" and "local fashion brands" are still quite new to consumers in Vietnam, so when people have a better understanding of social commerce and accumulating more experience, different results can be found on customer's purchase intention. Therefore, future research is expected to overcome limitations that still exist in this study.

6. Reference

1. Chen, C. C., Hsiao, K. L., & Wu, S. J. (2018). Purchase intention in social commerce: An empirical examination of perceived value and social awareness. Library Hi Tech, 36(4), 583–604.

2. Cronin, J.J.J., Brady, M.K. and Hult, G.T.M. (2000). Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intentions in service environments. Journal of Retailing, 16(2), 193-218.

3. Davis, F. D. (1985), A technology acceptance model for empirically testing new end-user information systems: Theory and results, Doctoral dissertation, Massachusetts Institute of Technology.

4. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319 –340.

5. Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. Management Science, 35(8), 982 –1003.

6. Del Rio, A.B., Vazquez, R., Iglesias, V., (2001). The effects of brand association on consumer response. Journal of Consumer Marketing 18 (5), 410–425.

7. Delafrooz, N., Paim, L. H., & Khatibi, A. (2011). Understanding consumer's internet purchase intention in Malaysia. African Journal of Business Management, 5(7), 2837–2846.

8. Digital 2020 Vietnam. (2020), Vietnam available at: https://datareportal.com/reports/digital-2020-vietnam

9. Dimofte, C. V., Johansson, J. K., & Ronkainen, I. A. (2008). Cognitive and affective reactions of U.S. consumers to global brands. Journal of International Marketing, 16(4), 113–135.

10. Featherman, M. S., & Pavlou, P. A. (2003). Predicting e-services adoption: a perceived risk facets perspective. International Journal of Human-Computer Studies, 59(4), 451–474.

11. Floh, A., Koller, M., & Zauner, A. (2013). Taking a deeper look at online reviews: The asymmetric effect of valence intensity on shopping behaviour. Journal of Marketing Management, 29(5-6), 646–670

12. Garretson, J. A., & Clow, K. E. (1999). The influence of coupon fair value on service quality expectation; risk perception and purchase intention in the dental industry. Journal of Service Marketing, 13(1), 59–72

13. Ghosh, A. (1990). Retail Management. Chicago: Dryden press.

14. Goldsmith &Lafferty. (2002). Consumer response to Web sites and their influence on advertising effectiveness. Internet Research. 12(4), 318-328

15. Google & Temasek (2018), e-Conomy SEA 2018 - Southeast Asia's Internet economy hits an inflection point, Southeast Asia.

16. Hair, J. F., Black. W. C., Banin B. J., Anderson R.E. (2014), Multivariate Data Analysis 7th Pearson Prentice Hall, Upper Saddle River, NJ.

17. Hajli, N. (2015). Social commerce constructs and consumer's intention to buy. International Journal of Information Management, 35(2), 183–191.

18. Hong, Z., & Yi, L. (2012). Research on the Influence of Perceived Risk in Consumer Online Purchasing Decision. physics procedia, 24 (1), 1304-1310.

19. Huang, Z., & Benyoucef, M. (2013). From e-commerce to social commerce: A close look at design features. Electronic Commerce Research and Applications. 12(4). 246-259.

20. Jarvenpaa, S. L., & Todd, P. A. (1996). Consumer reactions to electronic shopping on the world wide web. International Journal of Electronic Commerce, 1(2), 59-88.

21. Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brandequity. Journal of Marketing, 57(1), 1-22.

22. Khoje et al. (2013): Khojeh, E., Mohseni, S., & Samadi, B. (2013). Enhancing Customer Satisfaction Among SMEs through Web Technology. Information Science. 11, 13-28.

23. Kim, S., & Park, H. (2013). Effects of various characteristics of social commerce (s-commerce) on consumers' trust and trust performance. International Journal of Information Management, 33(2), 318–332.

24. Kim, H. W., Chan, H. C., & Gupta, S. (2007). Value-based adoption of mobile internet: An empirical investigation. Decision Support Systems, 43(1), 111 –126.

25. Kotler et al. (2002). Marketing Management. Pearson. London, England.

26. Koufaris, M. (2002). Applying the Technology Acceptance Model and Flow Theory to Online Consumer Behavior. Journal of Information Systems Research, 13(2), 205-223

27. Liang, T. P., Ho, Y. T., Li, Y. W., & Turban, E. (2011). What drives social commerce: The role of social support and relationship quality. International Journal of Electronic Commerce, 16(2), 69–90.

28. Logan, Bright, & Gangadharbatla. (2012): Logan, K., Bright, L. F., & Gangadharbatla, H. (2012). Facebook versus television: Advertising value perceptions among females. Journal of Research in Interactive Marketing, 6(3), 164–179.

29. Ngo My Tran, Mai Vo Ngoc Thanh. (2017). The impact of social network advertising on customers' purchase intention in Can Tho city. Can Tho University Journal of Science, 48d, 66-76.

30. Nguyen Duy Thanh, Nguyen Thi Thanh Thao. (2017). Intention to use social commerce: A study in Vietnam, Science and Technology Development Journal, 20, Q4-2017.

31. Park, D. H., Lee, J., & Han, I. (2007). The effect of on-line consumer reviews on consumer purchasing intention: The moderating role of involvement. In International Journal of Electronic Commerce. 11(4), 125–148.

32. Pavlou, P. A. (2003). Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model. International Journal of Electronic Commerce, 7(3), 101–134.

33. Qian He & Hongjian Qu. (2018). The Impact of Advertising Appeals on Purchase Intention in Social Media Environment. Analysis of Intermediary Effect Based on Brand Attitude. Journal of Business Administration Research. 7(2), 17-30.

34. Salisbury WD, Pearson RA, Pearson AW, Miller DW (2001). Perceived security and World Wide Web purchase intention. Ind. Manag. Data Syst., 101(4), 165-77.

35. Sharma, S., & Crossler, R. (2014). Intention to Engage in Social Commerce: Uses and Gratifications Approach. AMCIS 2014 Proceedings.

36. Shi, B., Zhang, D., Xie, H., & Zhou, Y. (2016). Antecedents of Chinese adolescents' purchase intention for local brands: the moderating influence of materialistic values. Journal of Consumer Marketing, 33(4), 292–301.

37. Social Times. (2011). A history of social commerce: important dates (infographic), available at: www.adweek.com/socialtimes/social-commerce-infographic-2/85125.

38. Statista (2020), Number of social network users worldwide from 2017 to 2025, available at: https://www.statista.com/statistics/278414/number-of-worldwide-social-network-users/

39. Turban, E., Whiteside, J., King, D., & Outland, J. (2017). Introduction to Electronic Commerce and Social Commerce. Springer International Publishing.

40. Yahoo. (2005). Social Commerce via Shoposphere & Pick Lists.

41. Yin, X., Wang, H., Xia, Q., & Gu, Q. (2019). How social interaction affects purchase intention in social commerce: A cultural perspective. Sustainability (Switzerland), 11(8).

42. Yu Nguyen. (2020). What are Local Brands? Things you need to know about Local Brands, available at: https://www.coolmate.me/post/local-brand-la-gi-nhung-dieu-ban-can-biet-ve-local-brand

43. Zamrudi, Zakky. (2016). The Effect of Social Commerce Construct And Brand Image On Consumer Trust And Purchase Intention (Study On Fujifilm_Id Instagram Followers. Magister thesis, Universitas Brawijaya.

THE FACTORS IMPACT ON IMPLEMENTATION OF CORPORATE SOCIAL RESPONSIBILITY OF FOREIGN DIRECT INVESTMENT ENTERPRISES

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Abstract

The implementation of social responsibility has not only become the basic operating principle of businesses but also their core value in the context of globalization. It highlights the importance of human rights, safety, health, community participation, and environmental protection in addition to the business benefits of the enterprises. In the article, the research team summarizes the views of Friedman, M. (1970), Davis, K. (1973), Carroll, A. (1991) on corporate social responsibility (CSR) and reviews the literature on factors affecting the implementation of corporate social responsibility such as research by Yeh, SL, Chen, YS, Kao, YH, & Wu, SS (2014), Tsuei, LL, & Wen, H, L (2018), Duyen, CTL, & Canh, NM (2013), Hoa, TTM, & Ngoc, NTH (2014), Lanh, NT, & Tram, Lab (2016), etc. Based on the model of Tsuei, LL, & Wen, H, L (2018) and related studies, the research team proposes the model of factors affecting the implementation of corporate social responsibility with 4 factors are: (1) CSR intention of leaders; (2) Business resources; (3) Industrial environment; and (4) Public motivation. These factors are measured by 23 observed variables. The findings show that the "CSR intention of leaders" is the most important factor to promote the CSR implementation of FDI enterprises. The analysis of the factors and their degree of impact will help foreign-invested enterprises better perceive and formulate practical measures in implementing corporate social responsibility.

Keywords: *Affecting factors; Corporate Social Responsibility; Foreign Direct Investment Enterprises*

1. Introduction

Since the establishment of the World Business Council for Sustainable Development (WBCSD) in 1995, many associations in the world have discussed building strategies for improving corporate social responsibility (CSR). CSR, also known as corporate sustainability, sustainable corporations, business conscience, the responsibility of the business or responsible businesses, is a form of self-regulated business activity of corporations [Friedman, M. (1970)]. CSR has not only been the fundamental operation principle but also the core value of businesses, which highlights the importance of human rights, safety, health, community participation, and environmental protection in addition to business benefits of corporations. Corporations have to perceive and strictly implement CSR as well as make CSR a useful tool for creating business competitive advantages in the context of economic integration. Many scholars have studied and stated their viewpoints on corporate social responsibility, including Friedman, M. (1970), Davis, K. (1973), Carroll, A. (1991), etc. Besides, there have been a lot of studies on determinants on corporate social responsibility, namely, Yeh, S. L., Chen, Y. S., Kao, Y. H., and Wu, S. S. (2014*)*, Tsuei, L.L, & Wen, H, L (2018), Duyen, C.T.L, & Canh, N.M (2013), Hoa, T.T.M, & Ngoc, N.T.H (2014), Lanh, N.T., & Tram, P.T.N. (2016), etc.

In fact, CSR was introduced to the developing countries through FDI inflows in the 1990s [Goyal, 2005]. FDI enterprises have contributed investments, enhanced technology transfer, and improved management and production capacity in local countries. Under CSR, FDI enterprises usually build their general codes of business ethics to apply in different regions and markets. However, the existing problems include environmental pollution, business ethic violation, limited awareness of social responsibility, lack of finance and technology to practice social responsibility standards. On the theoretical background and literature review on determinants on CSR implementation, under the model of Tsuei, L.L, & Wen, H, L (2018), the researchers suggested the model of determinants on CSR implementation of FDI enterprises with 4 factors including *(1) CSR intention of leaders; (2) Business resources; (3) Industrial environment;* and *(4) Public motivation.* Due to limitations in time and resources, researchers utilized convenience sampling and surveyed 312 FDI enterprises in Viet Nam.

2. Theoretical background, research model, and hypotheses

2.1. Theoretical background

Corporate social responsibility means that enterprises have to fulfill their economic, legal, ethical, and philanthropic responsibilities with the current and future stakeholders towards sustainable development.

Base on this approach, corporate social responsibility is viewed as the increase in positive impacts and decrease in negative impacts on stakeholders towards sustainable development. Corporate social responsibility is expressed in responsibilities with the markets and consumers; environmental protection; responsibilities with workers, the community, and the society.

In his study on corporate social responsibility, Galaskiewicz, J. (1985) stated that the considerations on CSR short-term strategies can be divided into three forces (1) Public relations: raising the consumers' awareness of an enterprise or products to stimulate sales is the most typical short-term target for an enterprise to participate in socially responsible activities; (2) Competition: in response to pressure from business peers, enterprises can invest passively in socially responsible activities to avoid the negative perception of consumers; and (3) Tax benefits: relevant regulations on tax incentives can reduce the enterprise's spending for socially responsible activities.

Yeh, S. L., Chen, Y. S., Kao, Y. H., and Wu, S. S. (2014) studied corporate social responsibility and its implementation by designing a CSR mind map in listed companies on Taiwan Stock Exchange (TWSE) and Gre Tai Securities Market (GTSM). The results show that "*Negligence of company leaders*" and "*Shortage of human resources*" are major obstacles to CSR implementation. Besides, the research indicates "*Support and assistance of company leaders*" and "*Changes in the mentality of CSR implementation of company leaders*" are important solutions to CSR implementation in Taiwan.

The study of Tsuei, L.L., & Wen, H, L. (2018) discussed factors affecting CSR implementation by exploring the literature and conducting field interviews with enterprises. The study compiles 4 factors and the weights among the factors. The first factor "*Leaders' knowledge on CSR*" indicates that business owners, board of directors, and board of management have comprehensive and diversified impacts on business decision-making; similarly, the decision-makers significantly impact the participation in public welfare activities. The second factor "*business resources*" refers to all elements that the company can use to create value for customers, including material and non-material elements that the company can mobilize. Thirdly, "*Industrial environment*" shows the relationship between the company and its stakeholders to understand the company's practices related to environmental issues and examine whether the company makes a significant contribution to the public. The fourth factor "*Public motivation*" examines a series of company activities following social norms. The results show that "*CSR intention of leaders*" has the highest degree of effects, followed by "*Business resources*", "*Industrial environment*" and "*Public motivation.*"

In Viet Nam, there have been some studies on CSR by Hoa, T.T.M and Ngoc, N.T.H (2014) in tourism; Yen, H.H (2016) in banking, Thao, N.T.P (2019) on customer groups of banks in Da Lat. However, they have all been qualitative research on customers instead of all stakeholders.

The study of Lanh, N.T., & Tram, P.T.N. (2016) used the research model of Yeh, S. L., Chen, Y. S., Kao, Y. H., and Wu, S. S. (2014) and indicated four factors affecting CSR implementation in companies, namely human resources, capital, mandatory institutions of the State and CSR knowledge. Binary Logistic regression shows that among four tested factors, two factors are affecting CSR implementation, namely human resources and capital. The results are also identical to the research findings of Yeh, S. L., Chen, Y. S., Kao, Y. H., and Wu, S. S. (2014) which states that *"human resources"* is the major determinant of CSR implementation of listed companies on Taiwan Stock Exchange.

Duyen, C.T.L, & Canh, N.M (2013), surveyed 88 small and medium enterprises in Can Tho City by a self-administered questionnaire. The research methods include descriptive statistics, frequency, average, Cronbach's Alpha, KMO & Barlett tests, Exploratory Factor Analysis (EFA). The results show that factors promoting the CSR implementation of small and medium enterprises include "*economic benefits", "macro-economic policies", "ethical responsibility",* and "*public orientation",* in which *"ethical responsibility"* is the most significant factor promoting the CSR implementation of small and medium enterprises in Can Tho City.

Despite a large number of studies on CSR, the research samples are mainly domestic companies, companies in general, or companies by size, or sectors instead of FDI enterprises.

In Viet Nam, there have been a few studies on CSR implementation of FDI enterprises. FDI enterprises are classified by investments in distinction with domestic-invested enterprises [IMF (1993), OECD (1996), UNCTAD (2012)]. In Viet Nam, 2014 Law on Investment (with effect on July 1, 2015) states that FDI enterprises are foreign-invested business organizations regardless of the equity ratio. Under the 2014 Investment Law, forms of investments include investment in the establishment of economic organizations (Article 22), investment in the form of contribution of capital to, or purchase of shares or capital contributions at, economic organizations (Article 24, and investment in the form of contracts. Accordingly, FDI enterprises are divided into three following groups:

(i) *100% foreign-invested enterprises:* are owned, established, managed, and controlled by the foreign investors in Viet Nam;

(ii) *Joint-stock enterprises*: are established under the partnership contract between two or more parties to operate in Viet Nam, the parties are only responsible for the committed capital contribution in the enterprise;

(iii) *Cooperation contracts:* are investments under the agreement on liabilities and business result distribution between a foreign investor and a domestic investor to conduct one or more businesses in the local country.

Accordingly, cooperation contracts do not set up a new legal entity (enterprise), thus, FDI enterprises in the study include 100% foreign-invested enterprises and joint-stock enterprises.

With the above-mentioned characteristics, the CSR implementation of FDI enterprises has been the topic of interest of many researchers. Mai, T.N. (2020) in her study built a model for analyzing CSR implementation of FDI enterprises in Viet Nam with a focus on the relation between CSR implementation and the company reputation. The researcher surveyed 208 valid questionnaires from such four stakeholders as government, workers, customers, and community. The study also explores the evaluation of FDI enterprises on their reputation by a self-administered questionnaire. The research methods include Data Envelopment Analysis (DEA), Cronbach's Alpha test, and Exploratory Factor Analysis (EFA). The results show that the corporate reputation is influenced by CSR implementation on all four stakeholders, in which, CSR implementation for the community has the highest degree of influence, followed by customers, government, and workers.

The research of Chau, T.N.H (2018) on CSR in business strategies of FDI enterprises examines the proportional relation between CSR implementation and the reputation, innovation, and capability to create the differentiation of companies by measuring 21 observed variables from the government and enterprise perspectives. However, the study uses a single-variable regression model, in which 21 observed variables have not been explored by components, so the reliability of research findings is still limited.

2.2. Research model and hypotheses

Based on the theoretical background and literature review on determinants of CSR implementation of FDI enterprises, researchers analyze the factors affecting CSR under the model of Tsuei, L.L, & Wen, H, L. (2018). The model of Tsuei, L.L, & Wen, H, L. (2018) covers the analysis of stakeholders of CSR implementation of FDI enterprises with four factors "*CSR intention of leaders", "Business resources", "Industrial environment"* and *"Public motivation."* The researchers build and develop the scale on the pyramid of corporate social responsibility of Carroll, A. (1991) with CSR implementation in 4 responsibilities, namely, *(1) Economic responsibility; (2) Legal responsibility; (3) Ethical responsibility;* and *(4) Philanthropic responsibility.* The researchers suggested another important component, i.e. *(5) Environmental protection responsibility* in combination with characteristics of *FDI enterprise form (*100% foreign-invested and joint-stock enterprises); *Years or time of operation;* and *Business sector* to measure the differences in corporate social responsibility. The research model is expressed as follows:

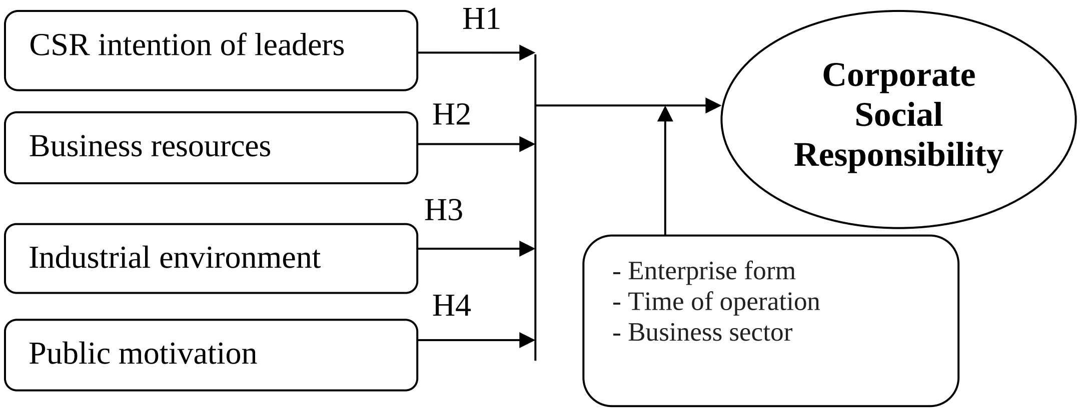

Figure 1. The Proposed Research Model

(Source: the author research)

Hypotheses for the proposed research model include:

H1: CSR intention of leaders has a directly proportional relation with CSR implementation of FDI enterprises.

H2: Business resource has a directly proportional relation with CSR implementation of FDI enterprises.

H3: Industrial environment has a directly proportional relationship with the CSR implementation of FDI enterprises.

H4: Public promotion has a directly proportional relationship with the CSR implementation of FDI enterprises.

3. Method

3.1. Variables and research samples

The study combines qualitative and quantitative research methods. First, the qualitative method is used to conduct preliminary research by discussing with 10 leaders of FDI enterprises in different sectors. The discussion is conducted by the scales with factors affecting the corporate social responsibility of FDI enterprises from previous studies. The participants can give their opinions on aspects of corporate social responsibility. The preliminary sample size is 10 (n=10). The results are used to complete the questionnaire and research model.

The quantitative method is used to collect opinions of enterprises on corporate social responsibility. The questionnaire is formulated based on the preliminary research results with Likert 5-point scale questions. Due to limited time, the authors use convenience sampling. The sample size is determined under the principle of Comrey and Lee (1992), concerning the principle of Hoang Trong & Chu Nguyen Mong Ngoc (2005). With 23 parameters (observed variables) to conduct factor analysis, the minimum sample size should be 23 x 5 = 115 samples; the respondents are company middle and top managers in FDI enterprises at industrial zones in Hanoi, Hai Phong, Bac Ninh, Bac Giang, Ha Nam, Da

Nang, and Binh Duong. Based on the required sample size and data collection capabilities, the researchers decide on the sample size n = 320. Over 320 questionnaires were sent to the survey subject by email, researchers collected 315 questionnaires with 312 valid ones for analysis.

Table 2.1: Factor scales in the research model

Independent variables	Observed variables	Reference
1. CSR intention of leaders		
LD1	Fulfillment of tax liabilities under legal regulations	Compiled and developed from the studies of Tsuei, L.L, & Wen, H, L. (2018; and Useem, M. (1988),
LD2	Equity structure and business performance	
LD3	Operating strategy towards CSR implementation	
LD4	Considerations of interests of stakeholders	
LD5	CSR awareness of corporate members	
2. Business resources		
BR1	Profitability performance	Compiled and developed from the studies of Tsuei, L.L, & Wen; Freeman, R. E. (1984); Shen, C. H., and Chang, Y. (2009)
BR2	Human resources quality	
BR3	Financial capacity	
BR4	Corporate facilities	
BR5	Management information system	
3. Industrial environment		
IE1	Peers' interests in CSR implementation	Compiled and developed from the studies of Tsuei, L.L, & Wen, H, L (2018)
IE2	Increasing popularity by CSR implementation	
IE3	Strengthening competitiveness	
IE4	Peers' benefits from CSR implementation	
4. Public motivation		
PM1	Laws and regulations on CSR	Compiled and developed from the studies of Tsuei, L.L, & Wen, H, L (2018)
PM2	Current socio-economic trends	
PM3	Social norms and value	
PM4	Information disclosure	
5. Corporate social responsibility		
CSR1	Economic responsibility	Built and developed on the pyramid of corporate social responsibility of Carroll, A. (1991)
CSR2	Legal responsibility	
CSR3	Ethical responsibility	
CSR4	Philanthropic responsibility	
CSR5	Environmental responsibility	

Source: Authors research

3.2. Data analysis

The research data after collection will be adjusted and analyzed with the support of SPSS 20.0 software with analytical techniques:

Descriptive statistics: Describe the characteristics of the sample according to the identified signs.

Reliability of the scale (Cronbach's Alpha): This method evaluates the reliability of the scale by Cronbach's Alpha coefficient and removes the unsuitable variables. Variables whose correlation coefficient with the total variable is less than 0.3 will be rejected. The scale with Cronbach's Alpha coefficient over 0.6 is usable.

Exploratory Factor Analysis EFA: Factor analysis EFA allows the compaction of multiple correlated variables into representative factors. Kaiser-Meyer-Olkin (KMO) and Bartlett tests are used to measure the fit of the research samples. Factor analysis is significant if the KMO value > 0.5 and the value of sig <0.05; Factor loading must be > 0.5; In case an observed variable uploads both factors, the loading factors must be over 0.3, and this observed variable is included in the factor that it uploads the highest with the condition must satisfy the factor loading > 0.5.

Correlation and Regression analysis: After extracting the representative factors, the Pearson correlation coefficient is used to evaluate the linear correlation relationship between the factors in the model. If the sig < 0.05, the analytical result is significant; correlation coefficients > 0 represent variables with linear correlation. On that basis, the linear regression model is set up and the R2 coefficient is adjusted to indicate the suitability of the established regression model.

Different impact of personal factor: Independent - Sample T-Test and One-Way Anova test are used to consider the different influence of qualitative variables such as age, gender, seniority.

4. Results

4.1. Statistical results

The degree of corporate social responsibility by factors is expressed in Table 1. Under Likert 5-point scale with 1 (Strongly disagree) to 5 (Strongly agree), the CSR implementation is different under different aspects with the highest degree in legal responsibility of 3.8, followed by philanthropic responsibility (3.71), economic and ethical responsibility at 3.61 and 3.64, respectively. The lowest degree is corporate environmental responsibility at 3.54.

Table 1. Statistical results of CSR

CSR	N	Minimum	Maximum	Mean	Std. Deviation
Economic responsibility	312	1	5	3.61	.806
Legal responsibility	312	2	5	3.88	.766
Ethical responsibility	312	1	5	3.64	.802
Philanthropic responsibility	312	1	5	3.71	.845
Environmental responsibility	312	1	5	3.54	.955
Valid N (listwise)	312				

Source: Synthesis from questionnaires

4.2. Reliability of the scale

Cronbach's Alpha coefficient test shows that all coefficients are over 0.7 (Table 2), Corrected item-total Correlation of observed variables is over 0.3. Accordingly, the research model is relevant and reliable. In five factor groups with the original observed variables Xm = 23 variables, Cronbach's Alpha coefficient test shows that all 23 observed variables are reliable for testing in the model.

Table 2. Cronbach's Alpha test result

Scale	**The number of an observation variable**			**Cronbach's Alpha**
	Before testing	After testing	Removed observed variables	
1. LD	5	5	None	0.917
2. PM	4	4	None	0.907
3.BR	5	5	None	0.923
4. IE	4	4	None	0.904
5. CSR	5	5	None	0.822
Total	**23**	**23**		

Source: Synthesis from test results

4.3. Factor Analysis EFA

EFA analysis with Varimax rotation is used to analyze 23 observed variables after Cronbach's Alpha reliability test.

According to EFA results, at Eigenvalue >1, with Principal Components and Varimax rotation, factor analysis extracted 5 representative factors from 23 observed variables with variance extraction of 73.02% (>50%). KMO = 0.824 (>0.5) means that the analysis is significant. sig = 0.000 < 0.05 shows the correlation between observed variables in the model the relevance of EFA analysis.

Table 3. Factor analysis EFA result

	Component				
	1	2	3	4	5
BR3	.896				
BR2	.877				
BR1	.835				
BR4	.786				
BR5	.772				
LD1		.883			
LD3		.881			
LD4		.865			
LD5		.816			
LD2		.792			
IE3			.916		
IE2			.875		
IE1			.838		
IE4			.819		
PM2				.871	
PM1				.869	
PM3				.856	
PM4				.778	
CSR4					.799
CSR2					.747
CSR3					.729
CSR5					.690
CSR1					.663
Eigenvalues			1.756		
Total variance extraction			73.02%		
KMO			0.824		
Sig.			0.000		

Source: Synthesis from test results

With Eigenvalues = 1,756 (>1), 23 original observed variables are grouped into 5 representative factors: CSR intention of leaders (LD); Business resources (BR); Industrial Environment (IE); Public Motivation (PM); Corporate Social Responsibility

(CSR) with total variance extraction = 73.02% (> 50%) which means that 73% of variability of variables are explained by these factors.

4.4. Analysis of linear correlation and regression

4.4.1. Analysis of linear correlation

From Cronbach'Alpha and EFA analysis, there are 5 representative factors with 23 observed variables in the research model. Pearson correlation coefficient is used to test the correlation between factors in the model. Linear correlation results (Table 4) show that with 312 observations, all factors have correlation coefficient (r) >0, sig < 0.05, which means that the factors have linear correlation and significance.

Table 4. Linear Correlation result

		CSR	LD	BR	IE	PM
CSR	Pearson Correlation	1	.639**	.647**	.591**	.673**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	312	312	312	312	312
LD	Pearson Correlation	.639**	1	.257**	.196**	.304**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	312	312	312	312	312
BR	Pearson Correlation	.647**	.257**	1	.354**	.484**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	312	312	312	312	312
IE	Pearson Correlation	.591**	.196**	.354**	1	.234**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	312	312	312	312	312
PM	Pearson Correlation	.673**	.304**	.484**	.234**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	312	312	312	312	312

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Synthesis from test results

4.4.2. Regression analysis

Based on the results of the linear correlation analysis, the authors conducted a regression analysis to examine the impact of factors on the dependent variable.

Table 5. Regression analysis result

Model Summary

Model	R	R Square	Adjusted R Square	Std. error of the Estimate	Durbin-Watson
1	.925[a]	.856	.854	.25500	1.890

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	118.980	4	29.745	457.437	.000[b]
	Residual	19.963	307	.065		
	Total	138.942	311			

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.219	.083		-2.655	.008
	LD	.281	.016	.401	17.416	.000
	BR	.187	.019	.255	9.861	.000
	IE	.261	.018	.340	14.585	.000
	PM	.245	.018	.347	13.714	.000

a. Dependent Variable: CSR

Source: Synthesis from test results

From the multiple regression results, a linear regression equation to evaluate the impacts of factors on CSR implementation can be built as follows:

CSR = 0.401LD+0.255BR+0.340IE+0.347PM

In the linear regression equation, all coefficients >0, so hypotheses are accepted. All things remain constant, if "*CSR intention of leaders*" (LD) increases by one unit, CSR implementation increases 0.401 unit; if "*Business resources*" (BR) increases by one unit, CSR implementation increases 0.255 unit; if "*Industrial environment*" increases by one unit, CSR implementation increases 0.34 unit; and if "*Public motivation*" increases by one unit, CSR increases 0.347 unit.

The adjusted coefficient R^2 = 0.854 indicates that the independent variables in the model can explain 85.4% of the variation of the dependent variable.

In ANOVA variance analysis, F = 457.437; sig = 0.000 show that the linear regression model is suitable for the data set and can be used.

The statistics of Durbin-Watson = 1,890 show that there is no correlation between the remainder. This means that the regression model does not violate the assumption of the independence of errors. Variance Inflation Factor (VIF) with a value less than 10 indicates that the regression model does not violate multicollinearity (independent variables are strongly correlated).

4.5. Differences in personal factors

Regarding the enterprise forms, the authors divide samples into two groups of 100% foreign-invested enterprises and joint-stock enterprises. In the study, this factor has two values, so Independence-Sample T-test can be applied. The results show that Levene's Test sig = 0.248 > 0.05 representing the equality of variance between two forms of enterprises. It is possible to use sig T-Test in Equal variances assumed.

In Equal variances assumed, with Sig = 0.02< 0,05, it can be concluded that there is a significant difference in CSR implementation between the two forms of enterprises.

Table 6: Result of Independence-Sample T-test

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. 2-tailed	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
CSR	Equal variances assumed	1.338	.248	-2.298	310	.022	-.20706	.09009	-.38433	-.02979
	Equal variances not assumed			-2.637	141.616	.009	-.20706	.07853	-.36231	-.05182

Source: Result from regression analysis of the authors

One-Way ANOVA is used to test the differences between enterprises with different times of operation and CSR implementation. The results show that mean of enterprises with over 10 years of operation = 3.373, the highest in the groups. Therefore, it can be concluded that enterprises with over 10 years of operation implement CSR better than others. In the Test of Homogeneity of Variances, with sig Levene’s test = 0.00< 0.05, there is a significant difference between groups. According to results of Post Hoc Test in Table of Post Hoc Tests Multiple Comparisons with sig = 0,000 < 0,05, it can be concluded that there is a significant difference in CSR implementation between enterprises with different times of operation.

One-Way ANOVA is used to test the differences between enterprises in different business sectors and CSR implementation. The results show that mean of enterprises in industry = 3.467, the highest in the groups. Therefore, it can be concluded that enterprises operating in the industry implement CSR better than others. In the Test of Homogeneity of Variances, with sig Levene's test = 0.016< 0.05, there is a significant difference between groups. According to the results of the Post Hoc Test in Table of Post Hoc Tests Multiple Comparisons with sig = 0.000 < 0.05, it can be concluded that there is a significant difference in CSR implementation between enterprises in different business sectors.

5. Conclusions and recommendations

5.1. Conclusions

From the linear regression equation, it can be seen that in case all things remain constant, if "*CSR intention of leaders*" (LD) increases by one unit, CSR implementation increases 0.401 unit; if "*Business resources*" (BR) increases by one unit, CSR implementation increases 0.255 unit; if "*Industrial environment*" increases by one unit, CSR implementation increases 0.34 unit; and if "*Public motivation*" increases by one unit, CSR increases 0.347 unit.

According to the research findings, at the significance of 95%, corporate social responsibility implementation is at the average of 3.67 on the 5-point scale. Factors affecting the CSR implementation are arranged in the descending order as follows:

(1). "CSR intention of leaders" has a relatively high effect of 40%; CSR implementation is averaged at 3.06, in which 49.4% of surveyed enterprises rated from 1 to under 3; 51.6% rated 3 to 5. It shows that the "CSR intention of leaders" has the largest impact on CSR implementation. Despite the awareness of CSR implementation, many company leaders have not highlighted the CSR implementation.

(2). "Public motivation" has the effect of 34.7%; the average CSR implementation is at 3.28, in which 37.8% of enterprises in the survey rated from 1 to under 3; 62.2% rated 3 to 5. It can be seen that this factor has a relatively strong impact on CSR implementation, but it has not taken the adequate interests of many enterprises.

(3). "Industrial environment" has 34% of effect with the average CSR implementation of 3.96, in which 11.5% of respondents rated from 1 to under 3; 88.5% rated 3 to 5. Accordingly, the industrial environment has a relatively high impact and receives the attention of enterprises in CSR implementation.

(4). "Business resources" has a 25.5% of impact with an average point of 3.54, in which 25% of respondents rated from 1 to under 3; 75% rated from 3 to 5. It shows that despite the limited effect, enterprises are relatively interested in resources as the foundation for CSR implementation. It is difficult for companies to well implement CSR without adequate resources.

In addition, research findings also show the significant differences in CSR implementation between 100% foreign-invested enterprises and foreign-invested enterprises; between enterprises with different time of operation and business sectors.

5.2. Recommendations

- The first, the Government needs to develop and perfect the system of policies and laws on the social responsibility of FDI enterprises.

The improvement of the legal environment for attracting investment capital and managing activities of FDI enterprises in Vietnam is meant as a necessary condition for FDI enterprises to fully and substantively implement CSR. During the review, approval, and management of FDI capital and FDI enterprises, regulations on prevention and reduction of environmental pollution, and responsibility of enterprises to the community need to be concretized into criteria for approval. The government needs to define minimum standards for enterprise operations, including issues related to CSR, such as applying the sustainability accounting standards of the United States sustainable development accounting standards council.

- The second, strengthening coordination between functional agencies in propagating, supporting, and supervising FDI enterprises in implementing social responsibility.

The Government clearly defines the responsibilities of relevant agencies in policymaking, communication, inspection, and handling of violations of FDI enterprises in issues related to CSR. At the same time, the Government reviews and evaluates to improve and amend the coordination mechanism of local departments, agencies, and sectors in licensing and managing FDI projects, and carefully evaluates preferential policies investment according to the scale of investment projects and socio-economic geographical. In order to serve the management, the database system and information on FDI enterprises need to continue to be perfected so that central and local agencies can access and output all relevant information. agencies to serve the general work; thereby helping the evaluation and monitoring work effectively and timely.

- The third, state management agencies implement policies to support and encourage enterprises in implementing CSR.

One of the important factors affecting the implementation of CSR of FDI enterprises in Vietnam is resources. Implementing CSR means that businesses incur more costs, use many resources including financial and human resources, technology, and management. Therefore, the support and encouragement from the local government for businesses that implement or commit to CSR, such as paying taxes in full and on time, creating jobs for local workers, complying with the provisions of the law ... will create motivation for enterprises. Some forms of incentives such as social responsibility awards, "green brand" or "clean technology" certifications

The fourth, raising and changing the CSR awareness of leaders of FDI enterprises

The major motivation of CSR implementation of FDI enterprises is to attract investors and customers rather than the corporate benefits, survival, and sustainable development. In other words, CSR has not been the urgent need for corporate survival and sustainable development. CSR implementation of FDI enterprises partly arises from the pressures of partners, customers, workers, social organizations, State regulations, and the community in general. Besides, small and medium FDI enterprises in Viet Nam (the majority) have limited financial capacity and resources to implement CSR. Therefore, it is difficult for enterprises to implement CSR due to limited finance, substandard technical facilities, reluctance, or inadequate attention to CSR.

Some FDI enterprises have not yet been fully aware of CSR and its roles in improving their corporate competitiveness and sustainable development. Changes should take place in perspectives, perception, issues, plans, and implementation. It is advisable for the government to communicate and improve the awareness of CSR to make corporate leaders understand CSR beyond business ethics and charity activities.

In the current context, enterprises, particularly FDI enterprises should perceive that CSR implementation is an inevitable trend. It provides the opportunity for enterprises to innovate and develop. The perception of business leaders should be communicated to make changes in the awareness of the employees and managers. It is essential for FDI enterprises to provide training courses on CSR for employees and managers and encourage all members of the company to actively participate in environmental protection programs.

The fifth, put CSR into business strategies of FDI enterprises

FDI enterprises usually build their general codes of conduct and business norms to apply in different regions and markets. However, CSR implementation in these companies is still small-scaled and passive despite its strategic importance in the survival and development of the company.

On the basis of CSR perception in FDI enterprises from the perspectives of economic, legal, and ethical responsibilities, CSR plays a significant role in the corporate business strategies towards sustainable development. The diverse CSR-incorporated business strategies include policies related to employees such as recruitment, anti-discrimination, work safety, and product-related policies such as product safety, environmentally friendly materials, etc.

The sixth, focusing on community activities

The research findings show that "Public motivation" has a relatively strong impact on CSR implementation. The community is viewed as the most important stakeholder of CSR implementation of FDI enterprises. CSR activities for the community usually have more influential effects as it is easier to reach and access a lot of people. CSR activities for the community can be conducted under such forms as organizing/ sponsoring sporting, cultural, welfare activities of the local community, arranging volunteering and charity related to the company products and services. FDI enterprises should invest in long-term programs and strategic campaigns, as they are more effective than emergency support and assistance.

6. References

1. Carroll, A (1991), The Pyramid of Corporate Social Responsibility: Toward the Moral Management of Organizational Stakeholders, *Business Horizons*, Vol.34, (4), Pages 39-48

2. Davis, K. (1973), The case for and against business assumption of social responsibilities, *Academy of Management Journal*, Vol.16 (2), pp.312-322

3. Duyen, C.T.L, & Canh, N.M (2013), Analysis of factors promoting the implementation of social responsibility of small and medium enterprises in Can Tho city, *Can Tho University of Journal of Science*, *Political Science, Economics and Law*: 25 (2013): 9 – 16.

4. Friedman, M. (1970). The social responsibility of business is to increase its profits, *Corporate Ethics and Corporate Governance*, p.173-178. Retrieved from https://link.springer.com/chapter/10.1007/978-3-540-70818-6_14, on December 22, 2019

5. Galaskiewicz, J. (1985), *Social Organization of an Urban Grants Economy: A Study of Business Philanthropy and Nonprofit Organizations*, Orlando: Academic, Press. Retrieved from https://www.elsevier.com/books/social-organization-of-an-urban-grants-economy/galaskiewicz/978-0-12-273860-9

6. Goyal, Ashima. (2005). Corporate Social Responsibility as a Signaling Device for FDI. SSRN Electronic Journal. 10.2139/ssrn.703887

7. Hoa, T.T.M, & Ngoc, N.T.H (2014), Social responsibility in the hotel business in Vietnam - Case studies at Sofitel Legend Metropole and Sofitel Plaza Hanoi hotels, *VNU Journal Of Science: Social Sciences And Humanities*, *30(4)* (2014) 1 -11

8. Hong, H. (2019), CSR promotes business of enterprises, *The Banking Times*. Retrieved from https://thoibaonganhang.vn/csr-thuc-day-kinh-doanh-cua-doanh-nghiep-84417.html, on December 18, 2019

9. Lanh, N.T., & Tram, P.T.N. (2016), The factors affecting the implementation of social responsibility of small and medium enterprises in Vietnam, *Dalat University Journal of Science*, 6(1), 2016, 119-128

10. Linh, T. (2018), Three challenges when implementing CSR activities in Vietnam, *Enterprise Forum News*. Retrieved from https://enternews.vn/03-thach-thuc-khi-thuc-hien-cac-hoat-dong-csr-tai-viet-nam-126527.html on December 9, 2019

11. Matten D., J. Moon: 2004, *Corporate Social Responsibility Education in Europe*, Journal of Business Ethics, 54(4), 323-337.

12. Mai, T. K.(2018), Social responsibility of small and medium-sized textile enterprises in Ho Chi Minh City, *Economy and Forecast Review* (Vol.36/2018), 11-14.

13. Shen, C. H., and Chang, Y. (2009), Ambition Versus Conscience, Does Corporate Social Responsibility Pay off the Application of Matching Methods, *Journal of Business Ethics*, 88, 133-153.

14. Trong H & Ngoc C.N.M (2008). *Research data analysis with SPSS*. Vol.l, Hong Duc Publisher, Ho Chi Minh City. Retrieved from https://sachvui.com/ebook/phan-tich-du-lieu-nghien-cuu-voi-spss-tap-1-hoang-trong-chu-nguyen-mong-ngoc.857.html

15. Tsuei, L.L, & Wen, H, L (2018), Analyzing the factors that affect the implementation of CSR in Enterprises, *Review of Integrative Business and Economics Research*, Vol. 7, Issue 3

16. Useem, M. (1988), Market and institutional factors in corporate contributions, *California Management Review*, Winter: 77-88

17. Yeh, S. L., Chen, Y. S., Kao, Y. H., & Wu, S. S. (2014), Obstacle factors of corporate social responsibility implementation: empirical evidence from listed companies in Taiwan, *North American Journal of Economics and Finance*, 1-14.

THE EFFECT OF PERCEIVED VALUE ON PURCHASE INTENTION OF LUXURY FASHION PRODUCTS CONSUMER

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Abstract

In recent years, the luxury fashion market has grown tremendously in the world as well as in Vietnam. However, there has been little research done in Vietnam in this area to gain a deeper understanding of luxury fashion product consumer behavior. This study is based on a literature review, previous studies aimed at overviewing the theoretical issues of customer perceived value. In addition, through a research review, the author evaluates the influence of perceived value on consumers' intention to buy luxury fashion products. From there, a theoretical research model is proposed as a basis for future experimental studies in Vietnam.

Keywords: *Luxury fashion products, purchase intention, perceived value.*

1. Introduction

Luxury fashion is now considered a booming industry and is continuing to expand globally. A large number of companies producing luxury fashion brands already have subsidiaries and stores in many countries around the world. Thanks to the globalization of these companies, consumers around the world have more access to luxury fashion brands. Although luxury industry has only a small number of manufacturing and trading businesses compared to other industries, it is an industry that generates billions of dollars for the world. It plays a special role in the economy and has significant effects on modern society (Chadha & Husband, 2006). According to statistics from Bain & Company, in 2015 the luxury industry contributed one trillion euros in income to the world economy. In particular, the luxury fashion industry - this core product group generated 250 billion euros in revenue in 2015 globally despite the difficulties of many economies during that period. (Bain & Company, 2015). By 2016, 2017, 2018, 2019, the updated figures of revenue of the worldwide luxury industry as reported by Bain & Company: 1.08; 1,2; 1.22; 1.26 trillion euros.

Along with the continuous development of the world economy, the economy of Southeast Asia in general and Vietnam, in particular, is also making important changes. The average income of Vietnamese people has been increasing sharply in recent years.

Specifically, in 2015, the per capita income was 45.7 million VND/person.year, by 2019 this figure increased to 64.4 million VND/person.year (GSO). According to a report by Wealth-X data company, Vietnam is ranked 3rd among the countries with the fastest-growing number of rich people in the world (12.7%). In 2019, Vietnam recorded 12,327 USD millionaires, an increase of 23% compared to 2015. It is forecasted that by 2023, the number of USD millionaires in Vietnam will increase to 15,776 people (The wealth report, 2019, Knight Frank). Besides, Vietnam is also a strong country with a young and highly educated population, with an increasing number of middle-class people. These are considered essential factors to help improve the purchasing power of the Vietnamese market in the coming time in general and for the luxury goods industry in particular.

According to Nguyen & Smith (2013), Asia is considered a remarkable place to research on consumer behavior, which Vietnam is the country chosen by many scholars as a context to study consumer behavior/ purchase intention of consumers (Nguyen Thi Tuyet Mai et al., 2016). Vietnam is a country with a high population growth rate and high income compared to other countries in the region. Besides, people in Vietnam also have different characteristics in terms of cultural factors, typical consumption habits (Nguyen Thi Tuyet Mai et al., 2016) compared to other countries. Therefore, studying the intention to buy luxury fashion products in Vietnam will have important practical significance to help clarify this issue.

Along with the development of the luxury fashion industry, the issues of luxury fashion consumption behavior of consumers have received the attention of scientists. Many studies on behavior and intention to buy luxury fashion products have been carried out and the results published in scientific journals, scientific conference proceedings. During the research process, the author has researched and synthesized many domestic and foreign researches on consumer buying behavior and intentions in general and luxury fashion products in particular. Previous studies by scholars have focused on various aspects of luxury fashion products. Therefore, the author has read, synthesized, compared, analyzed, and grouped research works to find research gaps in the Vietnamese context.

2. Method

To achieve the research objectives, the author uses theoretical research methods (study at desks) to synthesize, analyze, evaluate, compare... theoretical documents and related research works. (secondary data) to consumers' intention to buy luxury fashion products to get a research overview, find research gaps. Based on inheriting the theoretical basis from previous works, the author develops a research model and research direction for the Vietnamese context. The specific steps of the theoretical research method are concretized as follows: Search, classify research works, theoretical documents; Read and analyze documents and research works; Synthesize research results in works related to consumers' intention to buy luxury fashion products, then summarize into issues; Find out research gaps, articles focused on research; Proposed theoretical research model.

3. Research results

3.1. Overview of luxury fashion products

* Luxury products: According to the definition of Vigneron & Johnson (1999), luxury products refer to the highest level of prestigious brands, including different material and spiritual values. From another perspective, luxury products are 95% products of which are only available to 5% of the population and are in limited supply (Savitha & Sathyanarayan, 2014). In this sense, luxury products cause differences in society. Luxury products have some characteristics that distinguish them from other goods. However, it must be affirmed that whether a product can be considered a luxury depends on the perception of people, culture, and society (Vickers & Renand, 2003). Klaus Hein (2012) argues that the luxury product corresponds to the manager's understanding including all products that are beyond the necessary and normal compared to other products of the same type. Bilge (2015) also offers a similar concept when it says that luxury goods are products that have more necessary and conventional characteristics than other products of the same category (Bilge, 2015). And in a conventional approach to product ethos, this is a concept that highlights the difference between luxury goods and conventional goods.

Thus, the definition of a luxury product can be stated: “Luxury products have more necessary and normal features than other products of the same class, including a relatively high price, quality, aesthetics, rarity, specialty and symbolic meaning” (Klaus Hein, 2012). While developing the luxury brand concept, Hein developed and adapted the classification for the luxury product industries (World Directory of Luxury Brands - WLBD; Heine, 2011b).

Table 1: Classification of luxury products (Hein, 2012)

Fashion products: Clothing, shoes, underwear, fashion accessories (belts, gloves, handicrafts, hats, ties, eyeglasses)	**Means of transportation:** bicycle, motorbike, car, boat/yacht, plane/jet	**Interior decoration:** furniture, kitchen, table decoration (silverware, crystal & glassware, porcelain & stoneware), linens (table linens, bed linen, bath linens)), bathroom supplies, carpets, lamps, interior electronics, interior accessories, sports equipment, garden decorations.
Bags and cases: Luggage, handbags, wallets, and cases	**Delicacies:** Beverages (wines, sparkling wines, spirits), Foods	**Body decoration:** Mobile Electronics, Wristwatches, jewelry, pens, Writing paper.
Cosmetics & Perfumes		

* Luxury fashion products: According to reports by Bain & Company (2020), the luxury fashion segment accounted for 34% of total luxury goods revenue in 2019. In 2019, the segment's revenue of luxury fashion reached $106 billion, and is projected to grow to $130 billion by 2025 (Bain & Company, 2020). These figures reflect the importance, role, and development trends of the global luxury fashion segment in the future.

Thus, according to the classification of Hein (2012): Luxury fashion products are part of the luxury product category, including specific products such as clothing, shoes, underwear, accessories fashion (belts, gloves, handicraft items, hats, ties, eyeglasses).

3.2. Perceived value of luxury products

Various studies have tried to understand the key aspects of luxury value from the customer's point of view (Kapferer, 1997). Several scholars have focused on clarifying the concept of consumer perception of luxury value (Vigneron & Johnson, 1999, 2004; Wiedmannet et al., 2007; Berthon et al., 2009). Vigneron & Johnson (1999) proposed five perceptions of luxury value and divided them into two groups: social value (conspicuous, unique, and social value) and personal value (spiritual value) and quality). Vickers & Renand (2003) created a luxury value mode: Functional value, experiential value, and symbolic value. Wiedmann et al. (2007) proposed four value-based dimensions for luxury products: social value, personal value, functional value, and financial value. Various studies have shown that culture plays a significant role in consumer perception, leading to differences in purchasing behavior in different societies (Sharma, 2011). Therefore, researchers have proposed different assessments of luxury value perceptions and their influence on luxury product purchase intentions in Western and Eastern countries (Vigneron & Johnson, 2004)., Wiedmann et al., 2009; Choo et al., 2012).

Choo et al (2012) found luxury values for customers for luxury fashion products. The authors explain luxury value by: utilitarian, hedonic, symbolic, and economic value. Utility value includes the extraordinary value and functionality of luxury goods. Products that are identified by consumers as being excellent and able to fulfill their functional needs can provide utilitarian value. Hedonic value consists of three characteristics: aesthetics, pleasure, and experience. Products that are aesthetically pleasing and create a pleasant and enjoyable experience for customers can provide hedonic value to them. Luxury goods with symbolic value allow consumers to express themselves and associate the symbolic meaning of the product with their image. Economic value, on the other hand, can be determined by sociability. Luxury goods that allow people to socialize, join groups, and social classes can help them get some social benefits. However, a luxury product can have some or all of these values depending on the purpose of purchase and the nature of the product.

3.3. Factors affecting the intention to buy luxury fashion products

For luxury products in general and luxury fashion products in particular, through a research review, the author finds that many researchers use different theoretical frameworks to evaluate, analyze and find understand consumer buying intentions. Popular theoretical frameworks used by scholar: Theory of rational action (TRA) and the theory of planned behavior (TPB). Of course, over time, scholars have adapted, developed, and extended these theoretical frameworks when applied to research on consumer purchase intention in general and luxury fashion purchase intention in general. specifically to build research models that are more appropriate and effective with the research object and context.

According to the theory of rational action (TRA), it is possible to mention the studies of Ricky YK Chan (2001), Bopeng Zhang, Jung Hwan Kim (2013), Emilia Reis (2015), R. Srinivasan, et al (2015)), Sheetal Jain (2021)… According to different approaches, studies have shown the factors affecting the intention/behavior of consumers to buy luxury goods with their characteristics and contexts. particular, specific. There are many overlapping views in the conclusions of the above studies, however, there are also conflicting statements containing certain contradictions.

According to the theory of rational action (TPB), scholars Chao, Y.L (2012); Sohail Younus et al (2015); Ji Yi et al (2013); Ambalak Yadav & Govind Swaroop Pathak (2014) Hasan et al (2019)….have conducted a study on consumer intention/behavior with different methods and contexts. Studies have shown the factors affecting the intention/behavior of consumers to buy luxury goods. Many similar conclusions have been reached, along with controversial statements.

In recent years, many scholars have used perceived value theory to study consumer purchase intentions. So what is value? “Value” is one of the most widely and frequently used concepts in understanding and predicting customer behavior. Smith & Colgate (2007) introduced the concept of customer perceived value: “It is what a customer receives (benefits, quality, value, utility) from purchasing and using a product. It relative to what they pay (price, cost, sacrifice), which in turn affects attitudes towards the product”. Thus, to determine the perceived value of customers for luxury products, it is necessary to determine the customer's preference and belief in the product's attributes (Smith & Colgate, 2007). Also according to Smith & Colgate (2007), perceived luxury value is a strong predictor of consumer behavioral intention. High perceived value will lead to higher purchase intention. Perceived luxury value can be considered as a belief that guides choice or behavioral assessment and can be used to analyze consumer purchase intention (Wiedmann et al., 2007; Hanzaee & Rouhani, 2012). According to the theory of perceived value, the author has synthesized and analyzed several studies related to luxury consumption intention/behavior, specifically in Table 2.

Citation	**Focus of study**	**Outcome**	**Type of study**	**Sample for study**
Kuangpeng Hung & Annie Huiling Chen (2011)	Factors affecting Chinese consumers' intention to buy luxury brands	Brand perception, symbolic value does not influence on consumers' intention to buy luxury brands. The experience, function of purchasing luxury brands, physical arrogance, and achievement all have a positive effect on purchase intention. Achievement arrogance has a moderating effect on the relationship	Empirical, quantitative methods	643 Chinese and Taiwanese luxury brand consumers

		between Chinese consumers' brand perception and luxury purchase intentions.		
Ho Jung Choo et al, 2012	Generalize reasoning problems about the perceived luxury value of customers while testing the reliability and validity of the proposed structure.	Utility value includes the superior value and functionality of luxury goods. Spiritual values consist of three characteristics: aesthetics, pleasure, and experience. Luxury goods with symbolic value allow consumers to express themselves and associate the symbolic meaning of the product with their image. Economic value, on the other hand, can be determined by sociability. In addition, the relationship between customers' luxury value and consumers' purchase intention is assessed to be relatively strong.	Theory and empirical, qualitative, and quantitative methods	436 consumers in Korea
Ketsuree Vijanakorn & Randall Shannon (2016)	Develop a theoretical concept by examining the impact of country image on consumers' perception of luxury value	The perceived image of aspects of the country affects perceived value in different respects, and thus affects purchase intention. National images have symbolic and emotional significance for consumers. The research results of the authors have provided a more accurate assessment of the impact of the country's image as well as important information about the country's positioning in the world market.	Empirical, quantitative methods	407 elements (Thai consumers have been using luxury products)
Hiroko Oe & et al (2017)	Exploring the impact of consumer perception on luxury product purchase intention (handbags)	The perceived value of self-expression has a negligible impact on the purchase intention of Thai consumers. While the perception of social value, the perception of personal value has a strong impact on their consumption intention.	Empirical, quantitative methods	650 consumers in Thailand
Sheeltan Jain (2019)	Examine the influence of luxury value perception and luxury purchase intention among millennial consumers in India.	Conspicuous value is the most important determinant of luxury purchase intention of young Indian consumers. Experiential values, sensitivity to normative influences, and pragmatic values play an important role in determining the luxury purchase intentions of young Indians. In contrast, the unique value was found to have a negligible impact on consumer’s intention to purchase luxury goods.	Empirical, quantitative methods	728 young consumers in India

Source: Author's synthesis and analysis

For luxury fashion products, the perceived luxury value of consumers can directly explain why they choose to buy a particular luxury fashion product (Wiedmann et al., 2009; Choo et al., 2012; Ketsuree Vijaranakorn et al., 2016; Hiroko Oe et al., 2017; Sheeltan Jain, 2019). The above research results have confirmed the role of perceived value on consumers' intention to buy luxury products.

In the context of research in Vietnam, besides theories used by many scholars to study consumer intentions/behavior such as TRA, TPB, the consideration of applying a theory is contemporary. as perceived value theory is needed to clarify consumers' intention to purchase luxury fashion products. Therefore, the author proposes the following research hypotheses:

H1: The luxury perceived value of customers has a positive impact on the intention to buy luxury fashion products of Vietnamese consumers.

H1a: Utility value has a positive effect on the intention to buy luxury fashion products of Vietnamese consumers.

H1b: Hedonic value has a positive impact on the intention to buy luxury fashion products of Vietnamese consumers.

H1c: Symbolic value has a positive impact on the intention to buy luxury fashion products of Vietnamese consumers.

H1d: Economic value has a positive impact on the intention to buy luxury fashion products of Vietnamese consumers.

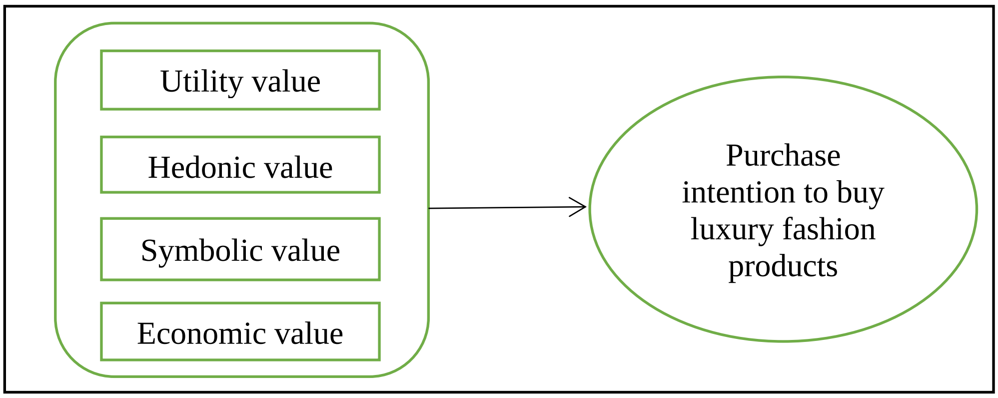

Figure 1: Research model of consumers' intention to buy luxury fashion products

4. Discussion and Conclusion

4.1. Meaning of research

There are different implications of this research: First, this research provides relatively valuable insight into factors of consumer perceived value. The concepts, characteristics, and classifications of luxury products are presented as a premise for assessing the purchasing intention of consumers for a specific luxury segment - luxury fashion products. Secondly, based on the synthesis, classification, and analysis of documents, the article has presented a theoretical framework that provides an overview of the customer's perceived value: concept, constituent elements (utility value, hedonic value, symbolic value, and economic value). Utility values include excellence and functionality; hedonic values including aesthetics and pleasure; symbolic values determined by experience, self-expression and social positioning; and finally economic value. Thirdly, the article attempts to review the researches that address the influence of perceived value on the intention/behavior to purchase luxury fashion products of consumers. From there, a theoretical research model and hypotheses are proposed to evaluate the impact of perceived value on the intention to buy luxury fashion products in the research context in Vietnam. Specifically, the luxury value of customers (including component factors: utility value, hedonic value, symbolic value, economic value) has a positive impact on the intention to buy luxury fashion products of Vietnamese consumers. The article attempts to present a theoretical framework that can help to better understand, analyze and explain consumer purchasing behavior towards luxury fashion products.

4.2. Limits and scope of future research

The scope of this study is limited to luxury fashion products and therefore, future studies can be carried out regarding other luxury products such as luxury travel, luxury furniture, etc. luxury furniture, etc., to get more comprehensive insights into consumer behavior towards different luxury segments. In addition, the paper makes theoretical conclusions based mainly on the review and analysis of previous studies. Therefore, it is necessary to have a quantitative study based on the proposed theoretical model in the future. The theoretical model developed in this study needs further confirmation by experimentally verified hypotheses. Besides, within the scope of the article, the author only mentions the influence of perceived value on consumers' intention to buy luxury fashion products. However, to explain more deeply the intention to buy, it is necessary to add other factors to the research model. This also opens up new research directions in the future for myself and other researchers.

5. References

1. Aksoy Hasan and Olaide Yusuff Abdulfatai (2019), *Exploring the impact of religiousness and culture on luxury fashion goods purchasing intention: A behavioral study on Nigerian Muslim consumers,* Journal of Islamic Marketing, Issue 10(3),Page: 768 -789.
2. Berthon P., L. Pitt and M. Parent (2009), *Aesthetics and Ephemerality: Observing and Preserving the Luxury Brand*, California Management Review, Issue 52(1),Pages: 45-66.
3. Bilge Hümeyra Aslım (2015), *Luxury Consumption: Literature Review,* Journal of Humanities and Social Sciences, Issue 18(1),Pages: 35 - 55.

4. Bopeng Zhang Jung-Hwan Kim (2012), *Luxury fashion consumption in China: Factors affecting attitude andpurchase intent*, Journal of Retailing and Consumer Services, No.20, Page: 68-79.

5. Chadha Radha and Paul Husband (2006), *The Cult of the Luxury Brand: Inside Asia's Love Affair with Luxury*, 13th Edition,

6. Chan Ricky Y. K. (2001), *Determinants of Chinese Consumers' Green Purchase Behavior*, Journal of Psychology & Marketing, No. 18(4),Pages: 389-413.

7. Choo Ho Jung, Heekang Moon, Hyunsook Kim and Namhee Yoon (2012), *Luxury customer value*, Journal of Fashion Marketing and Management, Issue 16(1),Pages: 81-101.

8. Company Bain & (2015), *Luxury Goods Worldwide Market Study*, 2021], from the link: http://www.bain.de/home/publikationen/studien/

9. Company Bain & (2020), *Global private equity report 2021*, Boston, Massachusetts 02116 USA .

10. Hanzaee Kambiz Heidarzadeh and Fereshteh Raeis Rouhani (2013), *Investigation of the effects of luxury brand perception and brand preference on purchase intention of luxury products*, African Journal of Business Management, Issue 7(18),Pages: 1778–1790 .

11. Hein Klaus (2012), *The concept of luxury brands*, 2nd ed., Germany: Technische Universität Berlin, 100.

12. Hung Kuang-peng, Annie Huiling Chen, Norman Peng, Chris Hackley, Rungpaka Amy Tiwsakul and Chun-lun Chou (2011), *Antecedents of luxury brand purchase intention*, Journal of Product & Brand Management, Issue 20(6) ,Pages: 457–467.

13. Jain Sheetal (2019), *Exploring relationship between value perception and luxury purchase intention: A case of Indian millennials*, Journal of Fashion Marketing and Management, No. 23(4),Pages: 414-439.

14. Jain Sheeltan (2021), *Role of conspicuous value in luxurypurchase intention*, Journal of Marketing Intelligence & Planning, No. 39(2),Page: 169-185.

15. Kapferer, Jean-Noël (1997), *Strategic Brand Management: Creating and Sustaining Brand Equity Long Term*, 2nd ed., London: Kogan Page. 30. Available at: http://www.campaignlive.co.uk/news/567957/Prestige-brands-Luxury-gap/.

16. Nguyen Thi Tuyet Mai, Nguyen Thi Thu Hang, Cao My Dung, Pham Thi Thanh Phuong and Luu Quy Thang (2016), *Influence of cultural and lifestyle factors on green consumption intentions of consumers Children in Hanoi*, Economic & Development Magazine, No. 231(2),Page: 113-120

17. Oe Hiroko, Pornchnit Sunpakit, Yasuyuki Yamaoka and Yan Liang (2018), *An exploratory study of Thai consumer's perceptions of "conspicuousness": a case of luxury handbags*, Journal of Consumer Marketing, Issue 35(6),Page: 601-612.

18. R. Srinivasan R.K. Srivastava, Sandeep Bhanot (2014), *Impact of age on purchase behavior of luxury brands*, Journal of Research in Business and Management, Issue 2(9),Pages: 19-32.

19. Reis Emilia (2015), *Inlulencing factors on consumer buying behavior of luxury goods – A research onthe buying behavior of young consumers in Finland*, Master thesis, University of TURKU UNIVERSITY OF APPLIED SCIENCES.

20. Smith J. Brock and Mark Colgate (2007), *Customer Value Creation: A Practical Framework*, Journal of Marketing Theory and Practice, Issue 15(1),Page: 7-23.

21. Srinivasan Dr. R., Dr. R.K. Srivastava and Prof. Sandeep Bhanot (2014), *Impact of age on purchase behavior of luxury brands*, Journal of Research in Business and Management, Issue 2(9),Pages: 19-32.

22. Vickers Jonathan S. and Franck Renand (2003), *The Marketing of Luxury Goods: An exploratory study – three conceptual dimensions*, The Marketing Review, (3),Pages: 459-478.

23. Vigneron F. and L.W. Johnson (1999), *A Review and a Conceptual Framework of Prestige-seeki*

24. Wiedmann K.-P., N. Hennigs và A. Siebels (2007), *Measuring Consumers' Luxury Value Perception: A Cross-cultural Framework, Academy of Marketing Science Review*.

25. Yadav Rambalak và Govind Swaroop Pathak (2016), *Young consumers' intention towards buying green products in a developing nation: Extending the theory of planned behavior, Journal of Cleaner Production*, No.12(4).

26. Younus Sohail, Faiza Rasheed và Anas Zia (2015), *Identifying the Factors Affecting Customer Purchase Intention*, Global Journal of Management and Business Research: A Administration and Management, No.15(2).

FACTORS INFLUENCING YOUTH'S INTENTION TO ORDER ONLINE FOOD DELIVERY SERVICES IN HANOI

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Abstract

The main purpose of this study was to integrate trust and perceived risk into the theory of planned behavior (TPB) and the technology acceptance model (TAM) to explore factors influencing youth's intention to order online food delivery services (OFDS) in Hanoi, then to provide some practical implications to develop OFDS. The research adopted the structural equation modeling (SEM) to examine the data. The final sample consisted of 435 young people between the age of 15 and 25 in Hanoi. The study used the primary data collected from November 2020 to the end of January 2021 and the second data collected in the last 5 years. As a result, the findings showed that the attitude was the strongest predictor of the intention, followed by the trust. Low-magnitude predictors included subjective norms and perceived behavioral control, while perceived risk had no impact on the attitude and intention, even it positively affected trust. Besides, perceived usefulness had direct influence on the attitude, while perceived ease of use indirectly affected the attitude through perceived usefulness. Furthermore, there were differences in the impact of factors between males and females, between people having less than 5-million income and people having 5-million-or-more income. Hence, this study offered the substantial practical recommendations for OFDS developers and restaurants, and provided a mapping of the factors influencing consumers' intention to use OFDS.

Keywords: *behavioral intention, online food delivery services, technology acceptance model, theory of planned behavior.*

1. Introduction

The rationale of the study

In the last few years, several new technologies have affected the food and beverage sector and players' strategies. In particular, advancements in food delivery services are changing consumers' food buying habits. Online food delivery services (OFDS) is an innovative way to purchase food. With the increasing use of Internet and smartphones, the food delivery market is being reshaped. Through online websites and applications, OFDS provide consumers convenience and numerous food options from many different food retailers. Besides, these services may become an opportunity for restaurants to increase their revenues with the simplified process of service, payment, … Hence, the global OFDS market is in the robust growth. According to the report by IMARC Group (2018), the global OFDS market grew at 84.6 billion USD. In additon, according to Statista (2019), its revenue amounted to approximately 94.38 billion USD, resulting in a market volume of 200 billion USD by 2025.

An increase in smartphone users and Internet penetration has give a boost to OFDS in the world and there is no exception in Vietnam with 64 million people (about 66% of the population) accessing and using the Internet (Digital Marketing, 2019). According to the data of Statista (2020), Vietnam's revenue in the OFDS market amouted to about 274 million USD. The market is expected to reach 377 million USD in 2021 and 557 million USD in 2024. Not to mention, according to the research by Kantar TNS (2020), this thriving market is set to supersize to a hefty 449 million USD in 2023. According to Q&Me's survey (2021), 51% of consumers in Hanoi and TP. HCM has used OFDS. Especially, this number has increased up to 75% when the COVID-19 pandemic has broken out, because most Vietnamese people are practicing social distancing.

Thus, OFDS is playing a pivotal role. However, if businesses want to have great advantages to maintain and develop their business, it is necessary to grasp customer psychology. Factors that influence the intention to use OFDS often vary with different customers of each geographic area, gender, age, occupation and income, ... With the desire to find out the factors affecting the intention to use OFDS, we select the topic ***"Factors influencing youth's intention to order online food delivery services in Hanoi***" to identify and examine the important factors affecting the youth's intention to use OFDS. This study not only contributes scientific implications to OFD market, but also brings practical recommendations to enterprises in building business strategies.

Related Literature Reviews

There have been many studies investigating the main driver of online shopping. Rong Li et al. (2007) demonstrated that trust is an important factor affecting the intention in online shopping of consumers in China. Some studies focused on the characteristics of technology (Ma Mengli, 2011; Nguyen Thi Kim Van & Nguyen Khanh Ngoc, 2013), while others used the generic behavioral models (Sita Mihra, 2014; Shyh-Hwang Lee & Hoang Thi Bich Ngoc, 2010). However, studies on the intention to order online food delivery services are limited (Hansen et al.,2004; Alagoz & Hekimoglu, 2012; Quevedo-Silva et al., 2016; Lee et al., 2017). In Vietnam, there are not many research on this field.

Moreover, the lack of explanation about the positive effect of perceived risk has left a research gap. In addition, most of the above studies are conducted in foreign countries with the different characteristics of political, economics, social and culture from Vietnam in general and Hanoi in particular, leading to the intention to use OFDS is different. In Vietnam, although online shopping has developed and attracted the attention of the public, there are general studies on online shopping. For each product and each age range, factors' influence on consumers' buying intentions will vary in degree.

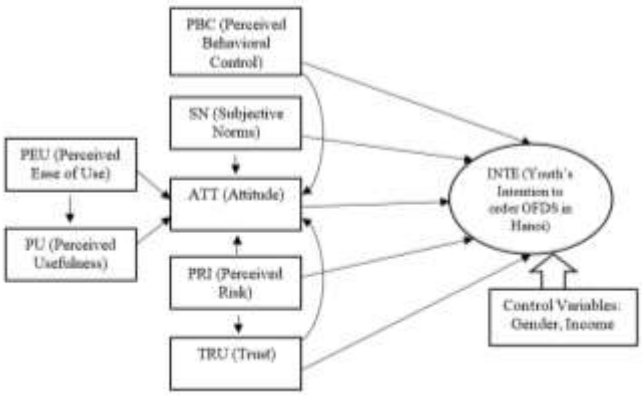
The aim of this research is to fill the gap on the drivers behind the consumer's intention to adopt OFDS, and to analyse the effects of factors. In this stusy, we integrate trust and perceived risk into the theory of planned behavior (TPB) and the technology acceptance model (TAM) to explore factors influencing youth's intention to order online food delivery services (OFDS) in Hanoi, then to provide some practical implications to develop OFDS.

Theoretical Framework

Currently, there is still no specific concept of online food delivery service, the research only stops at investigating: "What is online shopping?". However, according to the way of business and consumption, we can understand this as a service that provides a variety of different dishes to diners through applications, websites on smartphones and mobile devices.

Meanwhile, the concepts of purchase intention are somewhat more diverse. According to Ajzen (1991), "intention is motivating and represents the level of effort an individual is willing to put into performing a particular behavior". By 2012, Park had simplified it by defining "intent to buy as what we think we will buy". There are also a few other studies but in general we can understand "Purchase intention is the probability that a customer will buy a product or service".

In this research, we propose the following model:



In both the TPB (Ajzen, 1991) and the TAM (Davis, 1989), the attitude (ATT) towards a given behaviour has a relevant effect on the behavioral intention (BI). According to Ajzen (1991), attitude refers to "the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question". Hansen et al. (2004) confirmed that consumers' ATT towards online grocery shopping was the most important predictor of BI in online grocery shopping. Other studies focussed on using apps to purchase food also highlighted the importance of ATT BI (Lee et al., 2017; Yeo et al., 2017; Cho et al., 2019). Accordingly, we propose the following hypothesis:

[H1]: "Attitude positively influences the behavioural intention to use OFDS".

At the same time, according to the TPB model, perceived behavioral control (PBC) and subjective norms (SN) influenced BI. Ajzen (2002) defined PBC as the "subjective degree of control over performance of the behaviour itself". Various studies confirmed that PBC is a relevant factor in the BI to use OFD. For example, Hansen et al. (2004) showed the mportance of considering PBC in analysing the BI to purchase food online. Moreover, Barkhi et al. (2008) revealed PBC affected consumers' ATT towards online shopping. Thus, we propose the following hypotheses:

[H2a]: "Perceived behavioral control positively influences the behavioural intention to use OFDS".

[H2b]: "Perceived behavioral control positively influences the attitude towards OFDS".

Subjective norms – "the perceived social pressure to perform or not to perform the behavior" (Ajzen, 1991). Several scholars have found a significant positive link between SN and BI in online grocery shopping (Hansen et al., 2004; Piroth et al., 2020). In addition, when customers perceive that their friends, family and other relevant people are positively oriented towards using OFDS, they will be more sympathetic towards adopting it. Thus, we propose the following hypotheses:

[H3a]: "Subjective norms positively influences the intention to use OFDS".

[H3b]: "Subjective norms positively influences the attitude towards OFDS".

In the TAM, Davis (1989) identified two main cognitive responses predicting ATT: perceived ease of use (PEU) and PU. Davis (1989) defined PEU as "the degree to which a person believes that using a particular system would be free of effort". In OFDS, PEU refers to ease of making orders, choosing food or restaurants and tracking orders (Ray et al., 2019), while PU refers to the perceived utility and advantages of purchasing food on apps (Piroth et al., 2020). Several studies highlighted the positive influences of PEU and PU on ATT towards OFDS (Alagoz and Hekimoglu, 2012; Cho et al., 2019). Moreover, Lee et al. (2017) confirmed Davis's idea (1989) that PEU influenced PU. Based on this, the following hypotheses are proposed:

[H4]: "Perceived ease of use positively influences the attitude towards OFDS".

[H5]: “Perceived usefulness positively influences the attitude towards OFDS”.

[H6]: “Perceived ease of use positively influences the perceived usefulness of OFDS”.

Several scholars have studied how trust (TRU) influences BI (Alagoz & Hekimoglu, 2012; Ashraf et al., 2019). In food delivery, Alagoz & Hekimoglu (2012) showed that TRU improved the ATT towards OFDS. Cho et al. (2019) confirmed these results, finding that in OFDS, TRU significantly influenced both ATT and BI. Therefore, we propose the following two hypotheses:

[H7a]: “Trust in OFDS positively influences the behavioural intention to use OFDS”.

[H7b]: “Trust in OFDS positively influences the attitude towards OFDS”.

The role of perceived risk in the intention to adopt internet services is increased because customers perform their transactions with no face to face contact with the supplier’s personnel and no cash on hand. By using internet services, customers are concerned about potential financial risks such as the loss of their money during the transaction process and perceived threats for privacy and personal information leakage. Based on the above, it is expected that perceived risk negatively affects customers’ trust, attitute and intentions to adopt OFDS. Thus, the following hypotheses will be tested:

[H8a]: “Perceived risk negatively influences the behavioural intention to use OFDS”.

[H8b]: “Perceived risk negatively influences the attitude towards OFDS”.

[H8c]: “Perceived risk negatively influences the trust in OFDS”.

2. Method

Sample and Data Collection:

For the main survey, we collected the data from young people between the age of 15 and 25 in Hanoi from November 2020 to the end of January 2021, giving out the survey and sharing it on Facebook. We collected 450 questionnaires, but only 435 were complete. The sample represented males (26.67%), females (71.95%) and LGBT (1.38%). For the income, we divided users in two classes according to their income in a one-month period: less than 5 million VND (89%) and 5 million or more (11%).

Measures and Questionaire Development:

Measurement items used to evaluate all variables were cited from existing research and modified to be suitable in the context of OFDS. We have developed a research questionnaire adapting TAM and TPB constructs to fit our research context. All 34 items were measured on a 5-point Likert-type scale, which ranged from strongly disagree (1) to strongly agree (5). PBC (4 items), ATT (5 items) and SN (6 items) were adapted from Ajzen

(1991), Lin (2007), Bhattacherjee (2000). The three items for PEU and the five items for PU were adapted from Davish (1989), Lin (2007), Ha Ngoc Thang & Nguyen Thanh Do (2016) and us. TRU (4 items) were adapted from Gefen et al. (2003), Jarvenpaa et al. (2000); McKnight et al. (2002). PRI (7 items) were adapted from Pavlou (2003), Forsythe et al. (2006), Corbitt et al. (2003). Finally, those for BI (three items) were adapted from Ajzen (1991), Davish (1989).

Afterwards we tested our model by using Cronbach's Alpha Reliability Analysis, Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), Structural Equation Modeling (SEM) and Multigroup Analysis.

3. Results

3.1. Cronbach's Alpha and Exploratory Factor Analysis (EFA)

Cronbach's Alpha results gave us some numbers from 0.832 to 0.893, which indicated a high level of internal consistency for each scale with this specific sample.

Table 1. Results of Cronbach's Alpha and Exploratory Factor Analysis

Cron-bachs Alpha		**Questions**	**Component**						
			1	**2**	**3**	**4**	**5**	**6**	**7**
0.893	**PRI6**	Food is not what I expected	.799						
	PRI4	OFDS is not safe because I can not sample the food before buying	.795						
	PRI1	Credit card number theft	.793						
	PRI5	OFDS is not safe because I can not see the real food before buying	.792						
	PRI2	Personal information theft	.790						
	PRI7	I can lose much money when using OFDS	.715						
	PRI3	Food is not delivered to me	.703						
0.885	**SN2**	My family think that OFDS is a good idea		.803					
	SN4	My important people and idols encourage me to use OFDS		.771					

Cron-bachs Alpha		Questions	Component						
			1	2	3	4	5	6	7
	SN5	The information about OFDS is great		.767					
	SN3	I use OFDS because many people use them		.744					
	SN6	The media affects my intention to order OFDS		.741					
	SN1	My friends think that OFDS is a good idea		.712					
0.883	**PBC3**	I have time to order OFDS			.807				
	PBC4	I have money to order OFDS			.796				
	PBC2	I have smartphone, Internet to order OFDS			.771				
	PBC1	I am confident in my ability to use OFDS			.749				
0.852	**ATT1**	I like OFDS				.719			
	ATT2	Using OFDS is a good idea				.697			
	ATT3	Using OFDS is the best way in the Industry 4.0 era				.667			
	ATT4	OFDS is attractive to me				.643			
	ATT5	OFDS is well suited to my habit				.581			
0.852	**PU2**	I can buy cheaper food					.836		
	PU3	OFDS gives me some food which there is not in my place					.810		
	PU1	OFDS is useful for comparing a variety of food					.764		
	PU4	Using OFDS saves me time					.550		

Cron-bachs Alpha		Questions	Component						
			1	2	3	4	5	6	7
0.832	**TRU1**	I believe OFDS's websites and applications are reliable						.763	
	TRU3	I trust OFDS provides safe deal						.749	
	TRU2	I trust OFDS's websites and applications to do the job right						.742	
	TRU4	I trust OFDS brings the best benefits to me						.632	
0.893	**PEU2**	Using a website or a food delivery application is easy for me							.736
	PEU3	I easily search food and track the order							.698
	PEU1	I find it easy to order food through the Internet							.697

After the first test, PU5 was eliminated because it contributed to two factors. For the final stage, the factorability of the remaining 33 items was examined. The KMO (0.919) value was large and Bartlett's test of sphericity (Chi-square = 8978.334, df = 528, p = 0.000) was significant, implying that the present research had an adequate sample size and correlations among at least some of the items. The rotated component matrix was used from these 33 items; 7 components were extracted and they were able to capture 69.629% of the variability in the data.

3.2. Confirmatory Factor Analysis (CFA)

The results of CFA indicated that the measurement model had a proper fit to the data (Chi-square/df = 2.090, CFI = 0.942, GFI = 0.872, TLI = 0.934, RMSEA = 0.050). In the past, Hair et al. (2010) found that it was necessary to estimate the factor loadings for each construct to establish the reliability and validity. The reliability was evaluated on the basis that composite reliability (CR) should be greater than 0.7. Moreover, the average variance extracted (AVE) was used to test for the convergent validity. It is recommended that the AVE should be greater than 0.5. Finally, the discriminant validity was assessed by comparing AVE values and MSV (maximum squared variance) values. All constructs' AVE values should exceed MSV values. Hence, the discriminant validity was also established.

Table 2 showed that the reliability, the convergent validity and the discriminant validity were supported in this study.

Table 2. CR, AVE, MSV values

	CR	**AVE**	**MSV**
TRU	0.820	0.533	0.504
PRI	0.859	0.504	0.116
SN	0.887	0.568	0.372
PBC	0.872	0.634	0.503
ATT	0.843	0.519	0.504
PU	0.868	0.623	0.428
PEU	0.894	0.738	0.503

3.3. Structural equation modeling (SEM)

SEM was conducted to assess the hypotheses. The SEM results revealed an appreciable model fit with the data (Chi-square/df = 2.499, CFI = 0.912, GFI = 0.835, TLI = 0.902, RMSEA = 0.059). Table 3 showed the detailed results from testing the hypotheses. The results supported and confirmed all hypotheses except for 4 ones including H4, H8a, H8b (p-value > 0.05) and H8c (β=0.073 > 0).

Table 3. Hypothesis Decision

Hypothesis				**Standardized factor loadings**	**P-value**	**Decision**
H1	**INTE**	<---	**ATT**	.333	***	Accepted
H2a	**INTE**	<---	**PBC**	.131	.026	Accepted
H2b	**ATT**	<---	**PBC**	.282	***	Accepted
H3a	**INTE**	<---	**SN**	.181	.002	Accepted
H3b	**ATT**	<---	**SN**	.310	*******	Accepted
H4	**ATT**	<---	**PEU**	.077	**.373**	Rejected
H5	**ATT**	<---	**PU**	.258	***	Accepted
H6	**PU**	<---	**PEU**	.557	***	Accepted
H7a	**INTE**	<---	**TRU**	.226	***	Accepted
H7b	**ATT**	<---	**TRU**	.292	***	Accepted

Hypothesis				**Standardized factor loadings**	**P-value**	**Decision**
H8a	**INTE**	<---	**PRI**	.064	**.226**	Rejected
H8b	**ATT**	<---	**PRI**	.024	**.636**	Rejected
H8c	**TRU**	<---	**PRI**	**.373**	***	Rejected

3.4. Multigroup Analysis

The results of multigroup analysis revealed p-value = 0.04 < 0.05, implying that the relationships between factors and the intention to order OFDS were found to be significantly different between males and females, and between people having less-than-5-million VND income and people having 5-million-or-more income.

Table 4. Results of Multigroup Analysis

			Males	**Females**	**People having less-than-5-million VND income**	**People having 5-million VND-or-more income**
PU	<---	PEU	.514	.551	.584	.364
TRU	<---	PRI	.424	.294	.414	.047
ATT	<---	PU	.363	.233	.266	.229
ATT	<---	TRU	.176	.294	.267	.616
ATT	<---	SN	.486	.232	.319	.233
ATT	<---	PBC	.200	.358	.270	.587
INTE	<---	PBC	.079	.171	.157	.031
INTE	<---	SN	.061	.241	.216	.046
INTE	<---	TRU	.357	.180	.187	.478
INTE	<---	ATT	.384	.277	.328	.199

4. Discussion and Conclusion

This paper amongst the first attempts to explore factors influencing youth's behavioral intention to order OFDS by integrating the TPB (Ajzen, 1991), the TAM (Davish et al., 1989) and extending them to consider both the role of trust and perceived risk. This integrated model showed several interesting results both supporting and negating the previous studies.

Firstly, attitude was determined to be the strongest predictor of intention. The attitude towards using OFDS had a positive relationship with the intention to use the services. It was in line with the studies conducted by Ajzen (1991), Yeo et al. (2017), Lee et al. (2017) and Wang & Somogyi (2018).

Secondly, PBC had a positive influence on the intention. This confirmed the previous research such as Ajzen (1991), Hasen et al. (2004), Quevedo-Silva et al. (2016). Furthermore, PBC also affected ATT. But PBC was found to slightly influence BIs and ATT. Perhaps because members of Gen Z are true digital natives. From earliest youth, they have been exposed to the Internet, to social networks and to mobile systems.

Thirdly, the results of the data analysis showed that SN had a positive impact on INTE and ATT. This supported previous findings that the adoption of OFDS was more linked to the relevant other's opinions than to the individual's own attitude (Ajzen, 1991; Roh & Park, 2019; Alalwan, 2020).

Besides, our study confirmed the important role of trust in the formation of the intention to use. It could be interpreted that when consumers were able to trust the OFD platforms, they would have a better attitude towards using these services and were prone to use them. The significant impact of trust on the attitude and the intention to order OFDS supported the previous studies which demonstrated that trust was the significant predictor of the intention to use OFDS (Alagoz & Hekimoglu, 2012; Ashraf et al.,2019).

At the same time, the study's findings also indicated that PU directly affected ATT. It showed that consumers' attitude towards OFDS was influenced by how useful they find it. However, TAM's other factor, PEU only had an indirect effect on ATT through PU.

Finally, even if the previous research such as Hsin Chang & Wen Chen (2008), Nittala (2015) supported the negative influence of PRI, our study found that there was no significant relationship between PRI and ATT, also INTE. In addition, there was a positive relationship linking PRI and TRU. Perhaps because the sudden, unexpected, and virulent spread of the COVID-19 brought about a change in consumers' perception and behavioral intention, and many businesses made a strong shift towards online delivery services. People kept using OFDS as often after there were some social distancing measures due to the COVID-19 outbreak.

Recommendations

Our study provided some practical recommendations for these platform managers. Our data confirmed the importance of the perceived usefulness. One of the OFD's usefulness is cost and time saving. People enjoy having the ability to order food at any time and in any place without wasting precious time buying food and/or cooking it at home, and they like to have the opportunity to choose food from different vendors to suit their fleeting desires. Thus, these results recommend that managers should define policies to help users to order and receive all their food together. Moreover, managers could also define promotional strategies to encourage their users' intention to order OFDS through voucher programmers. Besides, OFDS developers should emphasize the key attributes of the ordering task and design OFDS that capitalize on those attributes. For example, the order interfaces should be designed with concise information.

Furthermore, the results revealed that consumers' intentions to use OFDS are tied with their trust in the services. OFDS developers and restaurants should capitalize on this relationship by providing the relevant information such as pictures, ingredients, price, … so that the amount of information presented on the website does not constitute the bottleneck, thereby maintaining consumers' focus on the task. Besides, OFDS developers and restaurants must ensure that the nature of services provides meets and corresponds to the anticipation of the services customers expected. OFDS, which integrates service quality dimensions of assurance, efficiency, reliability, responsiveness, tangibles, and convenience, has the potential to influence the intention of the customers. In addition, OFDS managers need to focus on customer service, both before and after they buy and use the services since it is a key driver of business success. They should encourage service agents to ask questions when interacting with customers to know about customers and their needs.

Although the findings did not support all hypotheses about perceived risk, it would be necessary to make these perceived risks less relevant to develop OFDS effectively in the long-term future. Managers should define policies on high security on customer's information and account to reduce their negative opinions.

Meanwhile, managers should also develop new social media to advertise OFDS. For example, they can link between TikTok and OFDS because TikTok has become Gen Z's one of the most favorite social network channels. TikTok statistics (2020) showed there were 13 million Vietnamese people including the huge number of youths using TikTok. Thus, OFDS managers should pay more attention to trends on TikTok to create relevant content of OFDS to attract more potential customers.

These findings will probably have some intriguing implications for food businesses (e.g., restaurants) and policymakers or authorities as well. Food venues should focus their efforts on getting the most out of OFDS, creating dedicated customer service channels to enhance OFD-related operations. Policymakers and authorities should pay attention to OFDS and introduce and implement specific regulations to guarantee a high level of service quality.

Conclusions

OFDS is becoming more popular day by day with the increase in the usage of the Internet, so understanding customers' needs has become a challenge for marketers. Our study findings indicated that there were four factors such as attitude, trust, subjective norms, and perceived behavioral control which affected customers' intentions to use OFDS. The study also concluded the customer's attitude supported trust, subjective norms and perceived behavioral control and perceived usefulness. The results on perceived risk reveal that it had no significant effect on customers' attitude and intention. As a result, our study provided some practical recommendations for food businesses, policymakers, and authorities to develop OFDS.

5. References

1. Ajzen, I. (1991), *The theory of planned behavior*, Organizational Behavior and Human Decision Processes, Vol. 50 No. 2, pp. 179-211.

2. Ajzen, I. and Fishbein, M. (1980), *Understanding Attitudes and Predicting Social Behavio*r, Prentice Hall, New Jersey.

3. Alagoz, S.M. and Hekimoglu, H. (2012), *A study on TAM: analysis of customer attitudes in online food ordering system*, Procedia – Social and Behavioral Sciences, Vol. 62, pp. 1138-1143.

4. Bauer, Raymond A. (1960), *Consumer Behavior as Risk Taking*, in Dynamic Marketing for a Changing World, R. S. Hancock. (Eds.), American Marketing Association, Chicago, IL, 1960, pp.389-398.

5. Davis, F.D. (1989), *Perceived usefulness, perceived ease of use, and user acceptance of information technology*, MIS Quarterly, Vol. 13 No. 3, pp. 319-340.

6. Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2010), *Multivariate data analysis (7th Edition)*, Pearson Prentice Hall.

7. Hansen, T., Jensen, J.M. and Solgaard, H.S. (2004), *Predicting online grocery buying intention: a comparison of the theory of reasoned action and the theory of planned behavior*, International Journal of Information Management, Vol. 24 No. 6, pp. 539-550.

8. Hsin Chang, H., & Wen Chen, S. (2008), *The impact of online store environment cues on purchase intention: Trust and perceived risk as a mediator*, Online Information Review, 32(6), 818-841.

9. Lin, H. F. (2007), *Predicting consumer intentions to shop online: An empirical test of competing theories*, Electronic Commerce Research and Applications, 6(4), 433-442.

10. Lee, E.Y., Lee, S.B. and Jeon, Y.J.J. (2017), *Factors influencing the behavioral intention to use food delivery apps*, Social Behavior and Personality: An international journal, Vol. 45 No. 9, pp. 1461-1474.

11. Lee Shyh-Hwang, and Hoang Thi Bich Ngoc (2010), *Investigating the on-line shopping intentions of Vietnamese students: an extension of the theory of planned behaviour*, World transaction of engineering and technology education, No. 4, Vol. 8.

12. Ma Mengli, (2011), *Study on Factors Affecting Consumers' Attitude Towards Online Shopping and Online Shopping Intention in Bangkok, Thailand*, Proceedings of the 7th International Conference on Innovation & Management.

13. Quevedo-Silva, F., Freire, O., de Oliveira Lima-Filho, D., Brand~ao, M.M., Isabella, G. and Moreira, L.B. (2016), *Intentions to purchase food through the internet: developing and testing a model*, British Food Journal, Vol. 118 No. 3, pp. 572-587.

14. Sita Mishra (2014), *Adoption of M-commerce in India: Applying Theory of Planned Behaviour Model*, Journal of Internet Banking and Commerce, April 2014, Vol. 19, No.1.

THE MODERATING ROLE OF PERCEIVED SUPERVISOR SUPPORT IN FACE CULTURE AND CREATIVITY RELATIONSHIP

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Abstract

Creativity is admitted to be the lifeblood of the majority of the most successful organizations and highlighted as the key ingredient for long-term organizational sustainable development. The latest research in the field reveals that creativity includes two stages: idea generation and idea implementation, in which the latter stage could be significantly limited because of the effect of face culture. This is because members in face culture avoid creativity-related activities, such as "rocking the boat" and risking failure in the public. This paper focuses on a new perspective regarding the moderator role of perceived supervisor support (PSS) in mitigating the effect of face on creativity. It concludes that PSS mitigates the negative effect of face culture on creativity. In addition to the theoretical contribution, the paper also suggests implications to create an environment for creativity by emphasizing the perception of supervisor's support on both task and relationship-oriented aspects, creating a cooperative atmosphere among coworkers and considering workers' positions while promoting creativity.

Keywords: *Creativity, Face culture, Organizational behavior, Perceived supervisor support*

1. Introduction

Nowadays, fast-paced changing environments lead to increasing complexity and make creativity and innovation become important sources of competitiveness (Nouri et al., 2014). In 2000, Ng Aik-Kwang published a book named *"Why Asians are Less Creative than Westerners"*. Since then, there have been fruitful scientific gains in the relationship between culture and creativity, and innovation (Erez et al, 2015). However, there are inconsistent findings on the effect of culture on creativity (Nouri et al, 2014). A huge range of research supports the argument that cultural values influence creative performance (Jaquish & Ripple, 1984; Harzing & Hofstede, 1996; Goncalo & Staw, 2006; Niu, Zhang, &

Yang, 2007). On the contrary, Chen et al (2002), Niu & Sternberg, 2002; Nouri et al (2013), and Riquelme (2002) find that there are no significant effects of culture on creativity. These inconsistencies motivate researchers to submit a call to search for the missing piece of the puzzle, the moderators of the culture-creativity relationship in order to overcome stereotypes about culture and creativity and enable identifying working conditions that enhance or attenuate the effect of culture on creativity (Nouri et al, 2014; Erez et al, 2015).

The research on the social context at work as a moderating factor on creativity has emerged for the recent period of time since the call from the Journal of Organizational Behavior (2015), there are several findings representing different levels of analysis from the most micro-level of the individual to the most macro-level of the country, to answer the question: to what extent social context can variate the effect of culture on creativity (Erez et al., 2015). They indicate that such relationships can be manipulated by the working context of power distance and the presence of a supervisor (Nouri et al, 2015). These include face logic endorsement (Spektor et al, 2015), foreign experiences (Morris, 2015), different models of negotiation (Gelfand, 2015), and other important elements of the working context. The majority of the researchers admit the importance of social context at work because it is likely to activate the shared cultural values and norms that guide appropriate behaviours (Nouri et al, 2015). Particularly in this research authors focus on investigating the moderating role of perceived supervisor support, which is an important aspect of social context at work, in the relationship between culture and creativity. This element has been concluded to affect an individual's creativity (Amabile et al., 1996; Andrews, 1967; and Oldham & Cummings, 1996). In addition, perceived supervisor support create a general organizational climate that enhances positive perspectives and mitigate the destructive side of culture (Fass & Tubman, 2002; Feldman, 2007; Mattanah, Lopez, & Govern, 2011; Robbins et al., 2009; Oldham and Cummings, 1996)

Besides, regarding a particular perspective of culture, it is not as diverse research examining the relationship of creativity and culture, particularly, on the perspectives of face culture. The differentiation of face logic is regarded as a critical feature of West and East culture (Kim & Nam, 1998 cited in Miron-Spektor, 2015). Research shows that people in all cultures want to be respected by others (Earley, 1997; Ting-Toomey, 1994). However, individuals across cultures vary in their endorsement of face logic; also, motivation to preserve their own face and others' differentiates among cultures. According to Kim and Nam (1998), the logic of face is predominately endorsed in East Asia but less so in Western cultures.

In this paper, we will examine if face culture can influence creativity and whether or not perceived supervisor support would play as a moderator of that relationship.

1.1. The relationship between Face Culture and Creativity

Creativity has been defined in various ways throughout history (*Boorstin, 1992; Dudek, 2003*). Amabile (1983, 1996) is among the most popular scholars to recognize the process of creativity. This scholar described employee creativity as the creation of new and useful combinations regarding products, services, processes, and procedures. Since then, creativity has been re-examined many times. Michael Mumford suggested: "*Over the course of the last decade, however, we seem to have reached a general agreement that creativity involves the production of a novel, useful products*" (Mumford, 2003). Sternberg (2011) defined creativity as the production of "*something original and worthwhile*". Another definition given by Torrance (1974) describes creativity as a process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies, and so on; identifying the difficulty; searching for solutions, making guesses, or formulating hypotheses about the deficiencies: testing and retesting these hypotheses and possibly modifying and retesting them; and finally communicating the results. In a nutshell, the authors agree that creativity involves the process of the early-cycle including creative-oriented behaviors of ideas generation regarding either product, services, processes, procedure, and late-cycle related to implementation-oriented behaviors of ideas implementation.

"Face" is acknowledged as a human universal; however, the salient level of concern for face varies across cultures. The role of the face or its equivalent can be used to explain the East West cultural differences (Kim & Nam, 1998). While face-saving culture is well known in Asian social norms as Face (*Mianzi, 面子)* in China, *Maruah* in Malaysia and *Thể diện* in Vietnam; it seems to have less effect in Western culture (Kim & Nam, 1998). However, according to Miron-Spektor et al. (2015), recent findings suggest that face also exists in Western cultures (Liu et al., 2012; Mak et al., 2009). The extent to which people endorse face logic affects the way they respond to insults and aggressive behaviors (Severance et al., 2013), friendly gestures (Leung & Cohen, 2011), and other judgments about themselves (Kim & Cohen, 2010; Kim et al., 2010).

Despite important contributions to the understanding of face as presented, little is known about the effect of face culture on creativity. Available literature and critical thinking suggest that face culture will have a negative effect on creativity.

Goncalo and Staw (2006) state that creative ideas are often deviant (Moscovici, 1976) when first raised, and thus can be ridiculed and rejected (Baer, 2012; Mainemelis, 2010; Torrance, 1995). For this reason, most people are reluctant to express themselves because of the fear of receiving negative evaluations from other group members (Diehl & Stroebe, 1987). In other words, people who are concerned with their face may feel reluctant to engage in creativity (Miron-Spektor et al., 2015). Miron-Spektor et al., (2015) argue that

Face culture is established upon "the 3 H's", three related cultural components: hierarchy, humility, and harmony respectively. Different levels in the hierarchical system require people from these levels to maintain each other's face, especially the face of a higher level. Any attempt to over-claim face, which means to claim a higher status than one is perceived to deserve poses a threat to the hierarchical social structure and may result in punishment and social sanctions (Kim et al., 2010). Individuals should, thus, comply with the criteria of humility by not over-claiming face. In addition, face culture asks members within it to maintain a harmonious atmosphere by avoiding causing other people to lose face, from direct conflicts and carefully adhering to formalities (Leung & Cohen, 2011). In order to maintain the 3 H's foundation, members in face culture avoid creative-related activities, like "rocking the boat" and risking failure in public. They tend to follow socially common norms and always behave in ways compatible with their social roles (Choi & Lee, 2002; Hwang et al., 2003), They are more likely to preserve their own and others' face by engaging in solidarity, approbation, and tact; and going against conflicts (Cocroft & Ting-Tooney, 1994). Research has shown that highly face-concerned individuals are more likely to stand on the other side and more willing to conform and adopt the views of the other party. Also, they have a strong desire to be socially accepted, and a greater sensitivity to others' perceptions of them (Liu et al., 2012).

However, this tendency to follow the face culture by conforming to social expectation has long been regarded as contradictory to original thinking and creativity. Research has revealed that individuals, who are more afraid of risking their social image were less willing to raise and promote a different point of view and engage in innovation (Yuan & Woodman, 2010). They generate fewer and less creative ideas when interacting with others (Camacho & Paulus, 1995). In order to generate new ideas, individuals need to challenge existing paradigms, norms, stereotypes, and others' assumptions, as well as think differently and uniquely (Kim et al., 2012). Creative individuals are willing to face the pressure from the majority (Oldham & Cummings, 1997), to handle conflicts and disagreements (Janssen, 2003), and to discover the answer to the suspicion towards their ideas. On the contrary, people who endorse face logic are less willing to share their ideas because of fear of being wrong and being seen by others as ignorant (Huang et al., 2008). They are less likely to ask questions and search for feedback, which exposes the individual to different perspectives, fuels original thinking, improves creative ideas, and promotes innovation, due to the fear of embarrassment (Hwang et al., 2003).

Thus, it is proved that Face culture and creativity have a negative relationship. The more face people hold, the less creative they are. In this paper, the authors are going to re-examine whether there is such a relationship between Creativity and Face culture.

Hypothesis 1: Employees that possess a higher level of face culture demonstrate lower levels of creativity.

1.2. The moderating role of Perceived Supervisor Support in the Environment of Face Culture and Creativity

According to Eisenberger et al. (2002), Perceived Supervisor Support (PSS) is originated at organizational support theory and is defined as the degree to which employees form impressions that their supervisors care about their well-being, value their contributions, and are generally supportive. It is noted that in the leader behavior literature the term "support" is considered relationship-oriented behaviors only. Meanwhile, regarding creativity literature, several authors including Oldham & Cummings (1996), Scoot & Bruce (1994), and Fleishman (1953) in his two-factor theory of leadership, supervisor support is perceived to consist of both task and relationship-oriented behaviors. The former present actions relating to merely jobs: clarifying job descriptions, planning projects, instructing the work, and managing time and resources. The latter connect to leader-subordinate relationships: showing concern for subordinates' feelings, acting friendly, and personally supportive to subordinates, and being considerate to their welfare. In our paper contributing to the creativity literature, we mention "support" with the second boarder usage.

A slowly expanding body of literature over the past thirty years has documented the importance of perceived leader support for subordinate creativity. At the level of teams, some studies have demonstrated that team members' collective view of support from a leader is associated with the team's success in creative endeavors. Amabile et al. (1996) on the intra-organizational foundations of innovation – creative project work by teams of individuals. The study concludes that supervisory encouragement, which is one of the stimulants to creativity, is related to team creativity, in which higher levels of creativity correspond with higher levels of supervisor support and lower levels of creativity correspond with lower levels of supervisor support. Consistent with the above result, the study of Amabile & Conti (1999) suggests that during downsizing supervisory encouragement perceived by workers plays a particularly important role in project team creativity. The interviewee's comments largely reinforced the view that the supervisor support deteriorates during the downsizing *"Supervisory support? None, zero – has gone from bad to worse… They're in limbo too."* Declined perceived supervisor's support is accompanied by uncertain and chaotic changes, bad consequences on every aspect, and negative trends of creative team performance.

At the level of individuals, there is evidence of a connection between subordinates' general perceptions of their leaders and the individual creativity of those subordinates. Classic studies on this topic are of Amabile et al. (1996), Andrews (1967), and Oldham & Cummings (1996) showing that overall perceived leader support is a significant aspect of the work environment for creativity. A few studies of individual creativity have investigated particular areas of leader support, such as the team leader's tendency to provide both clear strategic direction and procedural autonomy in carrying out the work (Pelz & Andrews,

1976) as well as supportive, non-controlling supervision (Oldham & Cummings, 1996). Amabile (2004), then, supports such results and extends those findings with evidence on day-by-day leader support. Tierney, Farmer & Graen (1999) suggest a potential impact of leader-member exchange, which permits risk-taking, operational autonomy, and the freedom to deviate from the status quo, on creativity that is measured by supervisor ratings, invention disclosure forms, and research reports.

Taken together, these studies present the important impact of perceived supervisor support on creative performance. Subordinates are discovered to be more creative when they perceive their immediate supervisors as being supportive to them and their work. Whereas, Face culture is shown to be a negative environment for creativity. Oldham and Cummings (1996) demonstrate that supportive supervision makes a significant contribution to decreasing Face logic's effects on the workers. Other scholars claim the encouraging acts from social partners, such as advisors, mentors, and colleagues as the key factors to enhance knowledge learning, self-development by creating a comfortable, autonomic sharing environment (Fass & Tubman, 2002; Feldman, 2007; Mattanah, Lopez, & Govern, 2011; Robbins et al., 2009). Thus, we predict that Perceived supervisor support strengthens individuals' Creativity in the Face culture.

Hypothesis 2: Perceived supervisor support moderates the relationship between face culture and creativity by mitigating the impact of face culture on individual creativity.

2. Method

2.1. Sample and Procedure

The author conducted the survey during the peirods of time from the first week of February and to the first week of March 2018. The authors send both online questionnaires presented by Google Form via email and hard copies in person in two start-up companies. The first one is an insurance joint venture in Vietnam, in which the primary ownership belongs to the governmental Military Bank. The other one is a technology start-up in Norway which is based in Oslo and founded by a Norwegian team. The purposes of the research are discussed with CEO from these two star-ups. After agreeing to participate in the survey, two top managers introduce us to heads of departments, who in turn distribute questionnaires to their employees. To choose the sample size, the authors used convenient sampling and snowball sampling methods. We collected data from 260 out of 350 sent out questionnaires, which suggest the response rate of approximately 74%. Among the returned questionnaires, N = 245 (Vietnam, N = 121; Norway, N = 124) were valid for further statistical analysis. Out of the workers, the respondents' ages ranged from 25 to 45 years old. Of which, 11% of them are middle managers and top managers, 89% are normal employees. 48% of them have over 5 years of working experience. 99% obtained graduate and postgraduate degrees. Gender distribution simultaneously was 47% male and 53% female. The participants are oblivious of the research hypotheses, but aware of the general purpose of the study – to discover the relationship between creativity and face culture and how perceived supervisor support can moderate such relationship.

2.2. Measurement

The authors conducted the survey to quantitatively measure three variables: Creativity, Perceived Supervisor Support, and Face Culture. Unless otherwise indicated, all items were measured by a Likert-type scale anchored at 1, indicating “strongly disagree” and 7, indicating “strongly agree”.

Creativity

The participants self-report their creativity level based on creativity scales developed by Zhou and George (2001). The scale consists of 13 items, of which three items were adopted from Scott and Bruce (1994, cited in Zhou and George, 2001). According to Zhou and George (2001), all items are averaged out ($\alpha = 0.96$). The questionnaire includes items like *“You often suggest new ways to achieve goals or objectives.”, “You often search out new technology, processes, techniques, and/ or product ideas.”,* and *“You often have a fresh approach to problem.”*

Perceived Supervisor’s Support (PSS)

The participants then give the ratings for Perceived Supervisor Support Scale, which consists of four items ($\alpha = 0.88$) from the original one developed by Eisenberger, Hungtington, Hutchison, and Sowa (1986, cited in Skerlavaj et al., 2013). This shortened scale was validated in studies by Pazy and Ganzach (2009), and Kuvaas and Dysvik (2010). The four items that we used focus more on personal relationships than specific resources, which is supported by the Job Demands-Resources model (Demerouti et al., 2001) regarding PSS as a resource at the interpersonal level. Also, Ng, Lam, & Feldman (2013) state that assistance and resource allocation frequently originates at the embeddedness of employees with their colleagues and their supervisor (Ng, Lam, & Feldman, 2013), which suggests that such a relationship-based point of view may be appropriate (Skerlavaj, Cerne, and Dysvik; 2013).

2.3. Control variables

Contextual and individual factors that could be expected to influence both motivation and creativity will be controlled. These factors include age, gender, education, working experience, working position, creativity requirement, and task independence. Studies have indicated age affects creativity, but differently across various domains (cf. Jones & Weinberg, 2011). Also, researchers have pointed toward large differences in the creative achievement of men and women in many fields (cf. Baer & Kaufman, 2008), as well as for employee education (cf. Fasko, 2001) and work experience. Work experience is a valuable control variable because employees who have performed a particular task for a longer period of time may perceive its difficulty or reactiveness differently (Amabile, 1998), and direct task experience leads to higher levels of creativity (Gino et al., 2010).

3. Results

3.1. Descriptive statistics and Confirmatory Factor Analysis

Descriptive statistics (means, standard deviation, and correlations) for the key study variables appear in Table 1. Also, we notice that while running an additional t-test for two sample groups of Vietnamese employees and Norwegian employees, the discovered significant level is 0.292, which is greater than the 0.05 level. Thus, we can conclude that cultural differences might be not due to geographic differences between Vietnam and Norway.

We begin by examining the factor structures of the three focal variables: Creativity, Perceived supervisor support (PSS), and Face culture. We carry out a confirmatory factor analysis using STATA software version 15 with maximum-likelihood estimation procedures (e.g., Kline, 1998). The three-factor solution displays an adequate fit with the data (χ^2[489] = 1226.05, CFI = 0.89. SRMR = 0.073). All factor loadings are statistically significant and ranged from 0.77 to 0.83 for the Creativity items, from 0.66 to 0.80 for PSS items, and from 0.45 to 0.70 for Face culture items. We test all alternative nested models to examine whether a more parsimonious model achieved equivalent fit. Chi-square difference tests, which are presented in Table 2, show that our model achieved a significantly better fit.

3.2. Testing H1: Employees that pose a higher level of face culture demonstrate lower levels of creativity

We conduct linear regression and square regression to examine the relationship between Face culture and Creativity. In the former, obtained adjusted R Square is 0.405, which indicates that Face culture variable can explain 40.5% of Creativity variable. The causal relationship is statistically significant p = 0.000 in both ANOVA and coefficient variable. In the latter, obtained adjusted R Square equals 0.115, thus the squared Face culture variable explains Creativity less than the Face culture variable. The linear relationship, hence, is more relevant and is demonstrated in Table 3. To facilitate the interpretation of the interaction between face culture and creativity, we plot the linear regression of such relationship. The result, which is plotted in Figure 1, suggests that consistent with hypothesis 1, face culture negatively impacts individual creativity, which means hypothesis 1 is approved. To test this interpretation, we statistically compare the slopes to zero, obtained a standardized coefficient (β = -0.240) smaller than zero. Thus, higher level of face culture significantly predicts a lower level of creativity. This result initially supports our first hypothesis that Face culture has negative effect on Creativity variable. Workers working in an environment possessing a higher level of face culture or they possess higher level of face are predicted to have lower capability to be creative. Although this finding is encouraging in forecasting level of workers' creativity, the explaining power of face culture toward creativity is not remarkably high. Thus, it is important to test our mediating hypotheses about Perceived supervisor support variable as an explanatory mechanism for the relationship between face culture and creativity.

3.3. Testing H2, involving the moderating role of PSS in Face Culture and Creativity Relationship

To examine hypotheses in the working environment with the appearance of supervisors, we conducted hierarchical ordinary least square (OLS) regression analyses. We follow the moderated regression procedures recommended by Aiken and West (1991), entering the control variables in step 1, adding Face culture variable in step 2, PSS variables in step 3, and interaction between PSS and Face culture in step 4. As a results, the adjusted R square remarkably increases to 0.958 in the final model (adjusted R square is 0.403 in the first model, 0.405 in the second one). Literally, the full model is able to explain 96% of the dependent variable – Creativity.

Table 4 depicts the results of our moderated regression analyses. Model 4, which includes all the variables (Face culture, Creativity, PSS) and PSS's interactions with face culture, enhances the result in the previous part. Standardized coefficient of face culture ($\beta = -0.464$) is smaller than 0. Thus, the negative effect of face culture on creativity is emphasized.

Model 4's results support hypothesis H2 "Perceived supervisor support moderates the relationship between face culture and creativity by facilitating the impact of face culture on individual creativity." To test this interpretation, we compare the standardized coefficient of the interaction between PSS and face culture variable to zero. Calculated $\beta = 0.501$ is greater than 0. Thus, the PSS possesses the moderating role toward the relationship between face culture to creativity by weakening the effect of face culture. Hypothesis H2 is approved. Literally, workers, who are well supported by supervisors and better perceive this, can reduce the effect of face culture to have higher levels of creativity. On the contrary, worker, who cannot fully perceive supervisor's support, reduce the effect of face culture to a smaller degree. Plus, workers, who are not supported by supervisors or cannot perceive this (PSS = 0), lie under the same effect of face culture and do not obtain the improvement in their creativity.

Besides, the relationship between control variables and creativity in researched context also revealed in Step 1 with adjusted R square 0.403, indicating that with the only appearance of control variables, 40.3% of creativity variables is explained. Among eight examined control variables four variables, including country, working experience, working position, task independence, are is significant in impacting creative performance at p-value smaller than 0.05. Especially, the requirement for creativity in work variable is remarkbly significant at p-value equal to 0. These results are consistent with the conclusion of Jaquish & Ripple (1984), Harzing & Hofstede (1996), Goncalo & Staw (2006), Niu, Zhang, & Yang (2007) about culture and creativity; findings of Amabile (1998), Gino et al. (2010) regarding working experience and creativity. Meanwhile, gender, age, education level show no impact on individual's creativity level.

To sum up, on the quantitative approach of conducting the survey by using linear regression, we employ linear regression analyses and conclude that face culture has a bad effect on individual creativity. Working environments with a higher level of face culture decreases workers' capability of being creative, while at workplace with a lower level of face workers are more motivated to be creative. Hierarchical ordinary least square (OLS) regression analyses have shown that face culture's effect can be moderated by individual perceived supervisor support. Our statistic results support hypothesis H2. Literally, perceived supervisor can mitigate face culture effect on creativity.

4. Discussion and conclusion

4.1. Theoretical contributions

Although face culture is pervasive in East Asia and in multicultural work context, the influence of face has gained little attention of researchers in managerial field (Kim & Nam, 1998; Miron-Spektor, 2014). Our research contributes to the emerging body of work on cultural logics (Kim & Cohen, 2010; Kim et al., 2010; Leung & Cohen, 2011) that have explained inter-and intra-cultural differences in creativity and innovation (Leung et al., 2014). Our first result testing hypothesis 1 is consistent with earlier research on the negative effect of face culture on creativity (Oldham & Cummings, 1997; Yuan & Woodman, 2010; Kim et al., 2012; Miron-Spektor et al., 2015). Employees with a higher level of face are discovered to be less creative than the ones with the lower level. An interesting novel point discovered in our research is that there is no significant difference in face culture level between Norwegian and Vietnamese companies. Suggested causes might be stronger organizational culture and personal characteristics.

Furthermore, the authors answer the call to find reasons for inconsistent results researching cultural differences in previous creativity studies (Erez & Nouri, 2010). Besides already explored manipulation, such as power distance and the presence of a supervisor (Nouri et al, 2015), face logic endorsement (Spektor et al, 2015), foreign experiences (Morris, 2015), different models of negotiation (Gelfand, 2015), subtle differences in creativity might be manipulated by situational context of the extent to which how workers perceived supervisors support. Our findings suggest that the moderating role of perceptions about support from others at work, supervisor particularly, should be considered when exploring the possible effect of face culture on creativity. Consisting with previous research of Oldham & Cummings (1996) and componential theory of Amabile et al. (1988, 1996) that prove the critical positive impact of PSS on creativity, the effect of face culture on creativity is weaker or negligible when employees feel better support from supervisor. The finding suggests that PSS can curb the appropriate reflexive response to enhance one's image following a threat caused by face culture (Schmeichel & Vohs, 2009); thus, workers could be more creative even under the impact of face.

4.2. Practical contributions

The effect of face culture on creativity might be shifted due to the work environment (Nouri et al., 2014; Zhou & Su, 2010), which could be attributed by PSS. The practical implications of our study, therefore, will focus on suggesting novel ways to improve the work environment through PSS to promote creativity and, simultaneously, mitigate the influence of face culture. Innovative ideas need more resources (time, energy, attention, support, etc.) for their implementation (Škerlavaj et al., 2014). If the managers want to enhance the creativity in both quantity and quality of the ideas, they need to create a suitable environment for it (Zhou & George, 2001). Thus, both instrumental and socio-emotional support from supervisors needs to be highlighted and widely recognized throughout the company.

4.3. Limitations and Direction for Future Research

First, prior works including ours have largely neglected the ability to observe the qualitative mechanism behind moderating roles of perceived support from supervisors in the environment, possessing different levels of face culture, for creativity. These works mainly rely on the precision of quantitative research that likely does not reflect the realities of subjective feelings of worker's perception and qualitative characteristic of creativity. Also, the use of the survey captures only variance about if PSS can moderate other processes rather than exploring how these elements can interfere with the others. Thus, we submit a call to investigate this mechanism quantitatively under diverse points of view from different levels of managers and followers.

Second, our sample might not fully demonstrate face culture differentiation on the scope of country. In these two chosen companies, employees have some commons that decrease the representativeness of the sample. For example, the majority of workers are at the age in between 25 and 45 years old; plus, most of them have at least bachelor degree. As proved in prior research, age (Jones & Weinberg, 2011) and education (Fasko, 2001) can influence the level of face culture. Moreover, these two companies include also international workers. Therefore, workers in these two countries hardly present face culture in Eastern and Western countries. Also, both sample companies are start-up with open and flat initial organizational culture. Study's statistics notice that there is no significant difference between creativity levels between Western and Eastern countries. Thus, the samples might have stronger effect of organizational culture than geographic culture. This raises the opportunities for further research to look at a more concrete sample serving the purpose of investigating culture on the scope of countries.

Finally, because of the proven effect of face culture, workers might not honestly rate their creativity level in the questionnaire and in the interviews. They did not want to underestimate their abilities or lost their image under the interviewers' eyes or at least in their mind. Future research should employ a more objective method to estimate the creativity level, for instance: supervisors' or colleagues' ratings.

Table 1. Means, Standard Deviations, and Correlations among the research variables

	Variable	Mean	s.d.	1	2	3
1	Creativity	4.90	1.02			
2	PSS	4.65	1.03	0.434**		
3	Face culture	4.0	0.97	-0.240**	-0.230**	-0.41

***Correlation is significant at the 0.01 level (2-tailed)*

Table 2. Chi-square difference test among alternative model

Model	χ^2	CFI	SRMR
Expected three-factor model	1226.052	0.892	0.073
Creativity and Face culture on the same factor model	842.684	0.761	0.093
PSS and Face culture on the same factor model	1638.879	0.684	0.124
One-factor model	2777.637	0.371	0.168

Table 3. Linear Regression Analyses Presenting Relationship between Face culture and Creativity

	Unstandardized B	**Coefficients Std. Error**	**Standardized coefficients β**	**t**	**Sig.**
(Constant)	5.912	0.270		21.884	0.000
Face culture	-0.251	0.85	-0.240	-3.856	0.000

a. Dependent Variable: Creativity

Figure 1.
Linear Regression of Face Culture and Creativity variables

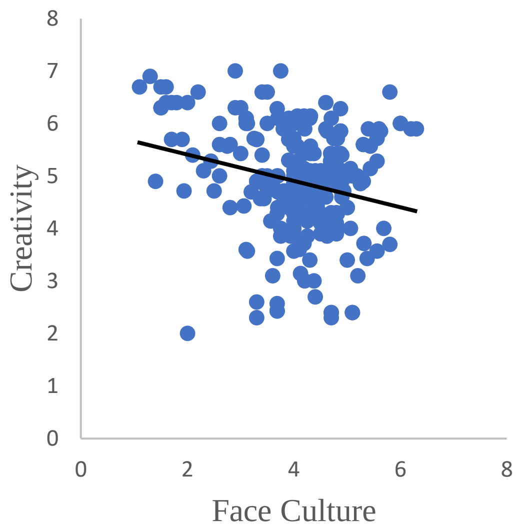

Table 4. Moderated Regression Analyses Predicting Creativity

Variable	**Step 1**				**Step 2**				**Step 3**				**Step 4**			
	b	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**	**b**	**s.e.**	**β**	**t**
Country	.246	.108	.121	2.289*	.211	.111	.104	.1.906	.156	.110	.077	1.410	.051	.030	.025	1.692
Gender	.044	.099	.023	.447	.041	.099	.022	.417	.002	.098	.001	.017	-.038	.027	-.020	-1.414
Age	-.001	.118	-.001	-.021	-.020	.119	-.010	-.166	-.042	.118	-.021	-.352	-.054	.032	-.027	-1.680
Education	.101	.108	.047	.932	.089	.108	.042	.824	.053	.106	.025	.495	-.019	.029	-.009	-.658
Working experience	.195	.082	.148	2.379*	.192	.082	.146	2.343*	.177	.080	.134	2.203*	.061	.022	.047	2.811**
Working Position	.214	.118	.108	1.810	.198	.119	.101	1.672	.165	.116	.083	1.415	.088	.032	.045	2.790**
Task Independence	.108	.050	.114	2.179*	.122	.051	.129	2.410*	.088	.050	.093	1.742	-.014	.014	-.014	-.951
Creativity Requirement	.524	.051	.543	10.234**	.512	.052	.531	9.849**	.449	.054	.465	8.355**	.030	.017	.031	1.802
Face Culture					-.077	.059	-.073	-1.297	-.059	.059	-.056	-.999	**-.485**	**.090**	**-.464**	**-5.398****
PSS									.159	.061	.162	2.613**	.004	.017	.004	.252
PSS x Face Culture													**.577**	**.066**	**.501**	**8.728****
R^2	.423**				.427**				.458**				.958**			
F(df)	21.606 (8, 229)				19.448 (9, 228)				17.916 (11,226)				430.831 (13, 224)			
ΔR^2	.423**				.004**				.031**				.5**			

a. N =245. Values in bold are relevant to test of hypotheses *p<.05 **p<.01

5. Reference

1. Aiken, L. S., and Stephen, G. W. (1991). Testing And Interpreting Interactions In Multiple Regression. *Sage Publications*. Print.

2. Amabile, T. (1983). The social psychology of creativity. *New York: Springer-Verlag.*

3. Amabile, T. M. (1988). A model of creativity and innovation in organizations. Research in Organizational Behavior, 19, 123–167.

4. Amabile, T. M. (1996). Creativity in context. Boulder, CO: Westview Press.

5. Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for cre- ativity. Academy of Management Journal, 39: 1154-1184.

6. Amabile, T. M., Schatzel, E. A., Moneta, G. B., Kramer, S. J. (2006). Leader behaviors and the work environment for creativity: Perceived leader support. The Leadership Quarterly, Vol.17(6), pp.679-680

7. Anderson, N., Poto čnik, K., & Zhou, J. (2014). Innovation and creativity in organizations: a state-of-the-science review, prospective commentary, and guiding framework. Journal of Management, 40, 1297–1333.

8. Andrews, F. (1967). Creative ability, the laboratory environment, and scientific performance. IEEE Transactions On Engineering Management, EM-14(2), 76-83.

9. Baer J., Kaufman J. C. (2008). Gender differences in creativity. The Journal of Creative Behavior, 42(2), 75 - 105

10. Bailyn, L. (1985). Autonomy in the industrial R & D laboratory. Human Resource Management, 24, 129–146

11. Chen, C., Kasof, J., Himsel, A., Greenberger, E., Dong, Q., & Xue, G. (2002). Creativity in Drawings of Geometric Shapes: A Cross-Cultural Examination with the Consensual Assessment Technique. Journal Of Cross-Cultural Psychology, 33(2), 171-187.

12. Chiaburu, D., & Harrison, D. (2008). Do peers make the place? Conceptual synthesis and meta-analysis of coworker effects on perceptions, attitudes, OCBs, and performance. Journal Of Applied Psychology, 93(5), 1082-1103. http://dx.doi.org/10.1037/0021-9010.93.5.1082

13. Choi, S.-C., & Lee, S.-J. (2002). Two-component model of Chemyon-oriented behaviors in Korea. Journal of Cross-Cultural Psychology, 33 (3), 332–345

14. Cocroft, B. K., & Ting-Toomey, S. (1994). Facework in Japan and the United States. International Journal of Intercultural Relations, 18 (4), 469–506

15. Cummings, L. L., Hinton, B. L., & Gobdel, B. C. (1975). Creative behavior as a function of task environment: Impact of objectives, procedures, and controls. Academy of Management Journal, 18, 489–499.

16. Demerouti, E., Arnold B. B. (2011). The Job Demands–Resources Model: Challenges For Future Research. SA Journal of Industrial Psychology 37.2.

17. Diehl, M., & Stroebe, W. (1987). Productivity loss in brainstorming groups: Toward the solution of a riddle. Journal of Personality and Social Psychology, 53(1), 497–509.

18. Eisenberger, R., et al. (1986). Perceived Organizational Support. Journal of Applied Psychology 71.3: 500-507. Web.

19. Erez, M., Van De Ven, A., & Lee, C. (2015). Contextualizing creativity and innovation across cultures.Journal Of Organizational Behavior, 36(7), 895-898.

20. Fasko D. (2001). Education and creativity. Creativity Research Journal, 13(3-4), 317-327

21. Fass, M. E., & Tubman, J. G. (2002). The influence of parental and peer attachment on college students' academic achievement. Psychology in the Schools, 39, 561–573.

22. Feldman, K. A. (2007). Identifying exemplary teachers and teaching: Evidence from student ratings. In R. P. Perry, & J. C. Smart (Eds.), The scholarship of teaching and learning in higher education: An evidence-based approach (pp. 93–129)

23. 23, Gelfand, M., Severance, L., Lee, T., Bruss, C., Lun, J., & Abdel-Latif, A. et al. (2015). Culture and getting to yes: The linguistic signature of creative agreements in the United States and Egypt. Journal Of Organizational Behavior, 36(7), 967-989.

24. Goncalo, J., & Staw, B. (2006). Individualism–collectivism and group creativity. Organizational Behavior and Human Decision Processes, 100(1), 96-109.

25. Harzing, A., & Hofstede, G. (1996). Planned change in organizations: The influence of national culture. Research In The Sociology Of Organizations, 14, 297-340.

26. Ho, D. (1976). On the concept of face. American Journal of Sociology, 81, 867–884.

27. Huang, Q., Davison, R. M. and Gu, J. (2008). Impact on Personal and Cultural factors on Knowledge Sharing in China. Asia Pacific J Manage 25(3), 451-471.

28. Hwang, A., Francesco, A. M., & Kessler, E. (2003). The relationship between individualism–collectivism, face, and

29. Janssen, O. (2003). Innovative behavior and job involvement at the price of conflict and less satisfactory relations with co-workers. Journal of Occupational and Organizational Psychology, 76, 347–364

30. Jaquish, G., & Ripple, R. (1984). A Life-Span Developmental Cross-Cultural Study of Divergent Thinking Abilities. The International Journal Of Aging And Human Development, 20(1), 1-11.

31. Jones B. F., Weinberg B. A. (2011). Age dynamics in scientific creativity. Proceedings of the National Academy of Sciences, 108(47), 18910-18914

32. Kim, J. Y., & Nam, S. H. (1998). The concept and dynamics of face: Implications for organizational behavior in Asia. Organization Science, 9(4), 522–534

33. Kim, Y.-H., Cohen, D., & Au, W.-T. (2010). The jury and abjury of my peers: The self in face and dignity cultures. Journal of Personality and Social Psychology, 98(6), 904–916.

34. Kline, Rex B. (1998). Principles And Practice Of Structural Equation Modeling. New York: Guilford Press, 1998. Print.

35. Kuvaas, Bård, and Anders Dysvik. (2010). Exploring Alternative Relationships Between Perceived Investment In Employee Development, Perceived Supervisor Support And Employee Outcomes. Human Resource Management Journal, 20.2 (2010): 138-156. Web.

36. Leung, A. K.-Y., & Cohen, D. (2011). Within- and between-culture variation: Individual differences and the cultural logics of honor, face, and dignity cultures. Journal of Personality and Social Psychology, 100(3), 507–526.

37. Liu, D., Liao, H., & Loi, R. (2012). The Dark Side of Leadership: A Three-Level Investigation of the Cascading Effect of Abusive Supervision on Employee Creativity. Academy Of Management Journal, 55(5), 1187-1212.

38. Liu, L. A., Friedman, R., Barry, B., Gelfand, M. J., & Zhang, Z.-X. (2012). The dynamics of consensus building in intercultural and intercultural negations. Administrative Science Quarterly, 57(2), 269–304.

39. Mattanah, J. F., Lopez, F. G., & Govern, J. M. (2011). The contributions of parental attachment bonds to college student development and adjustment: A meta-analytic review. Journal of Counseling Psychology, 58(4), 565–596

40. Miron-Spektor, E., Paletz, S., & Lin, C. (2015). To create without losing face: The effects of face cultural logic and social-image affirmation on creativity. Journal Of Organizational Behavior,36(7), 919-943.

41. Moscovici, S. (1976). Social inXuence and social change. London: Academic Press

42. Mumford, M. D. (2003). Where have we been, where are we going? Taking stock in creativity research. Creativity Research Journal, 15, 107-120.

43. Ng, Thomas W. H., and Daniel C. Feldman. (2013). Changes In Perceived Supervisor Embeddedness: Effects On Employees’ Embeddedness, Organizational Trust, And Voice Behavior. Personnel Psychology 66.3: 645-685. Web.

44. Niu, W., & Sternberg, R. (2002). Contemporary Studies on the Concept of Creativity: the East and the West. The Journal Of Creative Behavior, 36(4), 269-288.

45. Niu, W., Zhang, J., & Yang, Y. (2007). Deductive reasoning and creativity: A Cross-cultural. Psychological Reports, 100(2), 509-519.

46. Nouri, R., Erez, M., Lee, C., Liang, J., Bannister, B., & Chiu, W. (2014). Social context: Key to understanding culture's effects on creativity. Journal Of Organizational Behavior, 36(7), 899-918.

47. Nouri, R., Erez, M., Rockstuhl, T., Ang, S., Leshem-Calif, L., & Rafaeli, A. (2013). Taking the bite out of culture: The impact of task structure and task type on overcoming impediments to cross-cultural team performance. Journal Of Organizational Behavior, 34(6), 739-763.

48. Oldham, G. R., & Cummings, A. 1996. Employee creativity: Personal and contextual factors at work. Academy of Management Journal, 39: 607-634

49. Pazy, A. & Ganzach Y. (2009). Pay contingency and the effects of perceived organizational and superior support on performance and commitment. Journal of Management, 35(4), 1007 – 1025

50. Pelz, D., & Andrews, F. (1976). Scientists in Organizations: Productive Climates for Research and Development. Contemporary Sociology, 7(5), 610.

51. Riquelme, H. (2002). Creative Imagery in the East and West. Creativity Research Journal, 14(2), 281-282. September 2012, Volume 4, Issue 3, pp 332-346

52. Robbins, S. B., Oh, I., Le, H., & Button, C. (2009). Intervention effects on college performance and retention as mediated by motivational, emotional, and social control factors: Integrated meta-analytic path analyses. Journal of Applied Psychology, 94, 1163–1184.

53. Scott, S. G., and R. A. Bruce. (1994) Determinants of Innovative Behavior: A Path Model of Individual Innovation in The Workplace. Academy of Management Journal, 37(3), 580-607.

54. Skerlavaj M., Cerne M., Dysvik A. (2014). I get by with a little help from my superior: Creative-idea generation, idea implementation, and perceived supervisor support. The Leadership Quarterly, 25, 987 – 1000

55. Sternberg, R. J. (2011). Cognitive Psychology. New York: Cengage Learning

56. Tierney, P., Farmer, S., & Graen, G. (1999). An examination of leadership and employee creativity: The relevance of traits and relationships. Personnel Psychology, 52(3), 591-620. http://dx.doi.org/10.1111/j.1744-6570.1999.tb00173.x

57. Torrance, P. (1974). Verbal Tests. Forms A and B-Figural Tests, Forms A and B. The Torrance Tests of Creative Thinking-Norms-Technical Manual Research Edition, 6.

58. Tsoukas H. (2009). A Dialogical Approach to the Creation of New Knowledge in Organizations. Organizational Science, Volumne 20, pg. 941 – 957

59. Woodman, R. W., Sawyer, J. E., & Griffen, R. W. (1993). Toward a theory of organizational creativity. Academy of Management Journal, 18, 293–321

60. Yuan, F., & Woodman, R. W. (2010). Innovative behavior in the workplace: The role of performance and image outcome expectations. Academy of Management Journal, 52(2), 323–342.

61. Zhou J., George J. M. (2013). When Job Dissatisfaction Leads to Creativity: Encouraging the Expression of Voice. The Academy of Management Journal, Vol. 44, No. 4 (Aug., 2001), 682-696

62. Zhou, S., Siu, F., and Wang, M. (2010). Effects of social tie content on knowledge transfer. Journal of Knowledge Management, 14(3): 449–463.

RECOMMEND RESEARCH MODEL OF TURNOVER INTENTION OF HOTEL INDUSTRY STAFF: SELECT FACTORS AND MEDIATING VERIABLES "JOB SATISFACTION AND ORGANIZATIONAL COMMITMENT”

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Abstract

This article is an overview of affecting factors to turnover intention of the hotel industry staff. There are many factors that summed up different articles, which only guarantee to discover a particular content. In order to have more comprehensive view of affecting causes to the turnover intention of hotel staff, we recommend a research model with the synthesis from different factors basis on Job Descriptive Index and organizational commitment theories, other studies. New contribution of article is recommending the research model of turnover intention of hotel staff with impacting seven independent variables, two mediating variables that are job satisfaction and commitment to organization. Relationship between perceived risk factor in the correlative impact factors is a new discovery of the research. Affirming that, application of this model in the hospitality research from three stars hotel to five stars hotel in Vietnam is completely new, applying new discovery factors to the new research fields for further studies.

Keywords: *Turnover intention model, hotel staff, independent and mediating variables*

1. Introduction

Hospitality industry staff have different requirements, difficult to replace by machines, hotel business jobs require directive communication and flexibility with guests. In the three stars hotel to five stars hotel the professionalism of staff is higher; staff is not only healthy, good looking, charming, friendly, considerate and hygienic, but also requires nice uniform, foreign languages, knowledge, professional skills, handling situations and communication with customers are expected specific and standards. Labor in hospitality services have changed a lot by seasonality, the competition for human resources in the booming trend of the hotel business in Vietnam currently. This is a big challenge for human resource management administration in hospitality industry. The decision to terminate working at the hotel is the final result from the influence of factors affecting to the satisfaction and commitment of employees, arising the turnover intention and find a new opportunities, alternative jobs in other businesses. To clarify this content, we would like to summarize some of literature review, research sequences and approach as following:

First, aggregate factors affecting turnover intention of hospitality industry staff. Identify factors affecting turnover intention of hospitality industry staff through consultation with experts in hotel management then recommend the most comprehensive research model.

Second, the research question is what factors affect to the turnover intention of hospitality industry staff? Define independent variables, intermediate variables and relationship between factors.

Third, the object and scope of the study are the factors affecting the turnover intention of hotel industry staff through job satisfaction and organizational commitment mediating variable. Original theoretical review, articles written about turnover intention are published with domestic and international scientific indexes.

The original theory is determined to be the Job Descriptive Index (Smith et al, 1969) with the research content measuring attitudes employees about "job satisfaction and retirement" has shown Job satisfaction is the foundational study for future studies. Job satisfaction is assessed by five groups of factors that are the job itself, supervision, co-workers, salary and promotion opportunities. Research confirms and inherits groups of factors in job satisfaction, according to (Imparato, 1972) compares job description index with the relationship of satisfaction (Porter, 1961), the research content has reflected similar views and concepts about the factors constituting job satisfaction, although there are differences in methodological techniques, the difference score of the questionnaire on the level of satisfaction of needs (Porter, 1961) related to the level of satisfaction measured by the Job Descriptive Index. The research (Imparato, 1972) once again confirms that the five factors affecting job satisfaction have high applicability for future studies. (Smith, and Rollo, 1974) continues to assert that the Job Descriptive Index measures job satisfaction according to the five factors of the job itself, pay, promotion, supervision and coworker used frequently (Blood, 1969), (Evans, 1969), (Hulin, 1969), (Hulin & Waters, 1971), (Soliman, 1970), (Waters & Waters, 1969).

The theory of Commitment to Organization (OC). Derived from study "Unity performance, situational factors and employees' attitudes in different working companies" (Mowday, Porter, and Dubin 1974) initiated research attitudes employee to the organization in different work environments with three groups of tools; commitment to organization; resources attached to the organization; job satisfaction. The group of organizational commitment is used with 15 questions to measure employee commitment to the organization such as the desire to continue working with the organization; willingness to exert a high degree of effort on behalf of the organization; believe in and accept the values and goals of the organization. Especially, this tool is used to research in different organizations, the results obtained are different between groups of employees with different positions such as high commitment to organization (management group), low commitment to organization (group of employees doing tedious jobs). Organizational Engagement Resource used 12 questionnaires in order to measure the perceived influence of specific aspects of the job such as the working environment in the organization on desiring to stay or leave. The results obtained are different in the content of the question, there is a group that wants to leave organization, but there is also a group that wants to stay and work for the organization. It can be said that the group of authors (Mowday, Porter, and Dubin 1974) with different research contents, in which based on the employee's attitude to the organization to assess the commitment toorganization is pre-research for future research. According to the research content of the author (Meyer and Allen 1984), (Mowday, Porter, & Steers, 1982) the relationship between employee commitment to organization and some characteristics of the organization and employees. Commitment is understood in many different meanings; commitment is generally considered to be a decision to bet on the intended activity, all bet value will be forfeited upon discontinuing participation in the organization (Becker, 1960); Commitment may be labeled “Continued Commitment”, developed by (Stevens et al, 1978), however, this is not the only way to talk about commitmentn Affective commitment (Buchanan, 1974), (Steers, 1977). The significance of this difference will become apparent in the reinterpretation of the proposed findings. It should be noted that these two forms of commitment are understood to be independent, that is, the degree to which a person is emotionally committed does not affect the level of ongoing commitment and vice versa.

According to the authors (Porter, Steers, Mowday, & Boulian, 1974), (Porter, Crampon, & Smith, 1976), (Mowday, Steers, & Porter, 1979) measures of organizational commitment are based on three content; “strong belief in the values and goals of the organization”, “willingness to make significant efforts for the organization” and “desire to continue working for the organization”. These are closely related to what is mentioned in the emotional commitment above. Base on background and reference studies, the author (Meyer and Allen 1984) decided to use a 5-factor scale to measure commitment to organization as follows; Affective Commitment Scale – ACS, Continuance Commitment Scale – CCS, Organizational Commitment Questionnaire – OCQ, Responses to the Ritzer-Trice Scale / R-TS, Hrebmiak-Alutto Scale / HR-S. According to the author (Reichers 1985) commitment to the organization is synthesized from many studies as an independent variable, the research results correlate such as work performance, job satisfaction, absenteeism (Angle & Perry, 1981). From the above research results, it has been proved that job satisfaction and organizational commitment is the foundational research theory that has been used in many different research fields.

Turnover intention is a behavioral factor that has been studied by many scholars, especially in the field of human resource management, it has a role to reflect the actual situation in the workplace, the relationship between colleagues, between staff with investors, with customers. This information helps human resource managers have a comprehensive perspective and make timely plans to adjust to limit the behavior of leaving employees in order to stabilize personnel and sustainably develop their businesses. According to the author (Cho and Lewis 2012), (Emberland and Rundmo 2010), (Dipietro and Condly 2007), (Karatepe, Rezapouraghdam, and Hassannia 2020), (Tuan, Loc, and De 2016), (Chung

2018), (Wang et al. 2020), (Limyothin and Trichun 2012),(Chung 2018) research on turnover intention shows that the most obvious manifestation of employees' job dissatisfaction is due to a number of reasons. The end result leads to the act of leaving, causing serious damage to the organization in terms of people, brainpower and technology. Some views on turnover intention in the organization "the job turnover intention of staff is the thought of wanting to leave the organization and move to another workplace". Or the partner factors affecting employees make them feel unsatisfied, affecting their commitment leading to turnover intention (Amin and Akbar 2013), (Aykan 2014), (Jung) et al, 2012), (Albattat and Som, 2013), (Kulachai and Amaraphibal 2017), (Sánchez-Medina et al. 2019), (Rasheed et al. 2020). According to the author “Turnover intention is understood as the thoughts, considerations and calculations of employees for the behavior of leaving the current organization in the context of the influence of subjective or objective factors inside and outside the hotel business”.

2. Metthod

To achieve the research objective, this paper approaches the literature research review. Information from specialized scientific journals related to human resources in enterprises and hotel businesses. The search for the scale of factors is based on literature research review. Qualitative study of interviews with experts to select suitable factors for the model.

There are many factors that affect to the turnover intention of hospitanity staff. During the research process, the author has compiled 360 related articles, then applied the literature review method, following the instructions of the authors (Moher et al. 2009), (Kitchenham et al. 2009), (Brereton et al. 2007), (Murata, Wakabayashi, and Watanabe 2014). In order to use the document system conveniently after searching, the author has numbered and divided the documents into the group of job description index theory, commitment to organization, group of models and group of studies. Empirical research, the group of factors affecting the turnover intention in general, the group of factors affecting the turnover intention in the hotel industry. Most of the articles focus on studying only a few factors affecting the turnover intention. Therefore, there many factors affecting to the turnover intention the hotel staff, including the use of two mediating variables, is a new research direction that helps author to contribute a more holistic and multidimensional view of influence and the relationship of factors related to the turnover intention the hotel industry staff. Author has coded selected articles according to the article number, the content of the articles is mainly related to the turnover intention or leaving hotel industry.

3. Results

For the Job Descriptive Index, author has listed 18 studies, which refer to the relationship between factors and satisfaction moderative variables: (Imparato 1972), (Smith, Smith, and Rollo 1974), (Schneider and Dachler 1978), (Johnson, Smith, and Tucker 1982), (Heneman and Schwab 1985), (Jung, Dalessio, and Johnson 1986), (Marin 1987), (Gregson 1987), (Ironson et al. 1989), (Hanisch 1992), (Stanton et al. 2002), (Lake et al. 2010), (Lan et al. 2013), (Nahar et al. 2013), (Yeager et al. 2015), (Theodosis and Giannouli 2017), (Davies, Van der Heijden, and Flynn 2017), (Inoyatova 2021). In the above studies, authors refer to about 521 published in the world whose foundation theory is Job Descriptive Index. According to the author (Inoyatova 2021) the use of measures of overall or general job satisfaction, also referred to as global scales, the author has statistics in table 1:

Table 1: List of Widely Known Measures of Job Satisfaction

N	Title	Abbreviation	Author name	Year
	Facet-specific Satisfaction Measure			
1	Minnesota Satisfaction Questionnaire	MSQ	Weiss et al.,	1967
2	Job Descriptive Index	JDI	Smith et al.,	1969
3	Job Satisfaction Survey	JSS	Spector	1985
4	Job Diagnostic Survey	JDS	Hackman & Oldham	1975
	Global Job Satisfaction Measure			
1	Faces Scale	FS	Kunin	1955
2	Michigan Organizational Assessment Questionnaire	MOAQ	Camman et al.,	1979; 1983
3	Job in General Scale	JIG	Ironson et al.,	1989
4	Overall Job Satisfaction Scale	OJS	Brayfield & Rothe	1951
5	Global Job Satisfaction Questionnaire	GJSQ	Warr et al.,	1979
6	Overall Job Satisfaction Scale	OJS	Judge	1994

Source: (Inoyatova 2021)

For the theory of Commitment to Organizational (OC), author has listed 20 studies related to research overview, the relationship between factors and commitment to organization in the role of moderative variables, commitment to organization change, Commitment as an Independent Variable, Commitment as a Dependent Variable: (Mowday, Porter, and Dubin 1974), (Morris and Sherman 1981), (Meyer and Allen 1984), (Reichers 1985), (Mathieu and Zajac 1990), (Eby et al. 1999), (Cohen and Gattiker 2005), (Cohen 2007), (Joo and Park 2009), (Lapointe, Vandenberghe, and Panaccio 2011), (Bhatnagar 2013) (Rehman et al. 2013), (Mercurio 2015), (Zhao 2017) . According to statistics from the above publication, there are 143 topics related to commitment to organization.With the above research results, it is clear that the Job Descriptive Index and Commitment to

Organizational are the foundation for building a research model, the relationship between the factors affecting satisfaction moderative variables and commitment to organization with turnover intention. and the role of moderative variables of satisfaction, commitment.

Statistically a number of studies on the influence of factors on turnover intention such as: Employee burnout (Back et al. 2020), position, skill level, behavior and job satisfaction (Xu et al. 2020), working environment conditions, safe leadership (Amponsah-Tawiah, Ntow, and Mensah 2016), (Bradley and Cartwright 2002) the relationship between social support and recognition awareness, job stress, (Luo et al. 2020), information skills model, extended motivation, (Aykan 2014) relationship and transactional contract with mediating role is the emotion of loneliness. of employees in the workplace, benefits, affordability, advancement opportunities, self-employment (Zahra Malik and Khalid 2016), demographic factors, job satisfaction, organizational commitment , perceived perceived alternative job opportunities (Ojiaku, Nkamnebe, and Nwaizugbo 2018), job engagement, commitment to organizational, job commitment, job satisfaction (Zhang et al. 2019) , the relationship between factors of career development, teamwork, relationships at work (Khuong et al. 2016), (Quoc Hung & Hao Thi 2010) factors of satisfaction, stress, salary and benefits , organizational commitment, work environment, training and development, job challenges, leadership behavior, workplace relations, conformity, organizational policies, traditions, morale In the work. In the field of education, there are a number of studies on the factors affecting the intention to quit, such as according to the author (Feng and Angeline 2010) this study examines the perceived of organizational support, employee burnout, job satisfaction and emotional commitment, job pressure factors, job satisfaction and team commitment (Chung 2018). The influence of social media in human resource management strength (Ruparel et al. 2020), (Ulufer and Soran 2019) demographic and emotional factors of employees in the correlation between variables such as: nervous breakdown; openness; outward; compliance; self-discipline; play superman; deeply immersive; natural emotions, (Long, Ajagbe, and Kowang 2014) the factors of tight management of performance, compensation, training, and employee relations are effectively implemented, (Jones et al. 2007) on studying the role of overload in work attitudes, (Arshadi and Shahbazi 2013).

Statistics on researches on turnover intention of hotel staff: (Park and Gursoy 2012) factors such as vitality, dedication, absorption, job satisfaction, practice factors human resource management and employee development including performance appraisal, training and development, career advancement, organizational trust (Hemdi and Nasurdin 2006), (Yang, Wan, and Fu 2012), describe multi-level model of management support at management level, department level, supervisor level, individual level, departmental support, departmental supervision, sincere team, transformational leadership membership, civil rights organizational behavior, the effect of organizational commitment on employee attitudes and loyalty – hotel employee retention (Li, Kim, and Zhao 2017), (Yao, Qiu, and Wei) 2019), (Sun et al. 2020), the content of the structural equation research (Limyothin and Trichun 2012) the factors studied by the author are work and life quality, acceptance of organizational culture, job satisfaction and team commitment organization, demographic factors in hospitality businesses, (Li, Bonn, and Ye 2019), the relationship between job change in hotels and intention to quit; The regulatory role of organizational support is perceived and the psychologically competitive environment - artificial intelligence and robot awareness of hotel staff. (Wang et al. 2020) studied the influence of professionalism on the intention to change the job of hotel employees, the mediating role of employee engagement and job satisfaction, factors that are Paired topic in the research content of professionalism, satisfaction, cohesion, (Zhuang et al. 2020) the effect of friendship deviant behavior in the workplace of hotel employees - the regulatory role of hotel staff. organization, (Peng, Lee, and Lu 2020) employee green behavior from a positive perspective and positive spillover because such voluntary behaviors benefit actors other than employees, specifically can be hotels that use them and their natural surroundings, (Urmanov Bahromjon, Shin Hoyoung, and Kim, Ki-Su 2013) working environment, co-worker relations, job satisfaction, salary, organizational commitment, engagement, work motivation, job satisfaction, work environment (Dipietro and Condly 2007), (Park and Min 2020) work attitude, work stress Work and role stressors, conflict between parties (Akova, Cetin, and Cifci 2015), (Emiroğlu, Akova, and Tanrıverdi 2015).

Statistical a number of turnover intention research models: research (Feng and Angeline 2010) on the relationship between organizational support, emotional exhaustion, job satisfaction and engagement feelings and intentions to quit and jump jobs. According to the author (Kim, Im, and Hwang 2015) three counseling functions have been selected, which use the factors of career development, psychosocial support, role model, role conflict, role ambiguity, job satisfaction, and organizational commitment. This research model has generalized consulting activities at luxury hotels to include three factors of career development, psychosocial support, and role modeling. The analysis content from the structural equation model has shown the statistical significance between the relationships of the factors, most notably the psychosocial support factor that has a strong relationship with the variables in the model. Positive impact on organizational commitment and job satisfaction factor, but negative impact on role ambiguity, role conflict leads to employee's intention to quit. Research results also show a significant relationship between career development function and role ambiguity, between role and role ambiguity, or between role ambiguity and intention to retire. job. Job intentions are related to personal characteristics such as physical condition, interest in other areas of work, unfavorable relationships with current co-workers, distance between residence and employment. company, the ability to combine work and study. Positive impact of three mentoring functions on job satisfaction and organizational commitment and negative impact of role stress on these two factors. The results of the study provide evidence of the merits of mentoring programs in hotels, restrictions in the hotel staff. Therefore, it is necessary to extend the sample to other parts of the hotel. Therefore, future studies need to clearly define the role of these variables as regulators. In this research model, we see that the author has not clarified the relationship between job satisfaction and organizational and individual commitment, which is studied by functional groups; The role of stress at work, attitude at work to turnover intention.

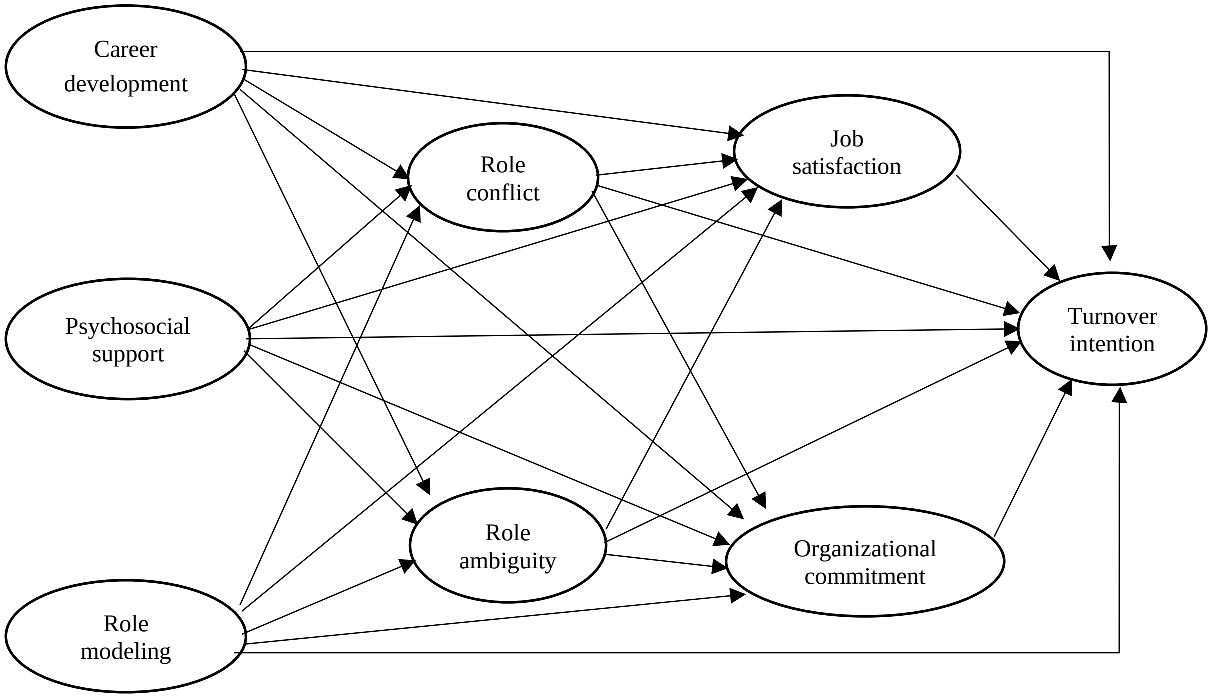

Figure 1: The turnover intention model

Source: (Kim, Im, and Hwang 2015)

According to the author (Urmanov Bahromjon, Shin Hoyoung, and Kim, Ki-Su 2013) used a structural model to explore the factors affecting the turnover intention hotel staff in Taiwan. Research results show that; higher levels of satisfaction about their work environment have a positive impact on job satisfaction; higher commitment to organization among hotel staff

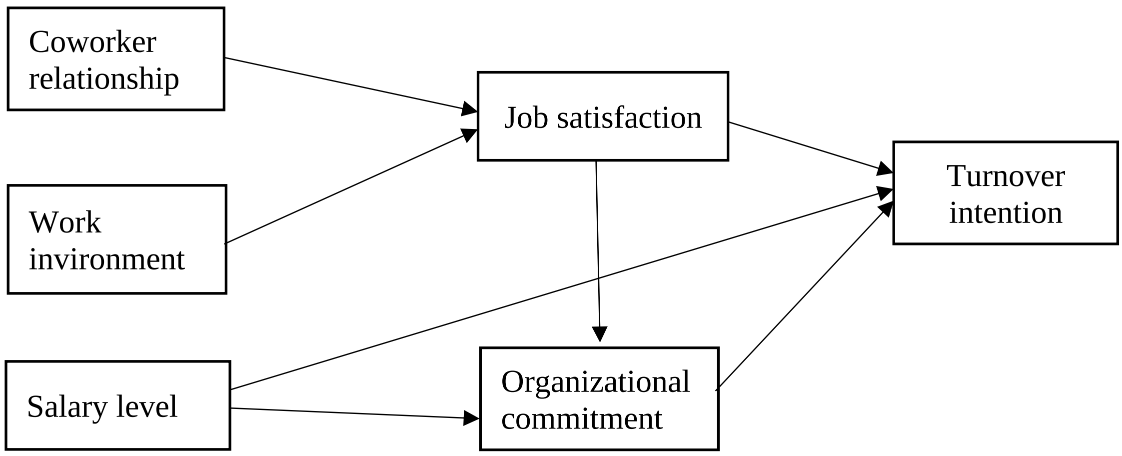

Figure 2: The turnover intention model

Source: (Urmanov Bahromjon, Shin Hoyoung, and Kim, Ki-Su 2013)

Based on the above studies, author finds that the research on turnover intention in the world focuses on analyzing the demographic characteristics, gender, age affecting to turnover intention in the hotel industry. In the above studies, few authors have studied the effects of factors on the turnover intention of hotel industry staff. In Vietnam, there have also been some studies on turnover intention, but only focusing on education, industrial parks and textiles, no author has comprehensively studied the influence of factors on thr turnover intention of hotel industry staff. Therefore, author finds that research gaps still exist, specifically as follows:

Firstly, the studies confirmed that there are many factors affecting to the turnover intention of hotel industry staff, however, in Vietnam, no author has studied the overall impact of these factors on the employee's turnover intention of hotel industry through the relationship between factors and two moderative satisfaction and organizational commitment.

Secondly, the sample studies only focused on a few factors in the individual hotel, pre-opening hotel, 4-5 star hotel Therefore, extensive research is needed to ensure the full representativeness of the research sample from 3 stars hotel to 5 stars hotel.

Thirdly, through the research results, it will be the basis for recommending perfecting the research model on the factors affecting the turnover intention of the hotel industry staff in Vietnam.

Fourthly, the perceived risks of occupation in the context of the pandemic in general, Sars, H5N1 and Covid_19 in particular, especially in the hotel business is more heavily affected. Therefore, the addition of the perceived risk factor in the relationship between factors in order to discover the extent to which the factors affect to the turnover intention of the hotel industry staff is a new contribution in this study.

With the combination of a review of research documents and a survey of 20 hotel human resource management experts, author proposes to recomend a research model with 9 factors affecting to the turnover intention hotel staff currently. The elements are coded under table 2 as follows:

Table 2: Coding factors in research model

No	***Code***	***Type of** variables*	***Factors***
1	**WI**	Independent	Work Itself
2	**SU**	Independent	Supervision
3	**COR**	Independent	Coworkers Relationship
4	**SBE**	Independent	Salary and Benefit
5	**COP**	Independent	Career Opportunities
6	**JST**	Independent	Job Stress
7	**PR**	Independent	Perceived Risk
8	**JSA**	*Mediating*	Job Satisfaction
9	**OCO**	*Mediating*	Organizational Commitment
10	**TI**	Dependent	Turnover Intention

Source: Authors synthesized

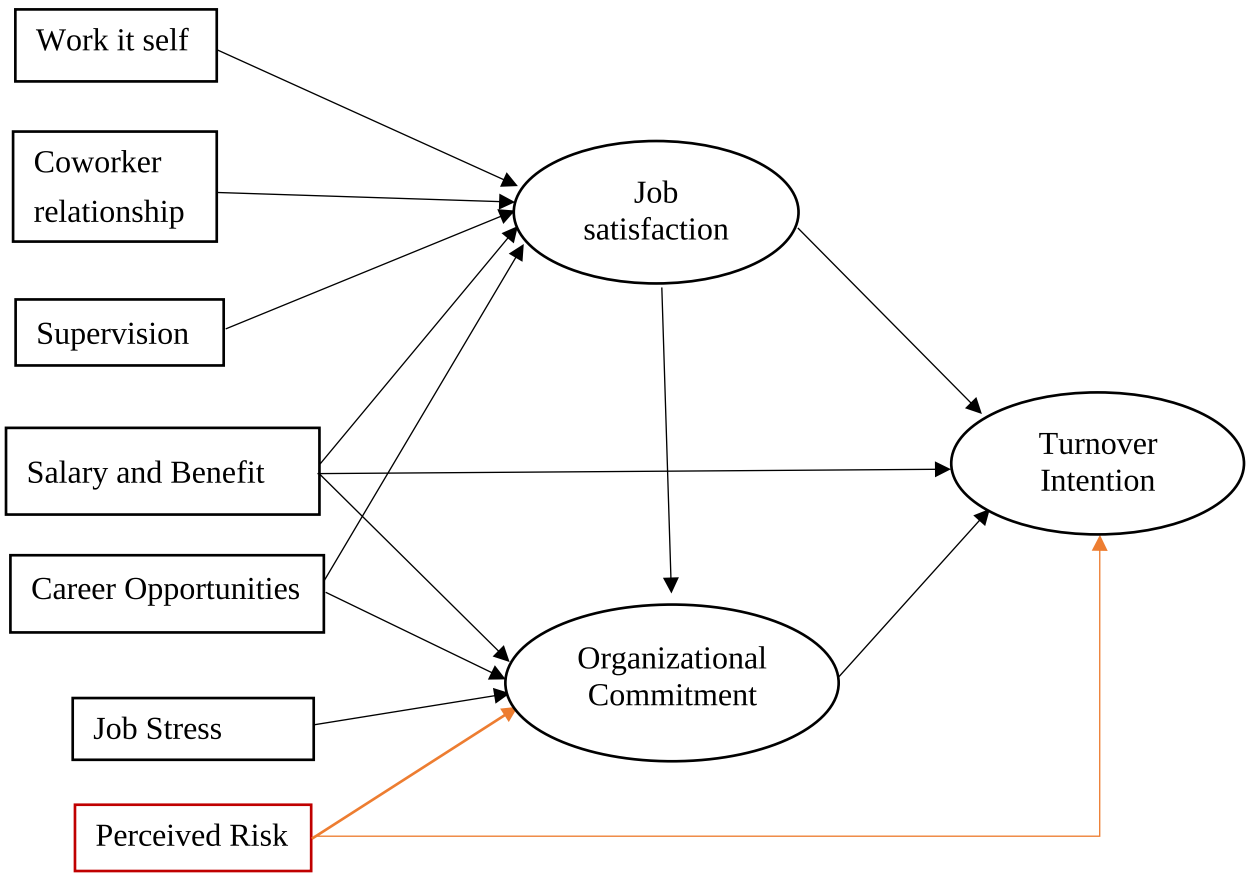

Figure 3: The turnover intention model of hotel industry staff in Viet Nam

Source: Authors recommendation

From the research model (Figure 3), the author proposes the following research hypothesis:

H1: The job itself has a positive impact on job satisfaction

H2: Job supervision has a positive effect on job satisfaction

H3: Coworker Relationship has a positive effect on job satisfaction

H4a: Salary and benefit has a positive effect on job satisfaction

H4b: Salary and benefit has a positive effect on work commitment

H4c: Salary and benefit has a negative effect on turnover intention

H5a: Career opportunities have a positive impact on job satisfaction

H5b: Career opportunities have a positive impact on organizational commitment

H6: Job stress has a negative impact on organizational commitment

H7a: Perceived risk has a negative impact on organizational commitment

H7b: Perceived risk has a positive impact on turnover intention

H8: Job satisfaction has a negative effect on turnover intention

H9: Organizational commitment has a a negative effect on turnover intention

H10: Job satisfaction has a positive effect on Organizational commitment

4. Discussion and Conclusion

This is an overview, meta-analysis, and statistical analysis of researches related to factors and turnover intention. Determining the relationship between factors as (Figure 3) is a new research direction in the hotel industry in Vietnam, especially from 3 stars hotel to 5 stars hotel. From research model 3, we have 10 hypotheses and 13 negative and positive impact relationships between factors. Research model and research hypothesis are very important content for the author's future research directions. However, in reality, the research results are not always consistent with the model and hypothesis, so the research model and hypothesis of this review are only foundation, creating a premise for the research further direction.

The synthesis of the above factors only response the requirements of the research content, but it is necessary to have research practice to confirm the exact relationship of the factors in the research. To apply the observed variables in the factor to the research, it takes a lot of time to consult experts to choose the most suitable survey content. The relationship between synthesis, inheritance of factors, scales, observed variables and actual research results is also very important, it is necessary to carefully handle the survey content to suit the context. the content of the research will be successful.

From an overview of research theories to applied studies in various fields and research in the hospitality sector. Author finds that this is a new comprehensive research proposal. In particular, the perceived risk factor in the context of factors is completely new to study about turnover intention of the hotel industry staff. With not so much time and experience, author needs to be learned more and would like to receive suggestions to improve the writing rather than a basis for the author to continue research.

From the above research model, author will continue to improve the thesis to analyze the impact of turnover intention on working performance, engagement and responsibility, co-worker relationships, job satisfaction, commitment to organization and proposed solutions to develop sustainable hospitality staff.

5. References

1. *Angle, H., & Perry, J. (1981) "An empirical assessment of organi- zational commitment and organizational effectiveness". Ad- ministrative Science Quarterly, 26, 1-14.*

2. Amernic, J. H., and N. Aranya. 2005. "Organizational Commitment: Testing Two Theories." *Relations Industrielles* 38 (2): 319–43. https://doi.org/10.7202/029355ar.

3. *Bartol, K. M. (1979) "Professionalism as a predictor of organi- zational commitment, role stress, and turnover; A multidi- mensional approach". Academy of*

Management Journal, 22, 815-821.

4. *Bateman, T. S., & Strasser, S. (1984)."A longitudinal analysis of the antecedents of organizational commitment". Academy of Management Journal, 27, 95-112.*

5. Bradley, Jennifer R., and Sue Cartwright. 2002. "Social Support, Job Stress, Health, and Job Satisfaction among Nurses in the United Kingdom." *International Journal of Stress Management* 9 (3): 163–82. https://doi.org/10.1023/A:1015567731248.

6. *Buchanan, B. (1974). "Building organizational commitment The socialization of managers in work organizations". Administrative Science Quarterly, 19, 533-546.*

7. *Campbell, D. T., & Fiske, D. W. (1959). "Convergent and discriminant validation by the multitrait-multi- method matrix". Psychological Bulletin, 56, 81-105.*

8. Cho, Yoon Jik, and Gregory B. Lewis. 2012. "Turnover Intention and Turnover Behavior: Implications for Retaining Federal Employees." *Review of Public Personnel Administration* 32 (1): 4–23. https://doi.org/10.1177/0734371X11408701.

9. Cohen, Aaron. 2007. "Commitment before and after: An Evaluation and Reconceptualization of Organizational Commitment." *Human Resource Management Review* 17 (3): 336–54. https://doi.org/10.1016/j.hrmr.2007.05.001.

10. Curry, J. P., D. S. Wakefield, J. L. Price, and C. W. Mueller. 1986. "On the Causal Ordering of Job Satisfaction and Organizational Commitment." *Academy of Management Journal* 29 (4): 847–58. https://doi.org/10.2307/255951.

11. Dung, Nguyễn Thị Phương, Huỳnh Thị Cẩm Lý, and Lê Thị Thu Trang. 2014. "Các Yếu Tố Tác Động Đến Sự Gắn Kết Tổ Chức Của Nhân Viên Khối Văn Phòng Thành Phố Cần Thơ." *Tạp Chí Khoa Học Trường Đại Học Cần Thơ* 30: 92–99.

12. Eby, Lillian T., Deena M. Freeman, Michael C. Rush, and Charles E. Lance. 1999. "Motivational Bases of Affective Organizational Commitment: A Partial Test of an Integrative Theoretical Model." *Journal of Occupational and Organizational Psychology* 72 (4): 463–83. https://doi.org/10.1348/096317999166798.

13. Emberland, J. S., and T. Rundmo. 2010. "Implications of Job Insecurity Perceptions and Job Insecurity Responses for Psychological Well-Being, Turnover Intentions and Reported Risk Behavior." *Safety Science* 48 (4): 452–59. https://doi.org/10.1016/j.ssci.2009.12.002.

14. Emiroğlu, Begüm Dilara, Orhan Akova, and Haluk Tanrıverdi. 2015. "The Relationship Between Turnover Intention and Demographic Factors in Hotel Businesses: A Study at Five Star Hotels in Istanbul." *Procedia - Social and Behavioral Sciences* 207: 385–97. https://doi.org/10.1016/j.sbspro.2015.10.108.

15. Feng, Wong Chyi, and Tay Angeline. 2010. "Turnover Intention and Job Hopping Behaviour of Music Teachers in Malaysia." *African Journal of Business Management* 4 (4): 425–34.

16. Hackett, R. D., P. Bycio, and P. Hausdorf. 1992. “Further Assessments of a Three-Component Model of Organizational Commitment.” *Academy of Management Proceedings* 1992 (1): 212–16. https://doi.org/10.5465/ambpp.1992.17515585.

17. Hady, Mrs. Suzanne Abdel, and Prof. Hussein Chible. 2018. “The Impact of Human Resource Management Practices on Turnover ‘Case Study Travel Agencies in Beirut Lebanon.’” *Journal of Tourism and Hospitality Management* 6 (2): 56–71. https://doi.org/10.15640/jthm.v6n2a5.

18. Haldorai, Kavitha, Woo Gon Kim, Souji Gopalakrishna Pillai, Taesu (Eliot) Park, and Kandappan Balasubramanian. 2019. “Factors Affecting Hotel Employees’ Attrition and Turnover: Application of Pull-Push-Mooring Framework.” *International Journal of Hospitality Management* 83 (October 2018): 46–55. https://doi.org/10.1016/j.ijhm.2019.04.003.

19. Hemdi, Mohamad Abdullah, and Aizzat Mohd. Nasurdin. 2006. “Predicting TUrnover Intentions of Hotel Employees: The Influence of Employee Development Human Resource Management Practices and Trust in Organization.” *Gadjah Mada International Journal of Business* 8 (1): 21. https://doi.org/10.22146/gamaijb.5625.

20. Heneman, Herbert G., and Donald P. Schwab. 1985. “Pay Satisfaction: Its Multidimensional Nature and Measurement.” *International Journal of Psychology* 20 (1): 129–41. https://doi.org/10.1080/00207598508247727.

21. Herscovitch, Lynne, and John P. Meyer. 2002. “Commitment to Organizational Change: Extension of a Three-Component Model.” *Journal of Applied Psychology* 87 (3): 474–87. https://doi.org/10.1037/0021-9010.87.3.474.

22. Inoyatova, Sitora. 2021. “THE JOB SATISFACTION : A REVIEW OF WIDELY USED MEASURES &” 18 (2): 456–64.

23. Ironson, G. H., P. C. Smith, M. T. Brannick, W. M. Gibson, and K. B. Paul. 1989. “Construction of a Job in General Scale: A Comparison of Global, Composite, and Specific Measures.” *Journal of Applied Psychology* 74 (2): 193–200. https://doi.org/10.1037/0021-9010.74.2.193.

24. Johnson, Stephen M., Patricia C. Smith, and Susan M. Tucker. 1982. “Response Format of the Job Descriptive Index: Assessment of Reliability and Validity by the Multitrait-Multimethod Matrix.” *Journal of Applied Psychology* 67 (4): 500–505. https://doi.org/10.1037/0021-9010.67.4.500. https://doi.org/10.1016/j.jbusres.2007.02.014.

25. Joo, Baek-kyoo Brian, and Sunyoung Park. 2009. “Career Satisfaction , Organizational Commitment , and Turnover Intention The Effects of Goal Orientation , Organizational Learning Culture and Developmental Feedback.” https://doi.org/10.1108/01437731011069999.

26. Khuong, Mai Ngoc, Nguyen Tran Nguyen Khai, Pham Thanh Huyen, Nguyen Vo Hoai Thuong, and Nguyen Thi Minh Phuong. 2016. “Factors Affecting Employee

Performance Through a Mediation of Job Satisfaction . an Empirical Study of Hospitality Industry in Ho Chi Minh City, Vietnam." *Journal of Science Ho Chi Minh City Open University* 2 (18): 49–62.

27. Kim, Samuel Seongseop, Jaemoon Im, and Jinsoo Hwang. 2015. "The Effects of Mentoring on Role Stress, Job Attitude, and Turnover Intention in the Hotel Industry." *International Journal of Hospitality Management* 48: 68–82. https://doi.org/10.1016/j.ijhm.2015.04.006.

28. Lake, Christopher J, Purnima Gopalkrishnan, Michael T Sliter, and Scott Withrow. 2010. "The Job Descriptive Index : Newly Updated and Available for Download." *The Industrial-Organizational Psychologist* 48 (1): 47–49.

29. Lan, George, Chike Okechuku, He Zhang, and Jianan Cao. 2013. "Impact of Job Satisfaction and Personal Values on the Work Orientation of Chinese Accounting Practitioners." *Journal of Business Ethics* 112 (4): 627–40. https://doi.org/10.1007/s10551-012-1562-5.

30. Li, Jun (Justin), Mark A. Bonn, and Ben Haobin Ye. 2019. "Hotel Employee's Artificial Intelligence and Robotics Awareness and Its Impact on Turnover Intention: The Moderating Roles of Perceived Organizational Support and Competitive Psychological Climate." *Tourism Management* 73 (April 2018): 172–81. https://doi.org/10.1016/j.tourman.2019.02.006.

31. Limyothin, Pakorn, and Charlee Trichun. 2012. "The Structural Equation Model of Factors Influencing the Hotel Staff in Thailand's Intention to Quit." *International Journal of Human Resource Studies* 2 (3): 22. https://doi.org/10.5296/ijhrs.v2i3.2078.

32. *Marsh, R. M., & Mannari, H. (1977). "Organizational commit- ment and turnover: A predictive study". Administrative Science Quarterly, 22, 57-75.*

33. Mathieu, John E., and Dennis M. Zajac. 1990. "A Review and Meta-Analysis of the Antecedents, Correlates, and Consequences of Organizational Commitment." *Psychological Bulletin* 108 (2): 171–94. https://doi.org/10.1037/0033-2909.108.2.171.

34. Mercurio, Zachary A. 2015. "Affective Commitment as a Core Essence of Organizational Commitment: An Integrative Literature Review." *Human Resource Development Review* 14 (4): 389–414. https://doi.org/10.1177/1534484315603612.

35. Meyer, John P., and Natalie J. Allen. 1984. "Testing the 'Side-Bet Theory' of Organizational Commitment: Some Methodological Considerations." *Journal of Applied Psychology* 69 (3): 372–78. https://doi.org/10.1037/0021-9010.69.3.372.

36. *Mowday, R T, Porter, L W., & Steers, R M (1982) "Employee-organization linkages The psychology of commitment, absenteeism, and turnover" New York Ac- ademic Press Mowday, R T, Steers, R M , & Porter, L W. (1979) "The measurement of organizational commitment Journal of Vocational Behavior", 14, 224-247.*

37. Nahar, Lailun, Afroza Hossain, Abdur Rahman, and Arunavo Bairagi. 2013.

"The Relationship of Job Satisfaction, Job Stress, Mental Health of Government and Non-Government Employees of Bangladesh." *Psychology* 04 (06): 520–25. https://doi.org/10.4236/psych.2013.46074.

38. Park, Jeongdoo, and Hyounae (Kelly) Min. 2020. "Turnover Intention in the Hospitality Industry: A Meta-Analysis." *International Journal of Hospitality Management* 90 (May 2019): 102599. https://doi.org/10.1016/j.ijhm.2020.102599.

39. Peng, Xuerong, Seoki Lee, and Zhenglan Lu. 2020. "Employees' Perceived Job Performance, Organizational Identification, and pro-Environmental Behaviors in the Hotel Industry." *International Journal of Hospitality Management* 90 (July): 102632. https://doi.org/10.1016/j.ijhm.2020.102632.

40. *Porter, L. W., Steers, R. M., Mowday, R. T., & Boulian, P. V. (1974). "Organizational commitment, job satisfaction, and turnover among psychiatric technicians". Journal of Ap- plied Psychology, 59, 603-609.*

41. *Porter, L. W., Crampon, W. J., & Smith, F. J. (1976). "Organiza- tional commitment and managerial turnover: A longitudi- nal study". Organizational Behavior and Human Perfor- mance, 15, 87-98.*

42. *Rizzo, J. R., House, R. J., & Lirtzman, S. E. (1970). "Role con- flict and ambiguity in complex organizations". Administra- tive Science Quarterly, 15, 150-163.*

43. *Smith, P. C., Kendall, L. M., & Hulin C. L. (1969). "The measurement of satisfaction in work and retirement: A strategy for the study of attitudes". Chicago: Rand McNally.*

44. Stanton, Jeffrey M., Evan F. Sinar, William K. Balzer, Amanda L. Julian, Paul Thoresen, Shahnaz Aziz, Gwenith G. Fisher, and Patricia C. Smith. 2002. "Development of a Compact Measure of Job Satisfaction: The Abridged Job Descriptive Index." *Educational and Psychological Measurement* 62 (1): 173–91. https://doi.org/10.1177/001316440206200112.

45. *Steers, R. M. (1977). "Antecedents and outcomes of organizational commitment". Administrative Science Quarterly, 22, 46-56.*

46. *Stevens. J. M., Beyer. J., & Trice, H. M. (1978). "Assessing personal, role, and organizational predictors of managerial commitment". Academy of Management journal, 21, 380- 396.*

47. Ulufer, Seçil, and Semih Soran. 2019. "Effects of Demographic Factors and Personality on Emotional Labor. Mediating Role of Intention to Leave. A Research on Cabin Crew." *Transportation Research Procedia* 43: 129–38. https://doi.org/10.1016/j.trpro.2019.12.027.

48. Urmanov Bahromjon, Shin Hoyoung, and Kim, Ki-Su. 2013. "A Study on Factors Affecting Turnover Intention of IT Professionals." *The Journal of Eurasian Studies* 10 (1): 147–74. https://doi.org/10.31203/aepa.2013.10.1.009.

49. Wang, Chaohui, Jiahui Xu, Tingting Christina Zhang, and Qinglian Melo Li. 2020. "Effects of Professional Identity on Turnover Intention in China's Hotel Employees: The Mediating Role of Employee Engagement and Job Satisfaction." *Journal of Hospitality and Tourism Management* 45 (December 2019): 10–22. https://doi.org/10.1016/j.jhtm.2020.07.002.

50. *Wanous, J. P., & Lawler, E. E. (1972). "Measurement and meaning of job satisfaction". Journal of Applied Psychology, 56,95-105.*

51. *Welsh, H. P., & LaVan H. (1981). "Inter-relationship between organizational*

52. *commitment and job characteristics, job satisfaction, professional behavior and organizational cli- mate". Human Relations, 34, 1079-1089.*

53. Yao, Tang, Qi Qiu, and Yigang Wei. 2019. "Retaining Hotel Employees as Internal Customers: Effect of Organizational Commitment on Attitudinal and Behavioral Loyalty of Employees." *International Journal of Hospitality Management* 76 (March 2018): 1–8. https://doi.org/10.1016/j.ijhm.2018.03.018.

54. Yeager, Samuel J, Source The, Management Journal, No Mar, and Samuel J Yeager. 2015. "Dimensionality of the Job Descriptive Index Person Rather than a Process Occurring within the Context of a Dyadic Rela- Provides a Mechanism for Fuller Exam- Tionship . The Four-Level Framework Ination and Comparison of Perceptions Rather than " One Perso" 24 (1): 205–12.

55. Zhuang, Wen Long, Kuan Yang Chen, Chia Lin Chang, Xinhua Guan, and Tzung Cheng Huan. 2020. "Effect of Hotel Employees' Workplace Friendship on Workplace Deviance Behaviour: Moderating Role of Organisational Identification." *International Journal of Hospitality Management* 88 (April). https://doi.org/10.1016/j.ijhm.2020.102531.

FACTORS INFLUENCE CONSUMER SATISFACTION IN SAFE FOOD STORES: THE CASE OF THANH HOA CITY, VIETNAM

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Abstract

In recent years, a system of safe food stores has been formed and developed to meet the increasing demands of consumers. We observe that, safe food stores develop in competition for customers with other food retail systems such as traditional markets, supermarkets and trade centers. Based on such observation, the article studies the factors affecting customer satisfaction towards safe food stores. In more precisely, we propose the research model with five influencing factors, including: Food quality; Price; Promotion; Product display; and Staff. The study was conducted based on a survey of 265 consumers at safe food stores in Thanh Hoa city. The result shows that, Food quality; Price has the most influence on customer satisfaction. Besides, Promotion; Product display; and Staff also influence customers' choice to go to a safe food store. Based on those results, the article proposes recommendations for safe food stores to improve customer satisfaction.

Keywords: *Safe food stores, retail system, consumer satisfaction, Thanh Hoa city*

1. Introduction

The food system has been transformation in Vietnam toward modern distribution channels and high quality (Thanh, 2020). Besides the development of supermarkets and trading centres, the appearance of safe food store system also offer to the consumers more choice to buy food with high quality products. In recent years, Safe food distribution system in general and safe food stores in particular has been strongly developed. The number and quality of safe food stores in the country has increased significantly, meeting the increasing demand for safe food of consumers. Food safety criteria have been included in the socio-economic development plans of the localities. Safe food stores have provided consumers with new options for safe food. In other words, customers are free to choose to consume products between safe food stores, traditional market systems, as well as supermarkets and trade centres. From that observation, there is strong competition for customers between safe food stores and other distribution systems.

Thanh Hoa is a province with a developed retail distribution system, according to the Thanh Hoa Provincial Statistical Yearbook (2019), as of 2019, Thanh Hoa province has 391 markets, 20 supermarkets and 02 commercial centres) and chain of convenience stores, safe food stores. The safe food distribution system of Thanh Hoa province in general and of Thanh Hoa city in particular is developing very diversely and abundantly. Statistics show that, currently, in Thanh Hoa province, there are 558 safe food stores built, of which 86 stores have been granted food safety certificates, 377 stores were inspected to meet food safety requirements.

Thanh Hoa province has issued many mechanisms, policies and guiding documents related to food safety. A number of guidelines, mechanisms and policies have been promulgated such as: Resolution No. 04-NQ/TU dated August 18, 2016 of the Provincial Party Committee on strengthening the Party's leadership in the work of ensuring security and food safety in the province until 2020; Directive: No. 25/CT-UBND dated September 6, 2016 of the Chairman of the Provincial People's Committee on strengthening the responsibility of state management of food safety in the province; Directive No. 19/CT-UBND dated October 5, 2018 on strengthening leadership and direction in building food safety communes, wards and townships, No. 09/CT-UBND dated June 17, 2019 on strengthening transportation management. Transporting, slaughtering, processing and consuming meat and poultry, No. 18/CT-UBND dated June 11, 2020 on strengthening the state management of food safety in the province in the new situation.

Although there have been significant developments, the safe food distribution system in the province still has limitations in terms of the size of the distribution system, the quantity and type of safe food, the chain supply chain, link chain. Based on such observation, the article studies the factors affecting customer satisfaction with the safe food store system in Thanh Hoa city, thereby proposing solutions to promote the development of food safety. system of safe food stores in the direction of meeting the increasing demands of consumers.

The issue of the food distribution system in Vietnam in general and the safe food distribution system in particular has been approached by researchers in many different aspects. Thanh et al. (2019) analyzes the factors affecting the formation of modern food distribution channels while Thanh (2021a) studies the Nash equilibrium of the food market in Vietnam. Related to research on customer satisfaction and loyalty to the retail system, Vo Minh Sang (2015) address the factor influencing on customer’s satisfaction with supermarket services; Dang Thi Kim Hoa, Bui Hong Quy (2017) has analysed factors affecting customers’ loyalty to Vinamilk’s Fresh Milk; and Thanh (2021b) has studied the factors influence customer loyalty towards typical-local agricultural products of mountainous regions for the case of Thanh Hoa province, Vietnam.

The strategy of this paper is to borrow several arguments from series of well-known literatures of Cronin and Taylor (1992), Zeithaml, Berry & Parasuraman (1988), and Zeithaml & Bitner (2000) for factors influencing the satisfaction of consumers. The paper presents the model with five factors included: Food quality, Product displace, price, Promotion, and Staff. Based on the results of the model, the paper proposes policy implication for the development of safe food stores in Thanh Hoa city, Vietnam.

2. Method

2.1. Research model

The research model based on the theory of from series of well-known literatures of Cronin and Taylor (1992), Zeithaml, Berry & Parasuraman (1988), and Zeithaml & Bitner (2000), which indicate factors influencing the satisfaction of consumers. Concerning to measurement scales, this paper also borrow from the model of Vo Minh Sang (2015) for factor influencing on customer's satisfaction with supermarket services for the case of Bic Can Tho; Dang Thi Kim Hoa, Bui Hong Quy (2017) which analysing factors affecting customers' loyalty to Vinamilk's Fresh Milk in Gia Lam, Ha Noi; and Ngo Chi Thanh (2021), which analyse the factors influence customer loyalty towards typical-local agricultural products of mountainous regions for the case of Thanh Hoa province, Vietnam. Our proposed model also closely linked to the context of Thanh Hoa province since the system of safe food stores have develop quickly in recent years. The research model is presented in the figure 1.

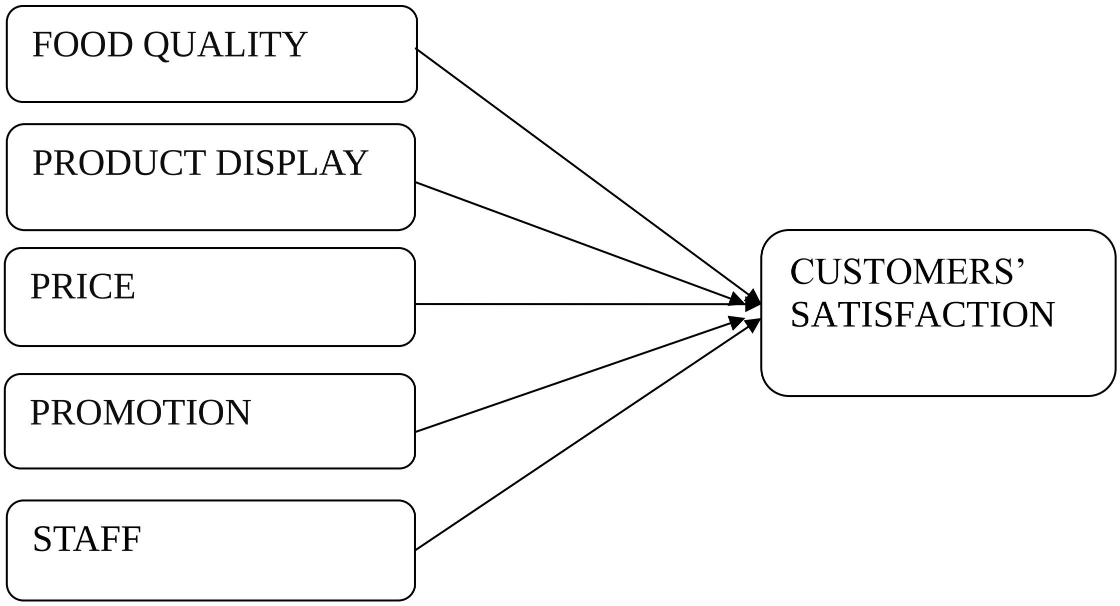

Figure 1: Research model

Hypothesis:

H1: Food quality positively affects customers 'satisfaction towards safe food stores;

H2: Product display positively affects customers 'satisfaction towards safe food stores;

H3: Price positively affects customers 'satisfaction towards safe food stores;

H4: Promotion positively affects customers ‘satisfaction towards safe food stores;

H5: Staffs positively affects customers ‘satisfaction towards safe food stores;

Table 1: Measurement scale

STT	Factors	Denote
FOOD QUALITY		
1	Safe food stores have variety kinds of foods for consumers to choose	FQ1
2	Safe food stores sell foods with stable quality	FQ2
3	Safe food stores sell foods with a high nutritional content	FQ3
4	Safe food stores sell foods with a clear origin	FQ4
PRODUCT DISPLAY		
5	Foods in safe food stores is conveniently displayed for the purchaser	PRD1
6	Food displayed is easy to find in safe food stores	PRD2
7	Safe food store have modern payment equipment	PRD3
PRICE		
8	Safe food stores sell foods with reasonable price	PRI1
9	Safe food stores sell foods with more affordable prices in comparison with other retail stores	PRI2
10	Payment methods are simple and convenient when buying foods at safe food stores	PRI3
PROMOTION		
11	Safe food stores have always offered promotions	PRO1
12	Safe food stores have provided completely and clearly information on foods	PRO2
13	Safe food stores have regularly advertised for for foods	PRO3
STAFF		
14	Staffs at safe food stores are friendly	ST1
15	Staffs at safe food stores have answered every question concerning to foods of consumer	ST2
16	Staffs at safe food stores are professional in selling foods	ST3
CUSTOMERS’ SATISFACTION		
17	I always choose to buy foods at safe food stores	SA1
16	I will recommend to others to buy foods at safe food stores	SA2
19	I will buy foods safe food at stores without buying at other places	SA3
20	I will continue to buy foods at safe food stores	SA4
21	I am satisfy to buy foods at safe food stores	SA5

2.2. Data and method

The research use the sample size followed by the framework of Hair, Black, Babin, Anerson & Tatham (1998), that emphasize for Exploratory Factor Analysis (EFA), the minimum sample size is N ≥ 5 * x (x: total number of observed variables). Under such consideration, the authors chose a sample size large enough to satisfy both conditions as suggested by the EFA method and the multiple regression method. In more precisely, N ≥ max (sample size as required by EFA; sample size as required by multiple regression), applying to the theoretical scale of 21 observed variables, the author applies the formula of Hair et al. (1998): the minimum required number of subjects is N> max (5*32) = 160 subjects to be surveyed. From that point of view, the research has been conducted by questionnaires with 265 consumers who buying typical-special local foods different distribution channels in Thanh Hoa province, included: traditional market, convenient stores and supermarkets. The research has used the tool of software SPSS 22.0 and AMOS 22.0 to analyse the data.

The descriptive statistics of sample is analysed in three aspects: gender, ages, education, income and jobs of consumers. The data shows that, most of consumers buying at safe food stores are: female (74,1%), from 26-40 year olds (38,8%), the income from 5-10 million per month (49,8%). This data reflects the behaviour of consumers buying at safe food stores since most of these products normally get high quality of the foods.

Table 2: Sample descriptive statistics

Contends		**Frequency (person)**	**Percent (%)**	**Cumulative (%)**
Gender	Male	74	25,9	25,9
	Female	191	74,1	**100**
Age of consumers	From 18-25	71	26,7	26,7
	From 26-40	103	38,8	65,5
	From 41-50	63	23,7	89,2
	Over 50	28	10,8	**100**
Education	Intermediate	45	16,9	16,9
	College, University	135	50,9	67,8
	Post graduated	26	9,8	77,6
	other	59	22,4	**100**
Income per month	Lower 3 million VND	5	1,8	1,8
	From 3- 5 million VND	89	33,5	35,3
	From 5-10 million VND	132	49,8	85,1
	Over 10 million VND	39	14,9	**100**
	Students	9	3,3	3,3

Contends		Frequency (person)	Percent (%)	Cumulative (%)
Job	Officials	91	34,3	37,6
	Business, Enterprises	79	29,8	67,4
	Unskilled labor	45	16,9	84,3
	Retired, housewife	41	15,7	**100**

Sourse: Data collected by author

3. Results

3.1. Chronbach's Alpha Reliability Analysis

The results of Chronbach's Alpha Reliability Analysis show that, the total number of valid survey questionnaires collected for processing is 265 votes. The tool of SPSS.20 software is used to process 21 observed variables (including 16 independent observed variables and 05 dependent observed variables); based on this result, one variable (SA3) is eliminated since there is a total variable correlation coefficient < 0.3. The results of processing the remaining variables (16 independent observed variables and 4 dependently observed variables) are shown in Table 3.

Table 3: The result of Chronbach's Alpha Reliability Analysis

Variables	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
FOOD QUALITY	**Alpha = 0.910**			
FQ1	11.16	6.323	.774	.893
FQ2	11.17	5.735	.825	.874
FQ3	11.23	5.782	.837	.869
FQ4	11.22	6.056	.755	.899
PRODUCT DISPLAY	**Alpha = 0.845**			
PRD1	7.09	3.063	.763	.750
PRD2	7.11	2.898	.723	.775
PRD3	7.35	2.584	.675	.837
PRICE	**Alpha = 0.840**			
PRI1	7.46	2.931	.673	.808
PRI2	7.52	2.251	.732	.759
PRI3	7.45	2.733	.725	.759
PROMOTION	**Alpha = 0.851**			
PRO1	7.49	2.592	.693	.819
PRO2	7.49	2.486	.742	.772

Variables	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PRO3	7.58	2.571	.728	.785
STAFF	**Alpha = 0.907**			
ST1	6.82	4.010	.827	.856
ST2	6.63	3.960	.796	.881
ST3	6.82	3.912	.819	.862
CUSTOMERS' SATISFACTION	**Alpha = 0.940**			
SA1	11.27	7.297	.823	.932
SA2	11.23	6.354	.893	.909
SA4	11.20	6.719	.874	.915
SA5	11.23	7.034	.841	.926

Sourse: Data collected by author

We observe that, the remaining observed variables all have Cronbach's Alpha coefficients greater than 0.7. The test results show that the scale used is suitable, the correlation coefficients of the total variables are all from 0.3 or more (Nunnally and Bernstein, 1994). Therefore, these measurement variables have reliability and are used in EFA analysis

3.2. The result of exploratory factor analysis (EFA)

3.2.1. Exploratory factor analysis (EFA) for independent variables

Through the analysis results of Table 2, KMO reached 0.788. Therefore, the KMO index of the research model is greater than 0.5, showing that the application of exploratory factor analysis here is completely appropriate. The total variance extracted was 79.286%, showing that these factors explain 79.286% of the data variation. Under such consideration, the exploratory factor analysis method in this case is completely statistically significant.

Table 4. Rotated Component Matrixa

	Component				
	1	2	3	4	5
FQ3	.904				
FQ2	.885				
FQ4	.857				
FQ1	.847				
ST3		.918			
ST1		.914			

	Component				
	1	2	3	4	5
ST2		.904			
PRO2			.874		
PRO3			.872		
PRO1			.859		
PRI3				.856	
PRI2				.844	
PRI1				.818	
PRD2					.845
PRD3					.828
PRD1					.823
Initial Eigenvalues	4.744	2.696	2.161	1.867	1.219
% of Variance	29.648	16.851	13.504	11.666	7.617
Cumulative %	29.648	46.499	60.003	71.669	79.286
KMO	**.788**				
Bartlett's Test of Sphericity	Approx. Chi-Square 2525.350 df 120 Sig. .000				

Sourse: Data collected by author

The results of the analysis of the rotation matrix of 16 independent variables are divided into 5 groups of factors; all variables have Factor loading coefficient > 0.5, ensuring the difference between the loading coefficients greater than 0.3 and the variables. is kept exactly as the original model, no new factor groups are created.

3.2.2. Exploratory factor analysis (EFA) for dependent variables

The result of exploratory factor analysis (EFA) for dependent variables is presented as in table 5.

Table 5. The result of exploratory factor analysis (EFA) for dependent variables

Variables	**Loading factor**	**Results**	**value**
SA1	.900	KMO	.650
SA2	.941	Sig.	.000
SA4	.929	Cumulative of Variance	84.753%
SA5	.911		

Sourse: Data collected by author

The KMO coefficient in the analysis is 0.650 > 0.5, showing that the factor analysis results are reliable. Bartlett's Test has the coefficient Sig. =0.00<0.05, showing that the results of factor analysis ensure statistical significance. The extracted variance is 84.753%, showing that the variation of the analysed factors can explain 84.753%, the variation of the original survey data; this is a fairly high level of significance. The factor loading coefficient of each observed variable showing all the factors is greater than 0.5, showing that the observed variables all show the influence with the factors that these variables represent.

3.3. Regression

3.3.1. Pearson Correlation coefficient

The analysis results of Pearson correlation coefficient on SPSS.20 software are presented as follows.

Table 6. Pearson Correlation coefficient analysis

Correlations							
		SA	FQ	PRD	PRI	PRO	ST
SA	Pearson Correlation	1	.577**	.575**	.581**	.464**	.431**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	265	265	265	265	265	265
FQ	Pearson Correlation	.577**	1	.408**	.332**	.223**	.105
	Sig. (2-tailed)	.000		.300	.080	.000	.089
	N	265	265	265	265	265	265
PRD	Pearson Correlation	.575**	.408**	1	.472**	.320**	.329**
	Sig. (2-tailed)	.000	.000		.210	.070	.100
	N	265	265	265	265	265	265
PRI	Pearson Correlation	.581**	.332**	.472**	1	.353**	.279**
	Sig. (2-tailed)	.000	.080	.210		.130	.000
	N	265	265	265	265	265	265
PRO	Pearson Correlation	.464**	.223**	.320**	.353**	1	.182**
	Sig. (2-tailed)	.000	.000	.070	.130		.003
	N	265	265	265	265	265	265
ST	Pearson Correlation	.431**	.105	.329**	.279**	.182**	1
	Sig. (2-tailed)	.000	.089	.100	.000	.003	
	N	265	265	265	265	265	265

Sourse: Data collected by author

The result show that, Sig values between dependent variable and independent variables are = 0.000< 0.05. Therefore, the variables are all correlated with the dependent variable and are statistically significant. The strongest correlation with the dependent variable is PRI (correlation is: 0.581, with $p<0.05$) and the weakest correlation is the factor ST (correlation is 0.431, with $p<0.05$).

3.3.2. Regression analysis

To evaluate the influence of each factor on customer satisfaction, the author uses a multivariate regression model. We obtain the results as follows:

Table 8. Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.801[a]	.641	.634	.52250	1.186

The results show that, the model has R2 = 0.641 and adjusted R2 = 0.634. This result shows that the model's relevance is 63.4%, or in other words 63.4% variation of factor Customer satisfaction is explained by 5 independent factors, on the other hand, Durbin coefficient. -Watson = 1,186 (>1) indicates that there is no linear autocorrelation between variables.

Table 9. ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	126.284	5	25.257	92.515	.000[b]
	Residual	70.707	259	.273		
	Total	196.992	264			

Using the F test to test the fit of the regression model, the results of Table 6 show that: F value = 92,515 with significance level sig = 0.000 < 0.05, which shows multiple linear regression model is fit the data set and are usable.

The graph of the normal distribution of the residuals shows the residuals of the model has an almost bell-shaped shape, which is consistent with the graph form of the normal distribution. The mean Mean = -4.21E-16 is close to 0, the standard deviation of 0.99 is close to 1, so the residual distribution is approximately standard (Figure 2). It can be concluded that: the assumption of the normal distribution of the residuals is not violated. So the model that the study estimates can be used and does not violate the assumptions initially set.

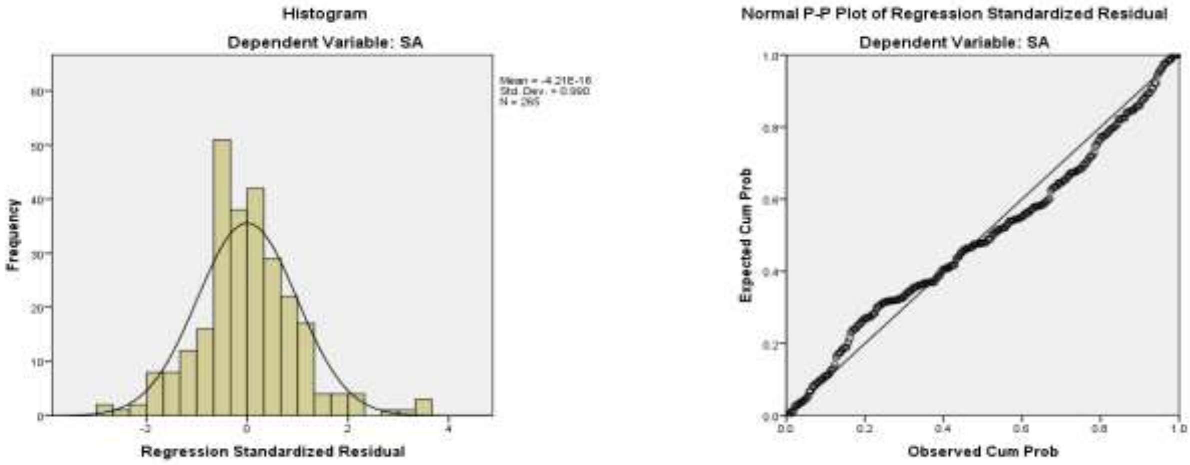

Figure 2. Distribution of the residuals

On the other hand, the Normal P-P Plot plot shows the percentiles in the distribution of residuals centered on a diagonal, thus, the assumption of the normal distribution of the residuals is not violated.

The results of multiple regression analysis are as follows:

Table 10. The results of multiple regression analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.964	.226		-4.268	.000		
	FQ	.387	.045	**.356**	8.553	.000	.801	1.248
	PRD	.186	.049	**.174**	3.780	.000	.652	1.533
	PRI	.267	.049	**.245**	5.507	.000	.700	1.428
	PRO	.212	.037	**.232**	5.797	.000	.866	1.155
	ST	.232	.047	**.201**	4.939	.000	.839	1.192

We obtain that, all independent variables have Sig. is less than 0.05, which imply that all independent factors have an effect on the dependent variable. The degree of influence of each factor depends on the standardized Beta coefficient, or which factor has a large standardized Beta coefficient, which has a strong impact on the highly dependent variable. Based on the results of Table 7, we obtain the following regression equation:

$$SA = -0.964 + 0.356FQ + 0.174PRD + 0.245PRI + 0.232PRO + 0.201ST + ui$$

In which: FQ: Food quality; PRD: Product display; PRI: Price; PRO: Promotion; ST: Staff; SA: Customer’s Satisfaction.

The model shows that, the variable Food quality has the strongest influence on Customer's Satisfaction (standardized β coefficient = 0.356). Similarly, the second strongest factor affecting Customer's Satisfaction is Price (normalized β coefficient = 0.245), followed by the following factors: Promotion (standardized β coefficient = 0.232); Staff (normalized β coefficient = 0.201); and finally Product display (normalized β coefficient = 0.174), these factors all have a positive impact on the dependent variable. Therefore, the research hypotheses H1, H2, H3, H4, and H5 are accepted.

4. Discussion and Conclusion

The study has proposed a model of factors affecting customer satisfaction for safe food stores. The results show that, there are 5 influencing factors, including: Food quality; Price; Promotion; Product display; and Staff. The model results reflect the reality in Thanh Hoa, which shows the trend of consumers consuming products at safe food stores. The results of the model emphasize that when consuming at safe food stores, customers are most concerned with quality. More specifically, when consuming at safe food stores, customers expect to consume products of original origin, preserved in accordance with the process, and tested for safe quality. Besides, the research results also show that price is an important factor affecting customer satisfaction. Despite consuming quality products and ensuring food safety, customers still want more reasonable prices in the context of safe food stores that compete with other food distribution channels. Research results are related to Thanh's study (2021a) on the influence of quality on customers' choice; As well as logic with research results Vo Minh Sang (2015); Dang Thi Kim Hoa, Bui Hong Quy (2017), on factors affecting customer satisfaction in the retail system.

Based on the result of the model, some recommendations are presented as followed:

Diversify products with reasonable prices to meet the needs of consumers: According to the result, Food quality and Price are two important factors affect to customer satisfaction on safe food stores. From that point of view, improving the quality of the supplied foods is the key solution in order to satisfy the consumers. Safe food stores should expend the category of the safe foods for the choice of the consumers in the relationship with the price. For instance, for each item, it is necessary to have many different product codes with low to high price brackets to serve the needs of a large number of consumers with average incomes and above. Safe food stores need to develop and implement the most reasonable price policy in relation to the quality of goods, ensuring good competition with other business types.

Having more promotion programs for consumers: Currently, supermarkets and trade centres have regular promotions, while safe food stores, with a smaller scale, do not have many promotional programs for customers. This directly affects customer satisfaction and loyalty towards safe food stores. The result of the model also indicates that, promotion programs influence to customer satisfaction. Safe food stores need to strengthen links with localities, businesses and farms that provide safe food to build promotions. Regularly participate in food market connection programs to introduce products to customers.

Policy for staffs and product display: Research results show that employees are also an important factor affecting customer satisfaction. Safe food stores need to develop team development policies. In which, it is necessary to focus on the following directions: strengthening training for employees, training in management knowledge and sales skills; Have a policy to attract qualified employees; formulating salary and bonus policies for staffs. Besides, safe food stores also need to improve infrastructure related to stores, paying attention to product display in which, food stores need to pay attention to expanding their area, ensuring to serve customers' needs well. Display products in a professional and nice way for convenience and to attract customers.

5. References

1. Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411–423.

2. Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological bulletin*, 88(3), 588.

3. Cronin Jr, J. J., & Taylor, S. A. (1992). Measuring service quality: a reexamination and extension. *Journal of marketing*, 56(3), 55-68.

4. Grover, R., & Srinivasan, V. (1992). Evaluating the multiple effects of retail promotions on brand loyal and brand switching segments. *Journal of marketing research*, 29(1), 76-89. https://doi.org/10.1177/002224379202900107

5. Hair, J.F., Black, W.C., Babin, B.J., Anerson, R.E. & Tatham, R.L. (1998), *Multivariate data analysis*, 5 (3), 207-219.

6. Hoa, Đ. T. K., & Quy, B. H. (2017). Analyzing Factors Affecting Customers' Loyalty to Vinamilk's Fresh Milk in Gia Lam, Ha Noi. *Vietnam J. Agri. Sci. 2017*, Vol. 15, No. 1: 107-117 *(in Vietnamese)*

7. Ngo Chi, T., Le Hoang Ba, H., Hoang Thanh, H., Le Quang, H., & Le Van, C. (2019). Linkages in modern distribution channels formation: the study of factors affecting mountainous agricultural products consumption in Vietnam. *Economic Annals-XXI*, 178(7-8), 134-147. doi: https://doi.org/10.21003/ea.V178-12

8. Ngo Chi Thanh. (2020). *Production and Consumption for Typical – Special Agricultural Products in Thanh Hoa's Mountainous Region in the context of Food System*

Transformed Toward Modern Distribution Channels. National Economic University Publishing House. *(in Vietnamese).*

9. Ngo. C.T. (2021a). Food Distribution System in Vietnam: Nash Equilibrium and Channel Choice of Small Scale Farmers. (2021). *Journal of Distribution Science,* 19(1), 61–73. https://doi.org/10.15722/JDS.19.1.202101.61

10. Ngo Chi Thanh, (2021b), Factor influence customer loyalty towards typical – local agricultural products of mountainous regions: The case of Thanh Hoa province, Vietnam, *Journal of Finance & Accounting Research*, No 02 (10)-2021.

11. Thanh Hoa Statistics Office. (2020). *Thanhhoa Statistical Yearbook 2019*, Statically Publishing House.

12. Trọng, H., & Ngọc, C. N. M. (2008). Analyzing research data with SPSS. Hong Duc Publishing House *(in Vietnamese)*.

13. Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate behavioral research*, 25(2), 173-180. https://doi.org/10.1207/s15327906mbr2502_4

14. Zeithaml V., Berry L. & Parasuraman A., (1988), Communication and control processes in the delivery of service quality, *Journal of Marketing*, Vol 52, pp 35-48

15. Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. *Journal of marketing*, 52(3), 2-22.

16. Zeithaml, V.A. and Bitner, M.J. (2000), *Services Marketing*, McGraw-Hill, Boston, MA.

INVESTIGATIVE STUDY ON FACTORS AFFECTING THE DEBT MATURITY STRUCTURE OF REAL ESTATE COMPANIES LISTED ON HO CHI MINH STOCK EXCHANGE

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Abstract

In this study, the system generalised method of moment (Sys-GMM) was used to investigate the debt maturity structure of real-estate companies listed on Ho Chi Minh Stock Exchange (HOSE) in the period from 2008 to 20019. The decision on debt maturity structure was found to be influenced by firm size, liquidity and tangible asset. In addition, tangible asset had the largest impact on the possibility for companies to access long-term loans. This observation indicates that the companies mostly borrowed money from banks and collateral is very important to make decision on loans. This was supported by another finding that financial institutions had an impact on the debt maturity structure, while effects of financial market were insignificant. Besides, the companies seemed not to pay attention to changes in inflation, economic growth, and institutional quality, when making decision on the debt maturity structure.

Keywords: *Debt maturity structure, financial development, financial institutions, institutional quality.*

1. Introduction

1.1. Research question

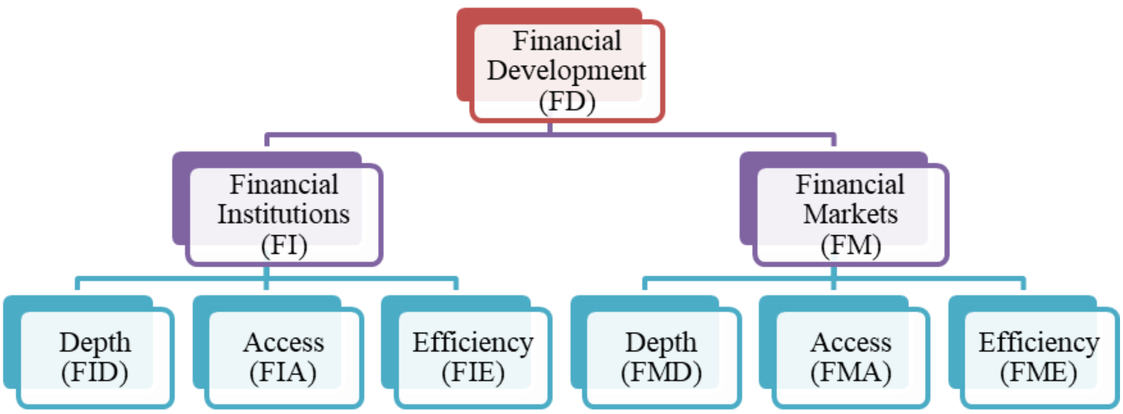
The debt maturity structure is regarded as one of the most important financial decisions affecting the development of companies. The decision influences investment due to changes to the capital cost, as well as dividend due to effects on the cash flow. The debt maturity structure of companies is studied in both developed and developing countries. These studies not only used static models to investigate effects of firm and macroeconomic factors, but also utilised dynamic model to evaluate the rate of adjustment to the debt maturity structure (Barclay and Smith, 1995; Demirguc-Kunt and Maksimovic, 1999; Ozkan, 2000; Antoniou et al., 2006; Teruel and Solano, 2007; Cai et al., 2008; Deesomsak et al,. 2009; Wang et al,. 2010; Terra, 2011; Lemma and Negash, 2012; Krich and Terra, 2012; Matues and Terra, 2013; Bilgin, 2020). According to these studies, the debt maturity of structure of companies is determined by the ratio of long-term debt to total debt which comprises long- and short-term debts. The focus of these studies is to investigate effects of firm and macroeconomic factors, thereby enabling financial administrators to make sound decisions on the debt maturity structure of companies.

The global financial crisis in 2008 has brought economic hardship to companies in Vietnam, including those in the real-estate sector. Nevertheless, real-estate companies are making significant contributions to the economy and require business loans to maintain and expand their operation. They however face difficulties in making decision on how, where and when to borrow money as well as the duration of loans. This study aims to give insights into how internal factors, representing the characteristic of firms, and external factors, reflecting the economy, especially the financial development and institutional quality, affect the debt maturity structure of real-estate companies listed on Ho Chi Minh Stock Exchange (HOSE).

According to IMF (International Monetary Fund, 2015) (Čihák, 2012), the financial development is the combination of *(1) the depth of the market*, including size and liquidity; *(2) the access to the market*, including the ability of individuals and organisations to access financial services; and *(3) the efficiency*, which is examined based on the performance of capital markets and the ability of credit institutions to provide low-cost financial services. In order to accurately assess the financial development of a country, IMF (2015) developed a set of financial development indices (FD indices), which comprise indices of depth, accessibility and efficiency of financial institutions (FI) and financial markets (FM) (Figure 1). Financial institutions and financial markets pose different impacts on financing decisions of companies, in particular the debt maturity structure. This study, therefore, also aims to examine the role of financial institution and financial market to uncover impacts of the financial development on the debt maturity structure of the real-estate companies in Vietnam.

In addition, the study aims to verify whether the real-estate companies adjust their debt maturity structure, thereby providing financial administrators with evidence to support their decision making in matters related to the debt maturity structure of companies.

Figure 1: ***Financial Development Index (Source: IMF, 2015).***



1.2. Theoretical Framework and Empirical Research Results

The debt maturity structure of companies is determined by the ratio of the long-term debt to the total debt and is governed by Signalling theory (Diamond, 1991; Flannery, 1986), Agency-cost theory (Barnea et al., 1980; Jensen and Meckling, 1976; Myers, 1977), Tax-based theory (Brick and Ravid, 1985, 1991) and Matching theory (Morris, 1976). According to these theories, the debt maturity structure is resulted from when a company tries to balance costs and benefits by approaching debts having different maturities.

Empirical studies based on the aforementioned theoretical frameworks demonstrate that ***firm factors*** have major impacts on the debt maturity structure of companies. The study of Myers (1977), which was later supported by Barclay and Smith (1995), agreed with Agency-cost theory where, by reducing the debt maturity, companies will be able to control underinvestment problems. Large companies will issue many long-term debts and companies with asymmetric information will use short-term debts. It was found taxed-based theory does not influence the debt maturity structure of companies. Terra (2011) showed similar factors affecting the debt maturity structure of companies in the US and Latin American countries, despite differences in the financial and business environment between countries in the sample survey. Specifically, the factors of firm size, profitability, tangible assets do not affect debt maturity; debt ratio, asset maturity and liquidity have positive effects on debt maturity; taxes and growth opportunity have negative effects on debt maturity. The study of Costa et al. (2014) on SMEs (small and medium enterprises) in Portugal showed that small companies that have low liquidity tend to use many short-term debts. The tax rate has very small positive effect on asset maturity. The capital cost has a strong positive effect on long-term debt. The capital cost is opposite to the growth opportunity; companies that have more physical assets will less likely to grow and more likely to use such assets as collateral to borrow from banks. This observation agrees with Myers (1997) who found that companies that have many growth opportunities should use short-term debts. Chung and Phan (2020) showed that leverage, firm size and lagged debt maturities are the important factors for listed non-financial companies in Vietnam to decide the debt maturity structure.

External factor that reflects the characteristics of market and economy also affects the debt maturity structure of companies. The study of Krich and Terra (2012) showed that the debt maturity structure of companies in five South American countries including Argentina, Brazil, Chile, Peru and Venezuela are significantly influenced by the national institutional quality, whereas the financial development only has a minor impact. Lemma and Negash (2012) concluded that companies in low-income countries tend to use less long-term debts. Also, taxes, economic growth and development in the banking sector have negative effects on the debt maturity structure of companies in Africa. Deesomsak et al. (2009) found that the debt maturity structure of companies in Thailand, Malaysia, Singapore and Australia is strongly related to the characteristics of the economy. Accordingly, economic growth, inflation, the level of the market capitalisation, the size of banks and the maturity structure of interests have an impact on the debt maturity structure. In China, Cai et al. (2008) showed that the debt maturity structure depends on the factors representing the characteristics of the economy, including the maturity structure of interest, the volatility of stock markets and interests. Similarly, according to Wang et al. (2010), taxes and growth opportunities have positive effects on debt maturity, whereas inflation and money supply have negative effects on debt maturity of companies. Bilgin (2020) concluded that, in addition to firm factors such as debt ratio, firm size, and growth opportunities, the debt maturity structure of companies in 30 selected developing countries is also influenced stock market development and bank concentration.

Besides, the studies of Antoniou et al. (2006), Deesomsak et al. (2009), Krich and Terra (2012), Ozkan (2000), Terra (2011) and Matues and Terra (2013) showed that companies in the United Kingdom, America, Eastern Europe and South America adjust the debt maturity structure towards their targets in order to reduce incurred cost of borrowing. However, the rate of adjusting the debt maturity is different between countries, depending on its economic context.

2. Method

2.1. Data collection and processing

The sample includes 48 real-estate companies categorised based on GICS and listed on HOSE in the period from 2008 to 2019. The data was collected from the companies' audited financial statement archived in the electronic database of www.vietstock.vn and www.bvsc.com.vn. Since the archived data was structured as panel data, the regression modelling was conducted using specialised methods.

2.2. Variables

The regression model of the company's debt maturity structure is based on Agency-cost, Signalling, Matching and Tax-based theories. The company's debt maturity structure is represented by the debt maturity variables, which is the dependent variable of the model and is defined as the ratio of the long-term debt to the total debt (Barclay and Smith, 1995; Cai et al., 2008; Deesomsak et al., 2009; Wang et al., 2010; Krich and Terra, 2012; Lemma and Negash, 2012; Costa et al., 2014; Bilgin, 2020). Factors affecting the debt maturity structure are represented by the variables listed in Table 1. In addition, the model includes the first-order lagged debt maturity to study the dynamic debt maturity structure (Ozkan, 2000; Antoniou et al,. 2006; Deesomsak et al., 2009; Terra, 2011; Krich and Terra, 2012; Mateurs and Terra, 2013).

Table 1: Variables in the regression model.

Variable	Symbol	Definition	Expected correlation	Theories and empirical studies
Debt maturity	MR	$\frac{\text{Long term debt}}{\text{Total debt}}$		Barclay and Smith (1995), Demirguc-Kunt and Maksimovic (1999), Ozkan (2000), Antoniou et al. (2006), Teruel and Solano (2007), Cai et al,. (2008), Deesomsak et al,. (2009), Terra (2011), Krich and Terra (2012), Lemma and Negash (2012), Matues and Terra (2013), Costa et al,. (2014), Chung and Phan (2020), Bilgin (2020).
Leverage	*LEV*	$\frac{\text{Total debt}}{\text{Book Assets}}$	Positive	Signaling theory; Costa et al,. (2014), Krich and Terra (2012), Cai et al,. (2008), Teruel and Solano (2007), Antoniou et al,. (2006), Barclay and Smith (1995), Deesomsak et al,. (2009), Lemma and Negash (2012).
Profitability	*PROF*	$\frac{\text{EBIT}}{\text{Book assets}}$	Negative	Signaling theory; Lemma and Negash (2012); Antoniou et al,. (2006); Deesomsak et al,. (2009); Cai et al,. (2008).
Earnings volatility	*VOL*	Standard deviation of Earnings	Positive	Signaling theory; Antoniou et al,. (2006), Cai et al,. (2008), Deesomsak et al,. (2009), Lemma and Negash (2012)
Liquidity	*LIQ*	$\frac{\text{Short term asset}}{\text{Short term liability}}$	Positive	Signaling theory; Antoniou et al,. (2006); Teruel and Solano (2007); Cai et al,. (2008), Deesomsak et al,.

Variable	Symbol	Definition	Expected correlation	Theories and empirical studies
				(2009), Matues and Terra (2013); Costa et al,. (2014)
Tangibility	*TAN*	$\frac{\text{Net Fixed Assets}}{\text{Book Assets}}$	Positive	Matching theory; Krich and Terra (2012); Matues and Terra (2013), Costa et al,. (2014).
Asset maturity	*AM*	$\left(\frac{\text{Current Assets}}{\text{Current Assets} + \text{Net Fixed}} \times \frac{\text{Current Assets}}{\text{Cost of Goods Sold}}\right) + \left(\frac{\text{Net Fixed Assets}}{\text{Current Assets} + \text{Net Fixed}} \times \frac{\text{Net Fixed Assets}}{\text{Deprececiation}}\right)$	Positive	Matching theory; Demirguc-Kunt and Maksimovic (1999); Ozkan (2000); Cai et al,. (2008); Wang et al,. (2010); Lemma and Negash (2012)
Firm size	*SIZE*	Logarithmic of Book assets	Positive	Agency theory; Barclay and Smith (1995); Ozkan (2000); Antoniou et al,. (2006); Cai et al,. (2008); Deesomsak et al,. (2009); Wang et al,. (2010), Krich and Terra (2012), Costa et al,. (2014).
Grow opportunity	*GROW*	$\frac{\text{Liability} + \text{Capitalisation}}{\text{Book assets}}$	Negative	Agency theory, Barclay and Smith (1995); Ozkan (2000); Wang et al,. (2010); Teruel and Solano (2007); Cai et al,. (2008); Lemma and Negash (2012); Krich and Terra (2012)
Tax shield	*TAX*	$\frac{\text{The firm's total tax charge}}{\text{Total taxable income}}$	Negative	Tax-based theory; Ozkan (2000); Matues and Terra (2013); Costa et al,. (2014); Cai et al,. (2008); Krich and Terra (2012).
Inflation rate	*INT*	Consumer price index (CPI)	Negative	Demirguc-Kunt and Maksimovic (1999); Wang

Variable	Symbol	Definition	Expected correlation	Theories and empirical studies
				et al,. (2010); Deesomsak et al,. (2009)
GDP growth	*GDP*	GDP growth rate	Positive	Demirguc-Kunt and Maksimovic (1999); Deesomsak et al,. (2009); Wang et al,. (2010); Lemma and Negash (2012)
Financial Institution	*FI*	Financial Institution index	Negative	Kirch và Terra (2012)
Financial Markets	*FM*	Financial Markets index	Positive	Kirch và Terra (2012)
Institutional Quality	IQ	Governance Indicators	Positive	Demiruc-Kunt and Maksimovic (1999), Krich and Terra (2012)
Lagged debt maturity	MR_{t-1}	First-order lagged variable of the debt maturity		Ozkan (2000), Antoniou et al,. (2006), Deesomsak et al,. (2009), Terra (2011), Kirch and Terra (2012), Mateurs and Terra (2013).

(Source: the author)

2.3. Regression model

In this study, a dynamic model was adopted (Ozkan, 2000; Antoniou et al, 2006; Deesomsak et al., 2009; Terra, 2011; Krich and Terra, 2012; Matuers and Terra, 2013), in order to examine effects of internal and external factors on the debt maturity structure of the real-estate companies listed on HOSE, and thereby to provide evidence that the companies adjusted their debt maturity structure.

Assumed that the target debt maturity structure can be represented by an linear equation of *k* variables as follows:

$$MR^{*}_{i,t} = \sum_{k=1} \omega_k X_{k,i,t} + \epsilon_{i,t} \quad (1a)$$

where:

$MR^{*}_{i,t}$	the target debt maturity of the company *i* in the year *t*;
$X_{k,i,t}$	*k* factor affecting the target debt maturity structure;
$\epsilon_{i,t}$	error of the regression model.

Assumed the company adjusts the actual debt maturity structure with an adjustment coefficient ρ toward the target:

$$MR_{i,t} - MR_{i,t-1} = \rho \left(MR^*_{i,t} - MR_{i,t-1}\right) \quad (1b)$$

where:

$MR_{i,}$ the actual debt maturity of the company *i* in the year *t*;

$MR_{i,t-1}$ the actual debt maturity of the company *i* in the year *t*–1;

$MR^*_{i,t}$ the target debt maturity of the company *i* in the year *t*;

$MR_{i,t} - MR_{i,t-1}$ change in the actual debt maturity

$MR^*_{i,t} - MR_{i,t-1}$ change in the target debt maturity

ρ adjustment coefficient.

From Equations 1a and 1b, the partial adjustment to the actual debt maturity is written as follows:

$$MR_{i,t} = (1 - \rho)MR_{i,t-1} + \sum_{k=1} \rho\omega_k X_{k,i,t} + \rho\epsilon_{i,t} \quad (1c)$$

Equation 1c indicates $0 \leq \rho \leq 1$

If $\rho = 1$: Change in the actual debt maturity structure equals to change in the target debt maturity structure

If $\rho = 0$: There is no adjustment to the debt maturity structure. It could probably be because the debt maturity in the year *t* equals that in the previous year, or the cost associated with adjusting the debt maturity structure is higher than the incurred cost due to deviation from the target.

If $0 < \rho < 1$: There is partial adjustment to the debt maturity structure, or the debt maturity structure is dynamic.

If the incurred cost due to deviation from the target debt maturity structure is higher than the cost associated with adjustment, then the adjustment coefficient ρ is expected to be higher. In fact, ρ is determined as the difference between 1 and the regression coefficient of the first-order lagged variable of the dependent variable.

Equation 1c can be re-written in more detail by incorporating all variables, to study effects of firm and macroeconomic factors on the debt maturity structure of the real-estate companies listed on HOSE:

$$MR_{i,t} = \alpha_0 + \alpha_1 MR_{i,t-1} + \alpha_2 LEV_{i,t} + \alpha_3 PROF_{i,t} + \alpha_4 VOL_{i,t} + \alpha_5 LIQ_{i,t} + \alpha_6 TAN_{i,t} + \alpha_7 AM_{i,t} + \alpha_8 SIZE_{i,t} + \alpha_9 GROW_{i,t} + \alpha_{10} TAX_{i,t} + \alpha_{11} INF_{i,t} + \alpha_{12} GDP + \alpha_{13} FI_{i,t} + \alpha_{14} FM_{i,t} + \alpha_{15} IQ_{i,t} + \epsilon_{i,t} \quad (2)$$

2.4. Regression method

In a dynamic model such as one used in this study, the lagged variable of the dependent variable is indeed an independent variable and can have correlation with other independent variables. Also, there is a concurrent relationship between the debt maturity variable MR and the leverage variable LEV (Krich and Terra, 2012), which can cause endogeneity and affect the accuracy of regression results. This is the disadvantage to some regression methods that are appropriate for panel data, such as Pooled OLS, FEM, REM and GLS. On the other hand, Antoniou et al. (2006) showed that the system generalised method of moment (Sys-GMM) method can resolve this issue and therefore, this method was applied in this study to estimate the regression model, together with Sargan and Arellano-Bond tests.

3. Results and Discussion

Table 2: Regression results

Variable	Predicted correlation	(1)	(2)	(3)	(4)	(5)
MR_1		0.4659***	0.4006***	0.3435**	0.4119***	0.3897***
		(0.0020)	(0.0050)	(0.0220)	(0.0020)	(0.0030)
LEV	+	0.4613**	0.3083	0.2411	0.3590	0.2603
		(0.0380)	(0.1980)	(0.3040)	(0.1400)	(0.2730)
PROF	-	-0.0118	-0.0509	-0.1008	-0.0504	-0.0916
		(0.9320)	(0.6980)	(0.4520)	(0.6890)	(0.4690)
VOL	+	-0.0005	-0.0006	-0.0006	-0.0007	-0.0007
		(0.1990)	(0.1610)	(0.1770)	(0.1040)	(0.1330)
LIQ	+	0.0165***	0.0180***	0.0190***	0.0175***	0.0182***
		(0.0090)	(0.0030)	(0.0010)	(0.0020)	(0.0010)
TAN	+	0.2165*	0.1827*	0.1622	0.1805*	0.1643*
		(0.0540)	(0.0680)	(0.1010)	(0.0790)	(0.0890)
AM	+	0.0000	-0.0001	-0.0001	0.0000	-0.0001

Variable	**Predicted correlation**	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
		(0.9730)	(0.7680)	(0.6750)	(0.8290)	(0.7190)
SIZE	+	0.0542***	0.0585***	0.0640***	0.0591***	0.0609***
		(0.0010)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
GROW	-	-0.1927*	-0.1246	-0.0950	-0.1471	-0.1041
		(0.0500)	(0.2400)	(0.3570)	(0.1720)	(0.3160)
TAX	-	0.0010	0.0010	0.0004	0.0006	0.0004
		(0.8090)	(0.7870)	(0.9240)	(0.8650)	(0.9200)
INF	+		-0.0018	-0.0055*	-0.0045	-0.0049
			(0.4320)	(0.0610)	(0.1720)	(0.1790)
GDP	+		-0.0511**	0.0184	-0.0297	0.0114
			(0.0430)	(0.6400)	(0.3180)	(0.7860)
FI	-			-2.3766*		-2.2292*
				(0.0760)		(0.0880)
FM	+			0.1530		0.1913
				(0.4900)		(0.3990)
IQ	+				-0.0144	0.0043
					(0.2890)	(0.7520)
No. obs		396	396	396	396	396
Prob>F		0.0000	0.0000	0.0000	0.0000	0.0000
Sargan test		0.0340	0.0270	0.0230	0.0410	0.0300
Arellano-Bond test		0.4680	0.3740	0.4670	0.4020	0.5070

(Source: Stata data processing by the author)

*(The Sys-GMM method was applied to conduct the regression analysis for Equation 2 using five different groups of variables: (1) firm factors; (2) firm and macroeconomic factors; (3) firms and macroeconomic factors, and those representing the financial development (including financial institutions and financial markets); (4) firms and macroeconomic factors, and those representing the institutional quality; (5) all factors. *, ** and *** represent the statistical significance of 10%, 5% and 1%, respectively.)*

The correlation in Table 2 suggests that effects of all factors on the debt maturity structure are in line predictions based on theories and previous empirical studies. The results of the regression analysis are in a good agreement with Cai et al. (2008), Deesomsak et al. (2009), Costa et al. (2014), Tayem (2018), and Bilgin (2020), as well as Agency cost, Signalling and Matching theories. The results suggest that the real-estate companies approached loans with longer maturities when the companies grew, improved their liquidity and possessed more tangible assets. While tangible asset is the firm factor that has the strongest effect on the debt maturity structure at 10% statistical significance, asset maturity is not significant. This shows the real-estate companies in Vietnam listed on HOSE pay less attention to debt maturity and asset maturity when making borrowing decision. In addition, the study found no evidence to support the tax-based theory.

Among other external factors, only financial institutions have significant influence on borrowing decision of the real-estate companies. This observation helps clarify the research aim stated in the previous section. Borrowing decisions are greatly affected by the financial development, in particular the development of financial institutions. The results of this study are consistent with financing and debt activities in the real-estate sector. The development of financial institutions helps reduce agency cost since they are better to monitor borrowers than other creditors. In such a financial environment, short-term debts are preferred by real-estate companies.

A dynamic debt maturity structure enables the companies to actively adjust the ratio between long-term debt and short-term debt. The regression analysis of Equation 2 shows that the first-order lagged variable of the debt maturity (MR_1) has the statistical significant of 1% to 5%, regardless of different groups of factors or dependent variables. This indicates the model is dynamic or, in other word, the debt maturity structure of the real-estate companies is dynamic. The regression coefficient of MR_1 varies from 34.35% to 46.59%, depending on the group of factors. In general, taking into account effects of firm factors and external factors including financial institutions, financial markets and institutional quality, the regression coefficient of MR_1 is 38.97%. Therefore, the adjustment coefficient ρ is 1 – 0.3897 = 0.6103, i.e. 61.03%. This indicates the real-estate companies significantly adjusted their debt maturity structure because the cost associated with adjustment was lower the incurred cost due to deviation from the target maturity. Therefore, the real-estate companies listed on HOSE in the period from 2008 to 2019 adjusted their debt maturity structure and their financial administrators made decision based on specific firm characteristics such as liquidity, tangible assets and company size.

4. Conclusion

The real-estate companies listed on HOSE was found to have dynamic debt maturity structure and make relatively large adjustments to their debt maturity. This indicated high incurred cost due to deviation from the target debt maturity. The study showed that the financial development, in particular the development of financial institutions, posed large impacts on decisions of long-term borrowing. In addition, the study identified factors that had significant influence on the debt maturity structure of the real-estate companies. In particular, the study provided evidence to support agency-cost, signalling and matching theories. Unlike other counties, tangible asset is the firm factor that affected borrowing decision the most. This proves that the real-estate companies listed on HOSE tended to borrow through banks and collateral enabled them to access long-term debt. The results of this study strongly suggest the development of financial institutions had large influence on the debt maturity of the real-estate companies, whereas inflation, economic growth, financial market and institutional quality had insignificant impact.

The study presented on this paper only focused on investigating influence of firm and external factors, especially the financial development, financial market, and institutional quality, on the debt maturity of structure of the real-estate companies in Vietnam listed on HOSE. This research will pave the way for future studies, using large samples to provide more insights into this topic in a Vietnamese context.

5. References

1. Antoniou, A., Guney, Y., and Paudyal, K. (2006). The Determinants of Debt Maturity Structure: Evidence from France, Germany and the UK. *European Financial Management, 12*(2), 161-194. doi: 10.1111/j.1354-7798.2006.00315.x

2. Barclay, M. J., and Smith, C. W. (1995). The Maturity Structure of Corporate Debt. *The Journal of Finance, 50*(2), 609-631. doi: 10.1111/j.1540-6261.1995.tb04797.x

3. Antoniou, A., Guney, Y., and Paudyal, K. (2006). The Determinants of Debt Maturity Structure: Evidence from France, Germany and the UK. *European Financial Management, 12*(2), 161-194. doi: 10.1111/j.1354-7798.2006.00315.x

4. Barclay, M. J., and Smith, C. W. (1995). The Maturity Structure of Corporate Debt. *The Journal of Finance, 50*(2), 609-631. doi: 10.1111/j.1540-6261.1995.tb04797.x

5. Barnea, A., Haugen, R. A., and Senbet, L. W. (1980). A Rationale for Debt Maturity Structure and Call Provisions in the Agency Theoretic Framework. *The Journal of Finance, 35*(5), 1223-1234. doi: 10.2307/2327095

6. Bilgin, R. (2020), 'The determinants of debt maturity structute in developing countries', *Süleyman Demirel University Visionary Journal*, 11(27), 466-479.

7. Brick, I. E., and Ravid, S. A. (1985). On the Relevance of Debt Maturity Structure. *The Journal of Finance*, *40*(5), 1423-1437. doi: 10.2307/2328122

8. Brick, I. E., and Ravid, S. A. (1991). Interest Rate Uncertainty and the Optimal Debt Maturity Structure. *The Journal of Financial and Quantitative Analysis, 26*(1), 63-81. doi: 10.2307/2331243

9. Cai, K., Fairchild, R., and Guney, Y. (2008). Debt maturity structure of Chinese companies. *Pacific-Basin Finance Journal, 16*(3), 268-297. doi: http://dx.doi.org/10.1016/j.pacfin.2007.06.001

10. Čihák, M., Demirgüç-Kunt. A., Feyen, E., and Levine, R. (2012). Benchmarking Financial Development Around the World. *World Bank Policy Research Working Paper 6175. World Bank, Washington, DC.*

11. Costa, S., Laureano, L. M. S., and Laureano, R. M. S. (2014). The Debt Maturity of Portuguese SMEs: The Aftermath of the 2008 Financial Crisis. *Procedia - Social and Behavioral Sciences, 150*(0), 172-181. doi: http://dx.doi.org/10.1016/j.sbspro.2014.09.024

12. Chung, T. A., and Phan, Q. T. (2020), 'Debt maturity and the development of financial markets in Vietnamese listed firms', *Afro-Asian Journal of Finance and Accounting*, 10(2), 184-206.

13. Deesomsak, R., Paudyal, K., and Pescetto, G. (2009). Debt maturity structure and the 1997 Asian financial crisis. *Journal of Multinational Financial Management, 19*(1), 26-42. doi: http://dx.doi.org/10.1016/j.mulfin.2008.03.001

14. Demirguc-Kunt, A., and Maksimovic, V. (1999). Institutions,financial markets, and firm debt maturity. *Journal of Financial Economics, 54*(3), 259-336.

15. Diamond, D. W. (1984). Financial intermediation and delegated monitoring. *Review of Economic Studies, 51*(393-414).

16. Diamond, D. W. (1991). Debt Maturity Structure and Liquidity Risk. *The Quarterly Journal of Economics, 106*(3), 709-737. doi: 10.2307/2937924

17. Flannery, M. J. (1986). Asymmetric information and risky debt maturity choice. *Journal of Finance, 41*, 19-37.

18. IMF. (2015). Rethinking Financial Deepening: Stability and Growth in Emerging Markets.

19. Jensen, M. C., and Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics, 3*(4), 305-360.

20. Kirch, G., and Terra, P. R. S. (2012). Determinants of corporate debt maturity in South America: Do institutional quality and financial development matter? *Journal of Corporate Finance, 18*(4), 980-993. doi: http://dx.doi.org/10.1016/j.jcorpfin.2012.05.004

21. Lemma, T., and Negash, M. (2012). Debt Maturity Choice of a Firm: Evidence from African Countries. *Journal of Business and Policy Research, 7*(2), 60-92.

22. Mateurs, C., and Terra, P. (2013). Leverage and the Maturity Structure of Debt in Emerging Markets. *Journal of Mathematical Finance, 3,* 46-59. doi: http://dx.doi.org/10.4236/jmf.2013.33A005

23. Morris, J. (1976). On corporate debt maturity strategies. *Journal of Finance, 31*(1), 29-37.

24. Myers, S. C. (1977). Determinants of corporate borrowing. *Journal of Financial Economics, 5*, 146-176.

25. Ozkan, A. (2000). An empirical analysis of corporate debt maturity structure. *European Financial Management, 6*(2), 197-212.

26. Terra, P. R. S. (2011). Determinants of Corporate Debt Maturity in Latin America. *European Business Review, 23*(1), 45-70.

27. Teruel, P. J. G., and Solano, P. M. (2007). Short-term debt in Spanish SMEs. *International Small Business Journal, 25*(6), 579-602.

28. Wang, Y., Sun, Y., and Lv, Q. (2010). Empirical study on the debt maturity structure based on macroeconomic variables. *International Journal of Business and Management, 5*(12), 135 - 140.

29. WEBSITES:
http://www.bvsc.com.vn
http://www.jstor.org
http://www.imf.org
http://www.ssrn.com
http://www.vietstock.vn
http://www.worldbank.org.

INFLUENCE OF BRAND IMAGE, VALUE, AND PERCEPTION ON TOURIST SATISFACTION WITH PU LUONG TOURIST DESTINATION, THANH HOA PROVINCE, VIETNAM

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Abstract

The brand of a tourism destination can be deemed as a success factor that attracts tourists to a potential tourism destination, and drive tourists' internal travel motives through conveying values, inducing expectations about the satisfaction of possible needs and wants. The study's objective is to determine and identify the influence of brand image, brand value, and brand perception on tourist satisfaction for Pu Luong, Thanh Hoa province. Qualitative and quantitative research methods are used through the collecting and processing of data form 500 tourists of Pu Luong, Thanh Hoa province. Data were collected, processed and analyzed using SPSS 20 and AMOS 20 software. The SEM (Structural Equation Modeling) model developed from the study's findings is consistent with reality, indicating that all factors influence tourist satisfaction with the destination's brand, with a brand image having the most positive and significant effect on tourist satisfaction. Based on the study's findings, the authors made some suggestions to improve tourist satisfaction for Pu Luong, Thanh Hoa province.

Keywords: *Brand image, brand value, brand perception, brand satisfaction.*

1. Introduction

Pu Luong Nature Reserve is located in Thanh Hoa province, just about 130 kilometers far from Thanh Hoa City to the north-west and 210 km from Hanoi, belongs to both Ba Thuoc and Quan Hoa district. Pu Luong is a backpacking, self-sufficient backpacking, and inexpensive mountain resort tourism destination that is starting to make a name for itself. The scenery and wild beauty of Pu Luong, especially the terraced rice fields and primeval forests, awes most tourists. Pu Luong, in particular, is close to well-known tourist attractions such as Lac Village (Mai Chau), Ca Than stream (Cam Luong, Cam Thuy, Thanh Hoa), Cuc Phuong forest (Ninh Binh), Citadel of Ho Dynasty cultural heritage (Thanh Hoa), and others. As a consequence, it has "inadvertently" established a tourist-friendly closed tour of fun and experience. The destination has beauty and wild landscapes concealed in the mist like a hanging garden in different locations, such as: Son Ba Muoi (Lung Cao Commune), Pu Luong peak, Kho Muong, Ban Don with Pu Luong Retreat resort, Uoi Village, Tien Moi Village, Hieu waterfall area in Co Lung Commune, and so on have attracted hundreds of thousands of tourists. Many domestic and international tourists who enjoy trekking and backpacking come to visit, experience and relax at this tourism destination.

The acceptance of a tourist's brand is often a priority for tourism managers and businesses. Establishing a partnership between tourists and destination brands is critical for enhancing long-term relationships with tourists by ensuring their satisfaction, which results in their loyalty to the tourism destination. Currently, the evaluation and level of satisfaction for Pu Luong, Thanh Hoa province has significantly changed. More and more information about destinations is provided for tourists such as: topography, climate, nature, scenery, a specialty of the destination, types of accommodation, food services, etc. Furthermore, demand for travel has increased dramatically in recent years, especially for ecotourism destinations.

As a result, the current challenge for managers, local authorities, tourism companies, and others is to determine what needs to be done to improve tourist satisfaction and loyalty to the image of a local tourism destination or area. The objective of the study is to determine the relationship and evaluate the impact of four factors: brand image, brand perception, brand value, and brand satisfaction of tourists for Pu Luong, Thanh Hoa Province. Following that, recommendations are proposed to increase tourist satisfaction with this tourism destination.

2. Method

2.1. Theoretical basis and research model

2.1.1. Brand image

Keller (1998) believed that brand image can be defined as a subjective perception phenomenon, that is reflected through the emotions of buyers towards products, based on their memories. The brand image helps businesses improve their brand competitiveness in the market. According to Bian and Moutinho (2011), the brand image refers to the association and perception of a brand through tourists' memories. Sharing the same point of view, Aghekyan et al. (2012) said that brand image plays a critical role in purchase intention. Products with a strong brand image and attributes will increase tourist satisfaction and contribute to the formation of more favorable and positive attitudes.

2.1.2. Brand value

While there are numerous opinions and assessments of brand value worldwide, brand value is generally analyzed and evaluated through the perspective of consumers. Among them, Aaker's (1991) definition is widely used and widely accepted by scholars and administrators when conducting research and analyzing brand value. Whereby,“The brand value is derived from high levels of customer loyalty, brand awareness, perceived quality, and strong associations with the brand and other assets such as patents, certified trademarks, and channel relationships”.

According to the research of Hoang Thi Phuong Thao and Thai Tu Uyen (2016), there are five components that affect overall brand equity: brand awareness, brand image, perceived quality, brand loyalty and brand association. The research of Nguyen Van Thuy and Ngo Thi Xuan Binh's (2018) shows that brand value is influenced by brand awareness, brand loyalty, perceived quality, and brand association. Cronin et al. (2000) demonstrated there is a strong link between brand equity and brand satisfaction.

2.1.3. Brand Perception

Matzler et al. (2008) said that brand perception is considered a certain category of the association between tourists and the brand. Brand perception refers to a psychological response that elicits specific emotions in the tourist. Brand perception is a consumer's persistent preference for or dislike of a brand (Fishbein and Ajzen, 1980) as well as the consumer's overall assessment of the brand. The outstanding benefit or brand image serves as the basis for evaluating brand perceived attitudes. Consumers will determine the utility of the outstanding benefit or brand image and then constitute a general attitude toward the brand as a result of the comprehensive assessment which reflects consumer attitudes toward brand attributes (MacKenzie and Spreng, 1992). A customer's positive attitude towards a brand can increase their likelihood of using that brand (Kotler and Keller, 2011).

2.1.4. Brand satisfaction

Moliner et al. (2015) claim that making customer brand satisfaction has become one of the most important priorities in marketing management. Puška et al. (2015) said that satisfaction is evaluated through the prior customer experience of a product or service. Brand satisfaction plays a vital role in maintaining brand value and retaining customers. Buyers will be satisfied if the product meets their expectations. If the product meets the customer's expectations, they will be satisfied with the brand and thus the brand itself is being strengthened. Satisfaction with a brand influences a customer's decision to purchase from that brand.

2.1.5. The correlation between brand image and brand satisfaction

Customer satisfaction is contingent upon a product or service experience and service's quality and perceived value (Anderson et al., 1994). Numerous authors assert that brand image is a function of the cumulative effects of satisfied or dissatisfied customers based on specific transactions. (Bolton and Drew et al., 1991; Johnson and Fronell, 1991).

The brand image also contributes to the formation of attitudes, beliefs, satisfaction, and behavior of consumers. Brand images are regarded as useful recommendations for both existing and potential customers. It is also believed to influence how consumers evaluate customer satisfaction because it is formed and developed in their minds through communication and experience. When customers are satisfied with the services they receive, their attitude toward the brand will be improved, which affects customer satisfaction (Andreassen and Lindestad, 1998).

In the study of Aydin and Ozer (2005), customer loyalty is stated to be determined by brand image, service quality, reputation, and switching costs. Additionally, Chao et al. (2015) considered the brand image to be a significant factor affecting customer satisfaction.

2.1.6. The correlation between brand image and brand perception

Brand image plays an important role in the formation of senses of quality (Cretu and Brodie, 2007; Veloutsou and Daskou, 2004). Images reflect personal feelings about the brand. Therefore, the quality of feelings about the brand has related to brand reputation (Selnes, 1993). In some cases, many customers only choose a product or service because of the brand, so brand reputation only measures the product level, and in some other cases many customers only identify the products and services through brand image (Veloutsou and Daskou, 2004). Brand image also creates solid expectations in evaluation criterias of product and service (Selnes, 1993). According to Mishra et al. (2016), positive brand perceptions have an effect on tourist satisfaction. On the other hand, its adverse consequences result in tourist dissatisfaction. According to the opinions of Sweeney and Swait (2008), brand image act as the first tool to implement marketing activities and form brand perceptions.

2.1.7. The relationship between brand image and brand value

Research of Cretu and Brodie (2005) shows that brand image has a strong influence on service perception quality, and more broadly on brand value and loyalty. Gounaris and Stathakopoulos (2004) also specified that, if the perception of the brand value is high, the customer satisfaction also will become high.

In the field of tourism, Lertputtarak (2012) emphasized that destination's image plays two important roles in behavior: (1) influence the process of selecting destination and (2) influence the conditions behind the decision-making behavior. Som and Badarneh (2011) also found that perceived value positively affects tourist satisfaction and visistor's intention to revisit. Moreover, both perceived value and satisfaction have a significantly direct and positive impact on purchase intention (Waheed & Hassan, 2016). Therefore, it can be found that tourist satisfaction has a significant influence on visistor's intention to revisit (Puspitasari et al., 2018).

According to the previous studies, it has been proved that a positive brand image will have a strong influence on customer satisfaction; additionally, brand image has an effect on brand value and customer perception. On the basis of consultation with experts and some previous studies, the author proposes a research model of the influence of destination brand image, value, and perception on tourist satisfaction for Pu Luong, Thanh Hoa Province as shown in Figure 1.

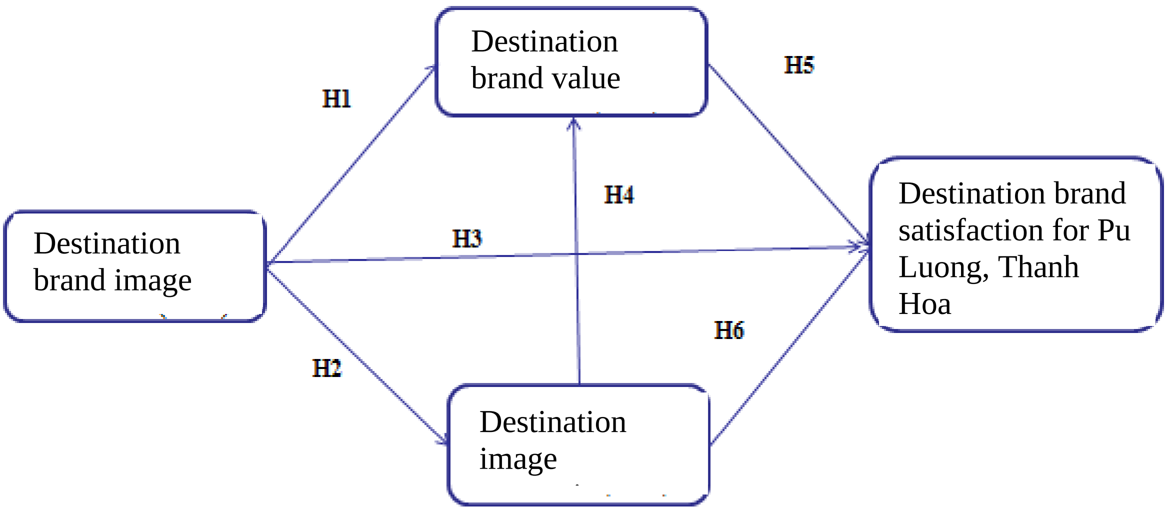

Figure 1. Proposed research model

(Source: proposed by the author)

Corresponding research hypotheses:

H1: Brand image has a positive influence on the brand satisfaction for Pu Luong, Thanh Hoa province.

H2: Brand image has a positive influence on the brand value of Pu Luong, Thanh Hoa province.

H3: Brand image has a positive influence on brand perception of Pu Luong, Thanh Hoa province.

H4: Brand perception has a positive influence on the brand value of Pu Luong, Thanh Hoa province.

H5: Brand value has a positive influence on brand satisfaction for Pu Luong tourism destination, Thanh Hoa province.

H6: Brand perception has a positive influence on brand satisfaction for Pu Luong, Thanh Hoa province.

2.2. Method

Research design

The study was conducted through questionnaire with tourists at Pu Luong, Thanh Hoa province using the non-probability sampling methods and evaluation of scholars (Black, 2010) The survey was from October to the end of December 2020. We used a 5-point likert scale with 1 being strongly disagree and 5 being strongly agree. All scale factors are unidirectional. All scale factors are unidirectional.

Sample size

Hari et al. (1998) suggested that if the sample size is around 100, then the standard factor loading must be greater than 0.5 (Bollen, 1989) recommended a ratio of 5:1 for selecting the sample size over the number of parameters in the multivariate analysis Besides, the author's research model identified 19 observed variables by using the 5-point likert scale. The number of samples initially calculated was 19*5 = 95 samples. The research's sample size is 500 tourists, which ensures the requirement and achieve generalization, represents for the survey; this results in a total of 385 valid survey questionnaires collected and processed

Analytical methods

The author performed EFA (Exploratory Factor Analysis, CFA (Confirmatory Factor Analysis), SEM (Structural equation modeling) by using software SPSS.20 combined with AMOS.20. Testing is done through the following steps:

- Preliminary estimate of the scale and reliability of the measured variable by Cronbach's alpha coefficients and factor loading coefficients by Exploratory Factor Analysis (EFA)

- The CFA method is used to confirm the univariate, multivariate, convergent and discriminant value of the concepts.

- Drawn from the CFA results, building and testing the suitability of the research model through the SEM structural model, evaluate the impact of the independent variables on the dependent variables. The source of the component variable scale is shown in Table 2:

Table 2. The source of the component variables scale in the research model

Elements	Symbols	Number of observed variables	Reference source
Brand Image	IMA	5 variables (IMA1 to IMA5)	Based on the research of Matzler et al. (2008), Cho and Fiore (2015) and qualitative research
Brand Value	VAL	5 variables (VAL1 to VAL5)	Giovanis and Athanasopoulou (2017); Waheed and Hassan, 2016
Brand Perception	PER	5 variables (PER1 to PER5)	Cretu and Brodie, 2007; Veloutsou and Daskou, 2004
Satisfied destination's brand	SAT	4 variables (SAT1 to SAT4)	Based on the research of Som and Badarneh (2011); Puspitasari et al., 2018 and qualitative research

3. Results

3.1. Descriptive statistics of the study sample

The study's sample is 500 tourists, resulting in the collection and processing of 385 valid survey questionnaires Demographic information of the observed sample is shown in Table 3.

Table 3: Description of the characteristics of the study sample

Content		Frequency	Percent
Gender			
	Male	198	51.4
	Female	187	48.6
	Total	385	100.0
Age			
	Under 18	84	21.8
	19-30 years	148	38.4
	31-50 years	107	27.8
	Above 50 years	46	11.9
	Total	385	100.0
Income			
	Under 5 million	113	29.4
	5-10 million	180	46.8
	11-15 million	57	14.8
	over 15 million	35	9.1
	Total	385	100.0
Education			
	College, high school, or lower	95	24.7
	Bachelor degree	242	62.9
	Post graduate degree	48	12.5
	Total	385	100.0

3.2. Cronbach's Alpha reliability analysis

Variables with correlation of less than 0.5 with the total variable (Item Total Corelation) are considered garbage variables and are excluded from the model, the scale is accepted when Cronbach's Alpha coefficient is greater than 0/7 (Hair et al., 2014). The results of the first Cronbach's Alpha analysis remove the PER3 variable because the total correlation coefficient is less than 0.5. The results of the second Cronbach's Alpha data processing show that all observed variables have a total correlation greater than 0,5 and Cronbach's Alpha coefficient is greater than 0,7. Cronbach's Alpha coefficient of the factors Destination brand image (0.902), Destination brand perception (0.877); Destination Brand Value (0.847) and Destination Brand Satisfaction (0.824).

Principal Axis Factoring was used with Promax rotation (Anderson & Gerbing, 1988) and factor loading coefficients ≥ 0.5 (Hair et al., 1998) to incorporate remaining variables into Exploratory Factor Analysis (EFA) model for the purposes of scale validation. The results show that (Table 4): KMO and Bartlett's test in factor analysis we get: KMO coefficient = 0.845 > 0.5 shows that the data is suitable for Exploratory Factor Analysi. The statistically significant difference of Bartlett's Test (Sig. = 0.000 < 0.05), as a result, the observed variables in the population are correlated. The extracted variance is 68.839, indicating that the analyzed factors' variation can account for 68.839 percent of the variation in the original survey results. The 4th factor's Eigenvalues coefficient is 1.994 > 1, indicating that the study has reached its conclusion. Each observed variable representing all factors has a factor loading coefficient greater than 0.5, indicating that the observed variables have a major impact on the factors that these variables represent.

Table 3. The findings of EFA (exploratory factor analysis).

Pattern Matrixa				
	Factor			
	1	2	3	4
IMA2	.928			
IMA3	.849			
IMA4	.802			
IMA5	.738			
IMA1	.718			
VAL2		.811		
VAL3		.742		
VAL5		.711		

VAL4		.707		
VAL1		.659		
PER2			.836	
PER5			.833	
PER4			.816	
PER1			.724	
SAT1				.859
SATI2				.779
SAT3				.715
SAT4				.581
KMO				
Eigenvalues	5,718	2,603	2,077	1,994
% of Variance	31,766	14,459	11,538	11,075
Cumulative %	31,766	46,225	57,763	68,839
KMO	.845			
Bartlett's Test of Sphericity	Approx. Chi-Square 3730,435 df 135 Sig. .000			

3.3. Critical Frame Analysis (CFA) results for analyzing the saturated model

The saturated model for research concepts is shown in Figure 2. The saturated model is a model of established factors that are freely interrelated. CFA's analysis results demonstrate that: Chisquare/df = 2.519 < 3 (Carmines & McIver, 1981), CFI = 0.946 > 0.9; TLI = 0.936> 0.9 (Bentler & Bonelt, 1980); GFI = 0.916 > 0.8 và RMSEA= 0.063 < 0.8 (Steiger, 1990). All factor weights of each observed variable are greater than 0.5, so it can be viewed that the model achieves convergence value (Figure 2).

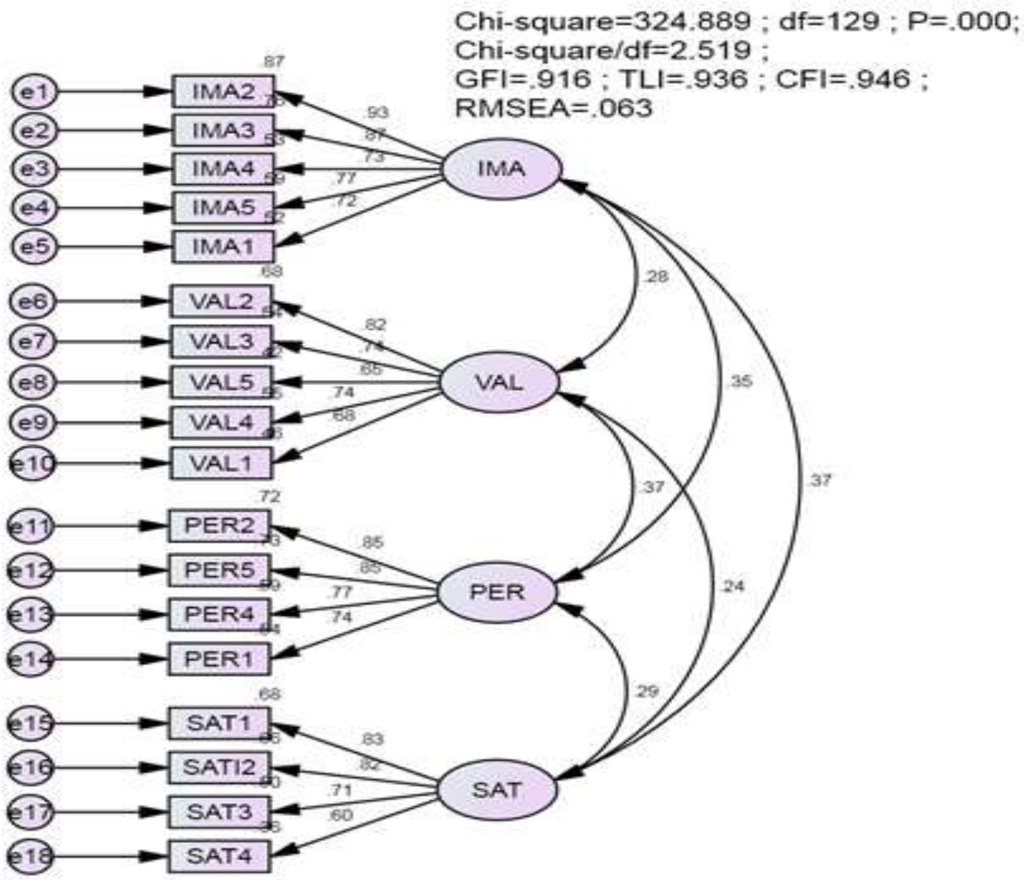

Figure 2: CFA's analysis results for the saturated model

Analysis results indicate that: Correlation coefficients are less than 1, covariance validation and correlation between pairs of variables are statistically significant ($p < 0.05$, table 5). The outcome of the CFA review for the saturated model

Table 5: Coefficient of correlation, covariance between variables

Relationship			Estimate	S.E.	C.R.	P
IMA	<-->	VAL	.182	.039	4,688	***
IMA	<-->	PER	.251	.043	5.784	***
IMA	<-->	SAT	.237	.040	5.996	***
VAL	<-->	PER	.248	.043	5.774	***
VAL	<-->	SAT	.144	.037	3.890	***
PER	<-->	SAT	.193	.041	4.693	***

3.4. Research hypothesis's testing

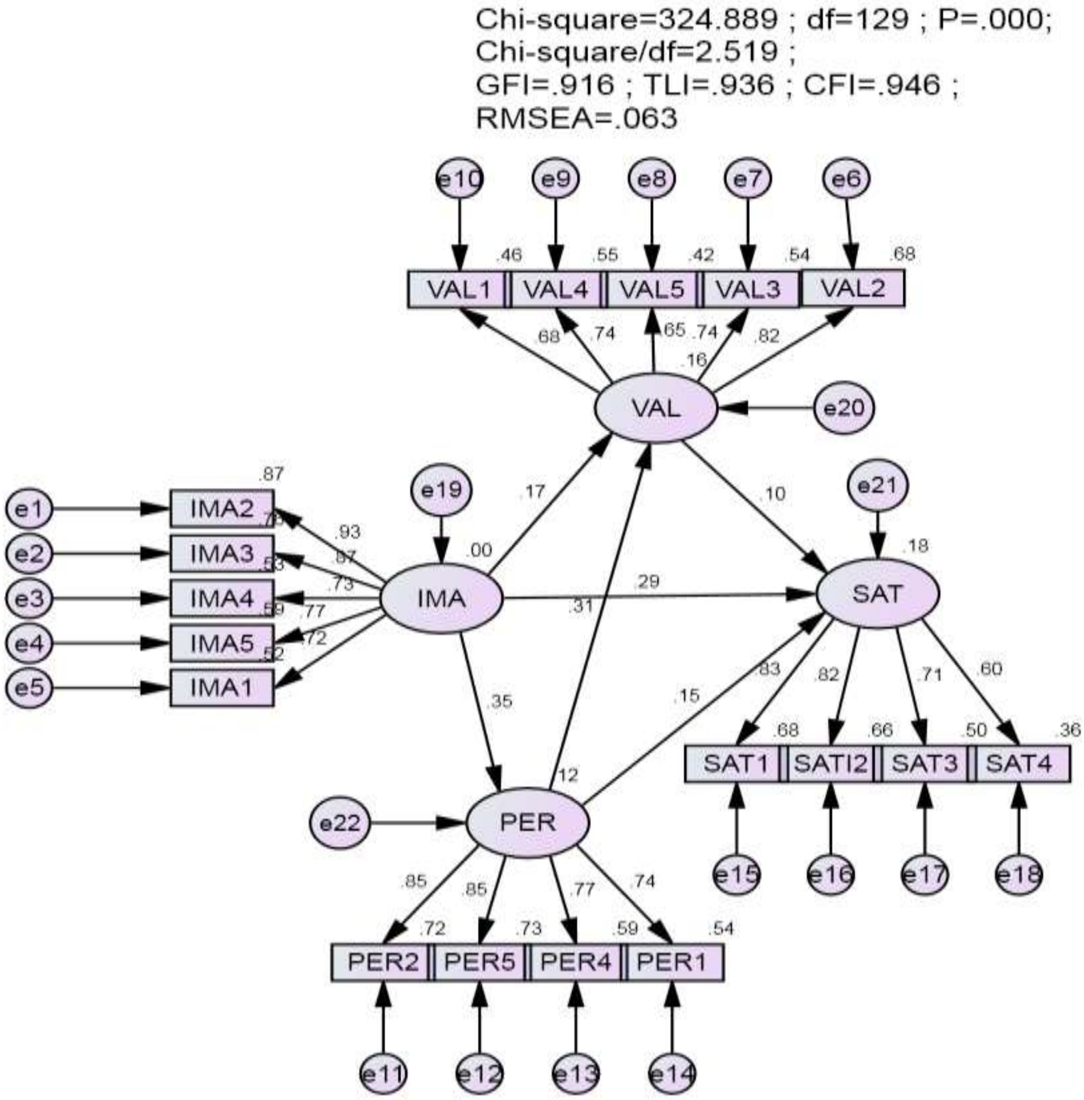

Figure 3. SEM validation results for the final structural model (normalized)

The study used SEM linear structure model to evaluate the suitability of the research model and to validate the correlations in the model. The results show (Table 5): the model has a Chi-square value = 324,889; df = 129; CMIN/df = 2,519 with p = 0.000, GFI = 0.916; TLI = 0.936; CFI = 0.946; RMSEA = 0.063. Furthermore, the model's normalized beta regression coefficients are all positive, with a p-value < 0.05 indicating statistical significance. This demonstrates that the findings of the research hypotheses testing are accepted, as evidenced by the corresponding normalized beta correlation coefficients for hypothesis H1: 0.290; Hypothesis H2: 0.174; Hypothesis H3: 0.347; Hypothesis H4: 0.306; Hypothesis H5: 0.105; Hypothesis H6: 0.152.

Table 6: Result of hypothesis test

			Estimate	S.E.	C.R.	P	Theoretical conclusion
PER	<---	IMA	.347	.057	6.351	***	H3: Accepted
VAL	<---	IMA	.174	.054	2.998	.003	H2: Accepted
VAL	<---	PER	.306	.055	5.057	***	H4: Accepted
SAT	<---	IMA	.290	.055	4.873	***	H1: Accepted
SAT	<---	VAL	.105	.061	1.690	.041	H5: Accepted
SAT	<---	PER	.152	.055	2.425	.015	H6: Accepted

4. Discussion and Conclusion

The study's objective is to determine and measure the influence of brand image, brand perception, and brand value on tourist's brand satisfaction for Pu Luong, Thanh Hoa province. The findings indicate that the destination brand image has a greater influence on tourist brand satisfaction than the other two factors, brand value, and brand perception. However, the two factors of brand value and brand perception have a relatively large influence on tourist satisfaction for Phu Luong, Thanh Hoa. Based on the findings, the author makes a number of recommendations to raise tourist brand satisfaction for Pu Luong, Thanh Hoa province, thereby contributing to the development of the Pu Luong, Thanh Hoa province at the following time:

4.1. Choosing and developing the image of Pu Luong as a tourism destination

It is possible to consider positioning Pu Luong as a tourism destination with the type of community-based tourism that preserves the most primitive nature of the culture of Thanh Hoa's mountainous ethnic groups. To create an image of the Pu Luong in the eyes of tourists, first and foremost, an outstanding destination image associated with the core values of the destination's natural and human resources must be created in order to convey to customers a how to persuade through effective communication channels. The image of a destination that tourists recognize is one that is unique in terms of natural and human resources, safe and pleasant environment, and the friendliness of the people. As such, it is suggested that the local government conduct research and select some images to serve as a tourism symbol for Pu Luong. It could be images of Pu Luong's stunning natural beauty (terraced fields, local villages, waterfalls, etc.) or humanistic tourism resources such as festivals, fairs, scenes of cultural and artistic activities in the Thai, Muong communities, etc.

With differences The differences of Pu Luong tourism as above can help orient Pu Luong tourism toward a market share of middle-income tourists and the development of a "affordable" tourism brand. On that basis, the government orients businesses and property owners in the localityto develop strategies for the price and cost of tourism activities in the area aimed at middle-income residents.

4.2. Building image of local people and cultural identity of Pu Luong

The images of local people and cultural identity are critical components of a destination's tourism brand. Pu Luong is a destination that excels in this area, so the local government needs to continue to implement strategies to promote propaganda and raise awareness about the importance of developing positive images of people and regional cultural identity of Pu Luong. It is recommended to elicit local people's pride in traditional cultural values, sense of responsibility to preserve and introduce those cultural beauties to tourists through combined eco-tourism and community tourism in the form of sightseeing, relaxation, cultural tourism – historical sites, etc.

To accomplish the aforementioned goal, it is necessary to propagate and introduce so that when tourists visit Pu Luong, they want to immerse themselves in community life and sample regional specialties such as Cổ lũng Duck, Green catfish of Mã river, Cần wine, etc. Additionally, the restoration of traditional brocade weaving villages (for example, brocade weaving in Lan Ngoai village, Lung Niem commune) should be prioritized to provide souvenirs for tourists and to meet tourist needs to raise the income of local residents.

4.3. Maintaining an emphasis on developing diverse tourism products with distinct characteristics based on Pu Luong tourism's strengths and potentials

Tourism products are unique and distinctive, reflecting the personality of each destination. Building tourism products is a strategy that requires emphasis and attention to help tourism achieve comprehensive development. For Pu Luong, the current tourism product must forge its own path in order to reaffirm the local tourism industry's position in the current trend of integration.

To compete with other tourism destinations and entice tourists to visit and stay longer, local authorities must implement a strategy of product diversification. In the coming time, the destination's products must be distinct from those of other localities in the region; cooperation programs must be based on the mutual agreement along a chain of links that takes into account the resource characteristics and advantages of each locality.

The study's limitation is that it was conducted exclusively in Pu Luong, Thanh Hoa province, a tourism destination with numerous distinctions from other destinations (climate, nature, ...). As a result, the research findings differ slightly from those of other tourism destinations in the country in general and Thanh Hoa province in particular, and thus generalizability is limited. As a result, extensive research into other provinces and cities is necessary. The research, on the other hand, only looks at the effect of brand image, value, and perception on tourist satisfaction for Pu Luong, Thanh Hoa province, but not tourist loyalty. Therefore, more research is required into the impact of brand image, value and perception on tourists' satisfaction and brand loyalty to tourism destinations.

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5. References

1. Aaker D. A., (1991). *Managing brand equity*. New York, NY, USA: The Free Press.

2. Aaker David.A (2010). *Buliding Strong Brands*, London and New York: Routledge.

3. Aghekyan-Simonian, M., Forsythe, S., Kwon, W. S. & Chattaraman, V. (2012), The role of product brand image and online store image on perceivedrisks and online purchase intentions for apparel, *Journal of Retailing andConsumer Services*, 19 (3), pp:325-331.

4. Anderson, EW, Fornell, C., Lehmann, DR (1994). Customer satisfation, market share, and profitability: Findings from Sweden. *Journal of marketing,* Vol.58, 53 – 66.

5. Anderson, J. C., & Gerbing, D. W. (1988), Structural equation modelling in practice: A review and recommended two-step approach, *Psychological Bulletin*, 103(3), pp. 411 -423.

6. Andreassen, TW, Lindestad, B. (1998). The impact of corporate image on quality, customer satisfaction and loyalty for customers with varying degrees of service expertise. *International journal of service industry management*, Vol. 9, No.1, 7 – 23.

7. Aydin, S., Ozer, G. (2005). The analysis of antecedents of customer loyalty in the Turkish mobile telecommunication market. European Journal of Marketing, Vol. 39, 910 - 925.

8. Bentler, PM & Bonett, DG (1980), Significance tests & goodness of fit in the analysis of covariance structures, *Psychological bulletin*, 88(3), 588-606.

9. Bian, X., Moutinho, L. (2011), The role of brand image, product involvement, and knowledge in explaining consumer purchase behavior of counterfeits: direct and indirect effects, *European Journal of Marketing* 45(1/2), pp:191-216.

10. Black, K. (2010), *Business Staticstics: Contemporary Decision Making*, 6th edition, John Wiley & Sons, Inc.

11. Bollen, KA (1986), Sample Size and Bentler and Bonett's Nonnormed Fit Index, *Psychometrika*, 51(3), 375-377.

12. Bolton, RN, Drew, JH (1991). A multistage model of customers' assessment of service quality and value. *Journal of consumer research*, Vol. 54, 69 - 82.

13. Bolton, Ruth N. (1998). A Dynamic Model of the Customer's Relationship with a Continuous Service Provider: *The Role of Satisfaction. Marketing Science*, Vol. 17, 45 - 65.

14. Carmines, E. G. & McIver, J. P. (1981), *Analyzing models with unobserved variables: Analysis of covariance structures, in Social measurement: Current issues, Bohmsted*t, G. W; Borgatta, E. F. (ed.), Sage, Beverly Hills, CA, 66-115.

15. Chao, RF., Wu, TC., Yen, WT. (2015), The Influence of Service Quality, Brand Image, and Consumer Satisfaction on Consumer Loyalty for Private Karaoke Roomsin Taiwan, *The Journal of Global Business Management11*(1), pp:59-67.

16. Cretu, AE, Brodie, RJ (2005). The influence of brand image and company reputation where manufacturers market to small firms: A customer value perspective. *Industrial Marketing Management*, Vol. 36, 230 - 240.

17. Cronin, J. J., Brady, M. K. & Hult, G. T. M. (2000), Assessing the Effects of Quality, Value and Customer Satisfaction on Consumer Behavioral Intentions in Service Environment, Journal of Retailing, 76 (2), 193-218. Giovanis, A. & Athanasopoulou, P. (2017), Gen Y-ers' brand loyaltydrivers in emerging devices, *Marketing Intelligence & Planning*, 35 (6), pp:805-821.

18. Fishbein, M. and Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introductiontotheoryandresearch.* Reading, MA: Addison-Wesley.

19. Gounaris, S. & Stathakopoulos, V. (2004), Antecedents and consequences of brand loyalty: An empirical study, *Journal of Brand Management*, 11, 4; pp. 283.

20. Hair, JF, Black, WC, Babin, BJ, Anerson, RE & Tatham, RL (1998), *Multivariate data analysis*, 5 (3), 207-219.

21. Johnson, MD, Fornell, C. (1991). A framework for comparing customer satisfaction across individuals and product categories. *Journal of economics psychology*, Vol. 12, 267 – 286.

22. Keller, K. L. (1998), *Strategic brand management: Building, measuringand managing brand equity*, New York: Prentice Hall.

23. Kotler, P. & Keller, K. L. (2012), *Marketing Management*, 14th ed.Pearson Prentice Hall: Upper Saddle River, NJ.

24. Lertputtarak, S. (2012). The relationship between destination image, food image, and revisiting Pattaya, Thailand. *International Journal of Business and Management*,7(5), 111-121.

25. MacKenzie, SB and Spreng, RA (1992), How does motivation moderate the impact of central and peripheral processing onbrandattitudesandintentions?. *Journalof Consumer Research*, Vol. 18, 519-28.

26. Matzler, K., Grabner-Kräuter, S. & Bidmon, S. (2008), Risk aversion and brand loyalty: the mediating role of brand trust and brand affect, *Journal of Product & Brand Management*, 17(3), pp:154-162.

27. Mishra Kumar, M., Kesharwani, A. & Das, D. (2016), The relationship between risk aversion, brand trust, brand affect and loyalty: evidence from the FMCG industry, *Journal of Indian Business Research*, 8 (2), pp:78-97.

28. Moliner-Velázquez, B., Ruiz-Molina, M-E. & Fayos-Gardó, T. (2015), Satisfaction with service recovery: moderating effect of age in word-of-mouth, J*ournalof Consumer Marketing*, 32 (6), pp:470-484.

29. Steiger, J.H. (1990), Structural model evaluation & modification: An interval estimation approach, *Multivariate behavioral research*, 25 (2), 173-180.

30. Selnes, F. (1993). An examination of the effect of product performance on brand reputation, satisfaction and loyalty. *European journal of marketing*, Vol.27, No.9, 19 - 35.

31. Som, A. P. M., & Badarneh, M. B. (2011). Tourist satisfaction and repeat visitation; toward a new comprehensive model. *International Journal of Human and Social Sciences*,6(1).

32. Sweeney, J., Swait, J. (2008), The effects of brand credibility on consumer loyalty, *Journal of Retailing and Consumer Services* 15(3), pp:179-193.

33. Veloutsou, C., Daskou, S., Daskou, A. (2004). Are the determinants of bank loyalty brand specific? *Journal of Finance Services Marketing*, Vol. 9, 113 - 126.

34. Veloutsou, C., Daskou, S., Daskou, A. (2004). Are the determinants of bank loyalty brand specific? *Journal of Finance Services Marketing*, Vol. 9, 113 - 126.

35. Waheed, N., & Hassan, Z. (2016). Influence of customer perceived value on tourist satisfaction and revisit intention: A study on guesthouses in Maldives.International *Journal of Accounting, Business and Management*, 4(1), 101-123.

ANALYZING THE COVERED INTEREST PARITY DEVIATIONS IN VIETNAM BY USING THE POOLED MEAN GROUP METHOD

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Abstract

Vietnam's foreign exchange market is developing and perfecting over time, it is more and more closely linked with world economies, create various types of trading in the foreign exchange market, including covered interest arbitrage (CIA). Along with fluctuations in domestic and foreign exchange rates and interest rates, policy makers will set up appropriate strategies, policies and solutions to increase the level of covered interest arbitrage to correct for covered interest rate parity (CIP). However, in order to better understand Interest Rate Parity (IRP), not only is there a relationship between exchange rate and interest rates, but according to previous studies, there are macroeconomic factors that also affect the covered interest parity. By using the Pooled Mean Group (PMG) method to estimate the weekly data sample of 5 currencies of the US, China, Korea, Japan and European countries (USD, CNY, KRW, JPY, EUR) in 2019, I conclude that the foreign exchange market in Vietnam exists interest rate parity deviations.

Keywords: *Foreign exchange market, CIA, interest rate parity, PMG method.*

1. Introduction

The foreign exchange market is a highly traded market, globally connected via the Internet, and is also the largest speculative market. Therefore, it is very sensitive to infomation as well as economic and political events taking place in the world such as: political situation, inflation rate, unemployment rate, production index,… This will create many opportunities for different types of businesses, such as covered interest arbitrage. Interest rate arbitrage is investing abroad to enjoy higher interest rates but with hedging against exchange rate risk through forward contracts. For the market to reach equilibrium, there must be a large enough amount of covered interest arbitrage (CIA) that such solutions involve the theory of interest rate parity (IRP), in this state. The difference between the forward rate and the spot rate is properly offset by the interest rate differential between the two countries and it does not create any opportunity for covered interest arbitrageurs. The market reaching a state of interest rate parity will bring benefits to businesses and investors, although it is not possible to implement CIA to make a profit, at this time, the interest rate will accurately reflect the market's price, so businesses will not be able to make profits. Businesses will not have to fear that they have to raise capital at a higher interest rate than its true value. The Vietnam interbank market was established in 1994 and the rapid development of the foreign exchange market due to the use of the Internet for transactions means that the foreign exchange market in Vietnam is increasingly connected. closely with foreign markets, especially developed countries. Due to the connection, the exchange rate and interest rate movements of currency pairs for the Vietnamese dong are more and more volatile and more sensitive than before, which means that the CIP deviation is more volatile more . With the research objective is to test the existence of covered interest rate parity (CIP) and the relationship of hedging interest rate parity with macroeconomic factors, the author uses the Pooled Mean Group method for regression for weekly datasets of 5 countries and regions that are the main trading partners with Vietnam (US, China, Japan, Korea and EU) in 2019.

2. Method

2.1. Literature review

Theory of Interest rate parity

When market forces render interest and exchange rates no opportunity for covered interest arbitrage, we are in a state known as Interest Rate Parity (IRP). In this equilibrium, the difference between the forward and spot rates between the two currencies is offset by the difference in the interest rates of the two countries. If investors want a higher rate of return from investing abroad, there is a rebalancing effect as investors pay more per unit of foreign currency (the spot rate) and receive less per unit of the pre-sold foreign currency (the forward rate). Note that a forward rate greater than the spot rate will receive a premium and smaller will represent a discount.

The relationship between the premium (or discount) of a foreign currency and the interest rate based on this currency under the IRP can be determined as follows: Let us consider an investor who conducts a covered interest arbitrage, this investor's rate of return from covered interest rate arbitrage is determined as follows: $r_t = (1+i_f)(1+p)-1$

With: $p = \frac{F}{S} - 1$

S : spot rate of foreign currency

F : forward rate when converting foreign currency to local currency

i_f: Foreign deposit interest rate

If interest rate parity exists, then the rate of return from covered interest arbitrage will be equal to the domestic interest rate: $r_f = i_h$

With r_f is yielding business received from interest rate differences have preventive and i_h is the domestic interest rate.

Review of the literature

The origin of Covered Rate Parity (CIP), first articulated by Keynes (1923) during the period of floating exchange rates after World War I, was the fundamental building block of International Finance Economic. Most of the research papers by authors around the world study the CIP deviation in 3 periods: before, during and after the 2008 global financial crisis (GFC). Before the Global Financial Crisis (GFC), for several decades, the Interest Rate Parity deviation was quite small, even close to zero, but as the number of research papers increased, and As we discover more, that relationship seems to be broken when GFC occurs. The CIP deviation due to the volatility of the Global Financial Crisis is not surprising. What has been more puzzling is CIP continues going wrong after the GFC. This phenomenon becomes important at least for these 3 reasons. First, this could be the evidence of financial market conflicts or unintended policy consequences that could potentially lead to inefficient resource allocation. Second, it could lead to a change in the way that macroeconomic policies (especially monetary policies) propagate across borders. Third, CIP bias can be explained by asset valuations in the world, where financial intermediation constraints are random and potentailly binding (Du et al., 2019).

The research paper of Eugenio et el. (2019) analyzes the impact of interest rate differential and forward-spot rate differential along with macro-financial factors determinants to CIP deviation in the US. By using some techniques such as split-sample analysis, OLS regression, and instrumental variable regression (IV regression), the authors have draw the conclusion that the CIP deviation in the US occurs not only during the GFC crisis but also in the post-crisis period and on macroeconomic factors such as US dollar strength and foreign exchange market liquidity had a very strong explanatory role for the CIP deviation.

After reviewing previous research papers, the author found that very few studies on interest rate parity deviation in Vietnam market; In addition, with the research method of the previous authors, the research results do not show that the short-term and long-term relationships are expressed through the long-term relationships cointegration system. In this research, I am not only interested in the existence of CIP deviation, activities affecting exchange rate fluctuations and the relationship between macroeconomic factors and CIP deviation in the future. In the case of the Vietnamese economy, the author also considers the short-term and long-term relationships of macroeconomic factors and exchange rate differences. Therefore, the author wants to consider and test the effects of exchange rate and interest rate fluctuations along with the influence of macro-financial determinants.

2.2. Data and Research methods

Data

In this research, I use the data of 5 coins, respectively CNY, USD, KRW, JPY and EUR in 2019 , of which Japan is one of the countries where the currency safe havens. The paper uses the daily spot and forward rates of Euro currencies, US dollars, Japanese yen, Korean won and Chinese yuan for the Vietnamese dong from Investing.com website. The reason why the authors chose these currencies is because the above countries and regions are major trading partners for Vietnam. In addition, the author does not use 2020 data because of the strong impact of the COVID-19 pandemic.

Research methods

Eugenio et al. (2019) have used regression methods instrumental variables (IV regression) for panel data and OLS regression for time series data. Instrumental variable regression (IV regression) is not an effective endogeneity remedy like Generalized Method of Moments and Pooled Mean Group, however both GMM and IV regression have common limitations that are estimation results requires uniform parameters between panel units; in addition, neither IV regression nor GMM can show short-term and long-term dynamics for the model through co-constraints. end. In addition, one of the reasons to choose Pooled Mean Group is that the data type has a big difference between N and T. In the case of N>T, GMM is an effective method for estimation; however, with the weekly data set where there are only 5 currency pairs (T>N) in this study, the efficiency of the estimation results will be weaker. To overcome the above limitations, in this study, I propose to use PMG. Pooled Mean Group regression model was developed by Pesaran and Smith (1995), Pesaran (1997); Pesaran et al.(1999).

By using the PMG method and based on the research of Avdjiev et al. (2017), the proposed research model is as follows:

$$(f_{t,t+n}-s_t) = \alpha_s + \beta_s\,(r_{t,t+n}-r^*_{t,t+n}) + \delta_s\,VNDINDEX_t + \gamma_s \ln(VIX_t) + \eta_s(LIQ_t) + \varepsilon_{st} \qquad (1)$$

With:

- $f_{t,t+n} - s_t$ is the difference between the forward and spot rates;

- $r_{t,t+n} - r^*_{t,t+n}$ is the difference between Vietnam interbank interest rates (VNIBOR) compared to foreign interbank rates;

- VNDINDEX is a trade-weighted VND index;

- ln(VIX) is VIX index (an index measuring general volatility in the stock market);

- LIQ is the liquidity of the foreign exchange market calculated by the difference between the bid and ask prices.

3. Results

Table 1: Descriptive statistics of variables in the model

Variable	Observations	Mean	Standard deviation	Min	Max
FS	180	-35.0083	52.0972	-193.5098	4.1780
rr*	180	1.6041	0.9563	-0.8204	3.9859
VNDINDEX	180	2.3205	0.0085	2.3121	2.3409
lnVIX	180	2.7686	0.2452	2.0037	3.3112
LIQ	180	53.0629	71.0017	0.0024	246.0143

Source: Calculation from research data

Research data consists of 180 observations, representing 36 trading weeks of 5 currency pairs. A larger mean of r-r* is greater than 0 that throughout 2019 Vietnam's interbank rates were generally higher than the interbank rates of the currencies under study. Due to the difference between the exchange rates of currency pairs against Vietnam, F-S and LIQ have high volatility, meanwhile, VNDINDEX and lnVIX have low volatility.

Table 2: Correlation coefficient matrix

	F-S	r-r*	VNDINDEX	lnVIX	LIQ
F-S	1.0000				
r-r*	0.1818	1.0000			
VNDINDEX	-0.0312	-0.1604	1.0000		
lnVIX	-0.0180	-0.0943	0.1891	1.0000	
LIQ	-0.5728	0.0586	-0.0242	-0.0315	1.0000

Source: Calculation from research data

The correlation coefficient matrix table show a preliminary view of the correlation between the variables in the model; between the dependent variable and the independent variable. The correlations of the variables are consistent with the research hypothesis, so the author can conduct the study with the selected data sample size. However, the results from the above correlation coefficient matrix table cannot help me evaluate and draw final conclusions.

To perform the stationarity test for panel data, I use the Levin-Lin-Chu (2002) unit root test for the dependent variable and the variables in the model. In addition, the author uses the cointegration test of Pedroni (1999, 2004).

Table 3: ***Summary table of unit root tests***

Out	p-value
FS	0.0000
rr*	0.8340
VNDINDEX	0.0883
lnVIX	0.0514
BID-ASK	0.0278

Source: Calculation from research data

Table 4: ***Table of results of testing the cointegration***

Pedroni test	Statistics	p-value
Modified Phillips-Perron t	-2.3967	0.0083
Phillips-Perron t	-10.6686	0.0000
Augmented Dickey-Fuller t	-10.1760	0.0000

Source: Calculation from research data

Therefore, using the PMG estimation models will be suitable for this research data that is not homogenous in terms of stop order of panel units as well as cointegration phenomenon.

Table 3: Estimation results

	[1]	[2]	[3]	[4]
LONG-RUN				
r-r*	0.0680***	0.0519***	0.0559***	0.0530***
	[9.04]	[6.96]	[7.71]	[7.34]
VNDINDEX		-0.810***	-0.792***	-0.794***
		[-3.16]	[-3.26]	[-3.33]
lnVIX			0.0126*	0.0138*
			[1.65]	[1.85]
LIQ				-0.002
				[-1.24]
SHORT-RUN				
__ec	-0.914***	-0.965***	-0.976***	-0.971***
	[-4.33]	[-3.99]	[-3.92]	[-3.87]
D.r-r*	33.13	31.58	28.53	30.37
	[0.91]	[0.90]	[0.84]	[0.91]

D.VNDINDEX		-1000.3	-860	-873.6
		[-1.26]	[-1.01]	[-1.02]
D.lnVIX			6.916	6.711
			[0.27]	[0.26]
D.LIQ				-0.129
				[-0.63]
_cons	-22.42	-20.48	-20.11	-19.67
	[-1.59]	[-1.42]	[-1.42]	[-1.41]
N	175	175	175	175

** p<0.1, ** p<0.05, *** p<0.01*

Source: Calculation from research data

The table of results estimated by PMG method is divided into two main parts: short-run dynamics (short-run) and long-term dynamics (long-run). Specifically, in the short term, the variable ec is statistically significant at 1% and has a negative estimation coefficient, which proves the existence of cointegration. In addition, with an estimate of ec of -0.97 - which has an absolute value close to 1 and the study uses weekly data, this means that the rate of adjustment to long-run equilibrium is fast, specifically, It is possible that if the independent variables in the model change by 1 percent, the forward and spot exchange rate differential will self-adjust to 97 percent equilibrium in one week. In the long run, most of the variables are statistically significant except for the LIQ variable, the impact of these variables is also consistent with my expectation; specifically, if r-r* increases by 1 percent, FS will be adjusted up by 5.3% at 1% significance level, VNDINDEX will increase by 1 unit, then FS will adjust down by 79.44% at 1% significance level, variable lnVIX increases by 1 percent. 1 unit, the FS will be adjusted up by 1.38% with a significance level of 10%. By comparing the regression results of 4 models, I can check the robustness of the estimator sign. Specifically, in the long term, the estimated coefficient of interest rate difference is positive and less than 1 in statistically significant cases, VNDINDEX has negative estimation coefficient in all cases with statistical significance, the estimated coefficient of lnVIX is positive in both cases. In addition, the equilibrium adjustment speed of all cases is close to the absolute value of 1, so all cases in the pre-crisis period have a fast rate of adjustment to equilibrium.

4. Discussion and Conclusion

Thanks to the strong progress in the integration process, the foreign exchange market in Vietnam is also developing rapidly, and covered interest rate parity is an issue that investors are increasingly concerned about. However, to be able to consider the size of the covered interest rate parity, I use the PMG method to estimate the results along with the use of different types of tests to check the reliability of the results. Pooled Mean Group estimation method. Based on the research results presented above, it can be seen that interest rate differentials have a positive impact on forward and spot exchange rate differentials, most of the macroeconomic factors are significant. Statistical significance and impact on the forward and spot exchange rate difference in the long term and not in the short term, the emergence of the COVID-19 epidemic has changed the macro-financial factors and changed the change their impact on the interest rate parity. In general, during the year, the Vietnamese foreign exchange market did not reach covered interest rate parity. Causes the continuation of interest parity rate deviation began from the policies of the government for the foreign exchange market.

5. References

1. Akram, Q. F., Rime, D., & Sarno, L. (2008). Arbitrage in the foreign exchange market: Turning on the microscope. *Journal of International Economics*. 76(2), 237-253.
2. Arsov, I., Moran, G., Shanahan, B., & Stacey, K. (2013). OTC Derivatives Reforms and the Australian Cross-currency Swap Market. Reserve Bank of Australia Bulletin.
3. Avdjiev, S., Du, W., Koch, C., & Shin, H. S. (2017). The dollar, bank leverage and the deviation from covered interest parity. BIS Working Paper
4. Du, W., Hébert, B., & Wang Huber, A. (2019). Are intermediary constraints priced? NBER Working Paper 26009.
5. Du, W., Tepper, A., & Verdelhan, A. (2018). Deviations from Covered Interest Rate Parity. *Journal of Finance*. 73(3), 915-957.
6. Eugenio M. Cerutti, Maurice Obstfeld, Haonan Zhou (2019). Covered Interest Parity Deviations: Macrofinancial Determinants. Working Paper No. 19/14.
7. Keynes, J. M. (1923). A Tract on Monetary Reform. London: Macmillan.
8. Pesaran H. and R. Smith, 1995. Estimating Long-Run Relationships from Dynamic Heterogeneous Panels. *Journal of Econometrics*, 68, 79-113.
9. Pesaran H., 1997. The Role of Econometric Theory in Modeling the Long Run. *Economic Journal*. 107, 178-191.
10. Pesaran H., Y. Shin, and R. Smith, 1999. Pooled Mean Group Estimation of Dynamic Heterogeneous Panels. *Journal of the American Statistical Association*. 94, 621-634.

THE IMPACT OF THE ENVIRONMENTAL FACTOR ON THE USE OF HEALTHCARE SERVICES IN VIETNAM: A CASE OF NORTHERN VIETNAM

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Abstract

The study examines the factors affecting health demand in Vietnam, specifically the northern part of Vietnam, based on the 2016 VHLSS dataset. The first results show that individual and household characteristics are impact on the individual's demand for medical services. Second, the study found that purchasing health insurance increased the frequency of medical visits by policyholders and contributed to a reduction in their medical spending. Third, air pollution is considered as one of the important factors that increase current health spending. From there, the study gives some policy recommendations for state agencies.

Keywords: *environment pollution, health insurance, VHLSS, inpatient, outpatient*

1. Introduction

In Vietnam, in recent years, with many reforms on health policies, the ability of access to health services has been significant increased, and people are getting better and better health care. However, health expenditure is still rising, creating a financial burden for many families. This is also the reason why many households with members being ill, falling into poverty after paying medical expenses (Hoang Van Minh, Phuong, Saksena, James, & Xu, 2012).

The impact of determinants on healthcare utilization is studied in many countries and in Vietnam. All of them showed that health expenditure of individuals affected a wide range of factors, including: personal characteristics, household characteristics, health insurance (Ahmed, Tomson, Petzold, & Kabir, 2005; Mocan, Tekin, & Zax, 2004; Onwujekwe et al., 2010). However, most of these studies mainly study separately the factors influencing decisions on using health services and health expenditure. This paper consider healthcare demand that is a process from deciding using healthcare services to deciding how to payment for medical services.

Many previous studies shows that personal characteristics, household characteristics, and health insurance policies affect behavior of using health care services. In addition, the state of the environment in Vietnam from water, air, food, noise or land is polluted at an alarming rate, directly threatening health and affecting many life activities. Scientists pointed out that one of the causes of the increasing incidence of cancer is the increasingly degraded living environment. The number of people suffering from cancer, occupational diseases, affecting nerves and endocrine gland function, children having birth defects is increasing day by day. This increases the pressure on health expenditure. The humid tropical monsoon climate is also favorable for the development of many diseases, along with the problem of population aging, which also significantly increases the demand for health services in our country. Therefore, the study of determinants of healthcare demand is still very important and meaningful in the current context. This study aims to investigate factors affecting healthcare demand, including two steps: factors influencing on annual frequency of outpatient and inpatient visits at health facilities and factors influencing on spending on healthcare at health facilities. Besides the introduction and references, the paper is organized into 4 parts. Part 2 is literature reviews, part 3 is data and research method, part 4 presents analysis results and discussion. The final part is the conclusion and some policy implications.

2. Literature reviews

There have been a number of empirical studies that estimated the impact of factors on the health services utilization. Ahmed et al. (2005) studied health-seeking behavior of elderly people in Bangladesh. This study found that education and poverty are two important factors impacting on health care seeking behavior. Kevany et al. (2012) studied impact of socio-economic status and employment status on health care utilization in rural Zimbabwe by using data collected from random household surveys in Mutoko district of a province of Zimbabwe with logistic regression. The research has shown that health care utilization is highly related to the socio-economic factors and employment status.

Wagstaff, Lindelow, Jun, Ling, and Juncheng (2008) evaluated the benefit of voluntary health insurance programs of people in rural of China. This study combine differences-in-differences with matching methods to estimate and showed that health insurance increased outpatient and inpatient utilization, but it did not reduce outpatient and inpatient expense per visit.

Supply-side factors from the health facility are also found to have an impact on health expenditure. Lépine and Le Nestour (2011) showed that the quality of medical care and travel costs are the important factors affecting the probability of seeking treatment from health facilities. An increase in average travel costs reduces your ability to seek medical care by 25%. Laokri, Soelaeman, and Hotchkiss (2018) used the variable satisfaction on health facilities to represent the quality of health care services and showed that the better service quality, the more people are willing to pay more on health spending, and distance to health facilities also have a negative impact on individuals' health spending.

Jowett, Contoyannis, and Vinh (2003) used a two-step Heckman estimate to deal with the endogenous problem of insurance, thus ignoring the selection of health seeking. Waters (1999) studied the effects of health insurance in Ecuador also examined the presence of selection bias in healthcare search through two separate steps, the author first used the Probit model to predict the probability of using health services and then put the forecast value in the OLS model to estimate health expenditure. The results also showed the presence of selection bias.

Hoang Van Minh et al. (2012) used logistic regression method to study the factors that influence catastrophic health expenditure. The results also showed that the economic characteristics of households impact on household health expenditure. Higher-income households will increase health spending and pay more for expensive medical services. Households living in rural have a significantly higher proportion of catastrophic health spending than those living in urban.

Nguyễn Thị Thùy Trinh, Nguyễn Thị Kim Xuyến, and An (2018) investigated determinants affecting the decision of health care seeking and the amount spent on health care of the farmers in Tra Vinh province, using data collected from 200 farmer households in one district of Tra Vinh province. The results also show that the factors affecting the amount of health spending by households, such us occupation of household heads, capita income, subsidy policy and household economic status.

Previous studies have shown the factors affecting the use of health services. In Vietnam, however, there are some fators which are not fully considered. This study estimates the factors influencing the use health services including personal characteristics, family characteristics, health insurance, characteristics of health facilities and environmental pollution. Characteristics of medical facility such as distance to nearest medical facility. In addition, this paper considers separately for inpatient and outpatient health spending because these two types of health services have many different characteristics.

3. Method

3.1 . Research data

To analyze the factors affecting health demand, this study uses data extracted from from the Household Living Standards Survey (VHLSS) Dataset which is conducted every 2 years by the General Statistics Office, the VHLSS 2016 is use in this study. The data set used for the study is cross-sectional data with 10580 observations with characteristics including health expenditure, health insurance, individual characteristics, and household characteristics. The data only includes individuals in households in the North of Vietnam, including the Red River Delta and the Northern Midlands and Mountains.

3.2. Definition of variables

From a review of previous studies,the author considers four groups of variables that are likely to affect demand for health services. The first group is the characteristics of the individual such as age, gender, ethnicity, health insurance. The second group is the characteristics of the household; the third group is the health facility characteristics such as the distance to the nearest medical facility (representing the availability of the medical). The fourth group is the living environment characteristics such as environmental status, living area, which is typical for climate, geography, socio-economic characteristics where the individual lives. These are important factors affecting access to health services and health spending personal.

Personal health expenditure here means health out-of-pocket spending including expenditures on medical care during personal visits to medical facilities or visits through medical facilities. private physician. Specifically, in this study health expenditure of a personal include fee and treatment, medical bills, physician training, travel, buy instruments, ... concerning examinations/treatment that does not take into account the individual buying medicine for self-treatment. With this concept, health expenditure is only observed for individuals who choose to use health services, and not for individuals who do not choose to use health services, that is, do not go to the doctor. The squared age variable is included because it can have a non-linear relationship with health. In this study, the economic status of the household is measured by the per capita income of the household.

Definitions of variables are detailed in Table 1.

Table 1. Definition of variables

Variables	Define
Dependent variable	
Number of outpatient visits	Calculated by the number of outpatient visits at medical facilities
Number of inpatient visits	Calculated by the number of inpatient visits at medical facilities
Outpatient care expenditure	Natural logarithm of outpatient expenditure
Inpatient care expenditure	Natural logarithm of inpatient expenditure
Independent variables	
Health Insurance	1= Have health insurance

Variables	Define
	0= No health insurance
Ethnic	1= Kinh people
	2= Ethnic Minority
Residence	1= Urban area
	2= Rural area
Education of the household head	
	1= No degree
	2= Elementary school
	3= Have a secondary school/high school diploma
	4= Have a high school diploma
Household size	
Gender of household head	1= Male
	2= Female
Education	
	1= No degree
	2= Elementary school
	3= Have a secondary school/high school diploma
	4= Have a high school diploma
Income	Logarithm of average household income
Age	Calculate by years
Age squared	Square of age
Gender	1= Male
	2= Female
Number of times sick	Number of times sick and unable to work or study,
Distance to nearest medical facility	Distance from commune to nearest medical facility
Environmental pollution	Measured by the concentration of PM2.5 in the air

3.3. Estimated model

Healthcare demand in this study included the number of individual outpatient visits and the amount of money the individual spent on healthcare during the visits in 12 months. With the model to estimate the factors affecting the number of individual visits, because the dependent variable is the number of inpatient and outpatient visits, which is numerical data, the study uses the Poisson regression model is suitable. For individuals who have no doctor visits or being payment by 100% covered health insurance, these individuals' health expenditures are zero, so there is a large number of observations for health expenditure equals 0 so it is appropriate to use a two-part model to estimate inpatient and outpatient health expenditure. The first part of the model estimates the likelihood of positive out-of-pocket payments at a health facility, whereas the second part of the model estimates the positive level of out-of-pocket expenditure per patient.

The study used Stata 14 software for cleaning data and quantitative analysis.

4. Results

4.1. The use of healthcare and environmental problems in Northern Vietnam

Table 2 presents the number of visits and average outpatient and inpatient medical expenditures of individuals in the past 12 months up to the time of the survey .

Table 2. Use of health services in Northern Vietnam

	Number of outpatient visits	**Number of inpatient visits**	**Average outpatient expenditure (thousand dong)**	**Average inpatient expenditure (thousand dong)**
Residence				
Rural	0,83	0,14	293,47	497,61
Urban	1,06	0,13	451,23	581,52
Ethnic				
1.Kinh	0,98	0,14	410,90	609,98
2. Non- Kinh people	0,65	0,14	108,30	245,95
Gender :				

1. Male	0.7 5	1.12	295.73	542.71
2. Female	1.04	1,16	375,75	499,20
Health insurance :				
1. Have health insurance	0,97	1,15	331,10	552,59
2. No health insurance	0,54	0,06	361,16	375,45
Age				
<18 years old	0,71	0,09	136,09	159,40
18-35 years old	0,83	0,10	182,78	498,48
35-50 years old	0,83	0,11	456,91	577,21
50-65 years old	1,32	0,20	590,94	849,92
>65 years old	1,87	0,35	698,44	1 . 095,51
Income				
1(The poorest group)	0,72	0,16	118,69	221,29
2	0,94	0,15	262,65	439,97
3	0,87	0,13	330,21	495,98
4	0,92	0,13	395,00	683,49
5 (Richest group)	1,04	0,13	576,88	763,07
Education				
1- No degree	0,97	0,17	227,76	330,98
2- Elementary school	0,98	0,15	313,81	472,04
3- Have a secondary school/high school diploma	0,83	0,13	358,51	621,09
4- Have a high school diploma	0,92	0,11	476,29	439,73
Household size				
1. Have 1 to 4 members	0,90	0,14	356,23	548,65
2. Greater than 5 members	0,83	0,13	265,49	436,40
Environmental pollution				

1(The lowest concentration of PM 2.5)	1,25	0,15	322,19	401,35
2	0,75	0,17	194,20	523,08
3	0,61	0,13	224,40	360,89
4	0,85	0,13	402,47	706,30
5 (The highest concentration of PM 2.5)	0,99	0,10	547,87	626,91

Source: Calculation from 2016 VHLSS data

The results are in Table 2 shows that people living in urban areas is the frequency of use of health services outpatient and health expenditure is higher than the people living in rural areas. Specifically people in urban areas have average outpatient visits of 12 months was 1.06 times, while the people living in the rural area is 0,83 times. The average health expenditure of people in urban areas was higher in rural areas shows that people in urban have the more ability to pay for medical services than people village area.

Similarly, the Kinh people also have the higher average visits and the health expenditure than the ethnic minorities. The health expenditure of the Kinh people for outpatient and inpatient medical services is 410,9 thousand VND and 609,98 thousand VND per year respectively, more than double that of ethnic minorities .

The table above also shows that people with health insurance have more inpatient and outpatient visits than people without health insurance. This shows that the majority of people participating in health insurance often have serious illnesses and often require inpatient rather than outpatient treatment. As a result, the average inpatient expenditure of those with health insurance is still higher than that of the outpatient, and the average inpatient medical expenditure of those with health insurance is still higher than those without health insurance. This was explained above, the participants of health insurance are often those with serious illnesses requiring inpatient treatment, health insurance contributes to reducing medical costs, but currently health insurance only pay for some medical items, in addition, the patient still has to pay some expenses such as travel expenses, accommodation costs, expenses for family caregivers. The frequency of inpatient care is higher, so patients with health insurance have a higher average inpatient expenditure.

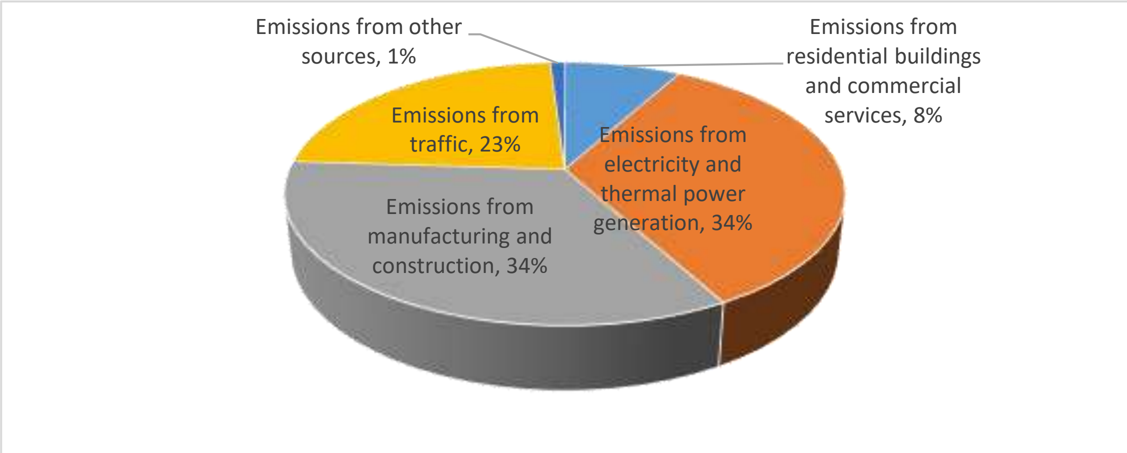
About age, the data in Table 2 also show that when age increases, frequency of medical examination and treatment and health expenditure also increase . This is because as their age increase, their health becomes worse, and they are more likely to have health problems. Statistical results also show that when income increases, the frequency of medical examination and treatment and health expenditure on health also increase. This shows that people with better economic conditions are more concerned about their health and more willing to pay for medical expenses. The rich are better able to pay for health services than the poor.

Regarding gender, women have a higher rate of inpatient and outpatient medical care than men, but women's inpatient health expenditure is less than that of men. This can be understood because during pregnancy, women often go to antenatal care at least once, in addition, women often pay more attention to health check-ups, so they often go to outpatient care than men. However, women have a lower average inpatient health expenditure than men, possibly because women have better health, fewer illnesses, and less disease severity. Men should have lower average health expenditures of women .

According to education, Table 2 also shows that the higher the education level, the more people pay attention to health care and are more willing to spend on health. The members of the household having fewer than 5 members are also frequency healthcare and have higher health expenditures for inpatient services and outpatient than households with five or more members. This shows that the household size is small, the members have more frequent medical check-ups and the household is also willing to spend on health services.

Statistics also show that when the level of air pollution increases, the number of outpatient visits also increases and health spending also increases. In recent years, with the trend of innovation and integration, Vietnam has been a bright spot in terms of economic development in Southeast Asia. However, Vietnam is still facing many challenges, including environmental pollution. Environmental pollution is considered one of the leading agents with negative impacts on public health, especially concentrated in developed urban areas, industrial zones and clusters. Due to the influence of climate and weather factors (including radiation regime, temperature, and precipitation), environmental pollution, especially air pollution in our country, is seriously affecting the health of the environment. people's health and significantly increase the pressure on current household health costs. Construction, renovation and new construction of apartment buildings, urban areas, repair of bridges and roads, housing, transportation of construction materials and wastes take place everywhere, causing smoke and dust to be released into the surrounding air environment. Due to the availability of data, this study uses air pollution to represent the impact of environmental pollution on healthcare demand of Vietnamese.

Figure 1: Air pollution in Vietnam



Source: World Bank (2010-2016)

Figure 1 shows that the main sources of air pollution include: emissions from traffic (23%); from processing, manufacturing and construction (34%); from electricity and heat production (34%); from residential buildings and commercial services (8%) and other sources (1%). In which, the largest amount of emissions comes from the manufacturing and construction industry and emissions from electricity and thermal energy production. The processing and manufacturing industry is considered the main pillar of the economy with a huge consumption of fuels as well as a large amount of emissions to the environment. Recycling activities also put considerable pressure on the environment and are common in the Northern region. The construction industry puts pressure on the air environment mainly because the construction units have not fully and strictly implemented environmental protection measures at the construction site. Livelihood activities are concentrated in rural areas, where raw materials for cooking and production are still mainly based on fossil fuels, firewood and uncontrolled waste as well as energy use by businesses, is the cause of high emissions from power generation and thermal energy. Emissions from traffic (CO, VOC, TSP from motorcycles and SO2, NO2 from cars) account for a significant proportion at 23% due to the strong increase in the number of vehicles over the years, contributing to significant deterioration in air quality. Due to pressure from urbanization, emissions from residential buildings and commercial services also cause air pollution, accounting for 8%. The farming sector also causes environmental problems due to an uncontrolled increase in the amount of chemical fertilizers, pesticides and post-harvest waste (including straw and dried plants) 1% of emissions come from the source of this. Air pollution is clearly at an alarming rate in urban areas, industrial zones and big cities.

PM2.5 dust is considered as the air pollutant that has the most negative impact on human health. Because of its very small size, PM2.5 dust is very dangerous, capable of depositing, penetrating and penetrating deep into the alveoli in the lungs and into the blood . N If the concentration of PM2.5 in the air cleaner, the daily exposure is greater and increases the risk of acute health problems and chronic. Air pollution increases the risk of respiratory infections, heart disease, stroke and lung cancer. Both short-term and long-term exposure to air pollutants cause health effects. Children, women, pregnant women, the elderly, people with weak health, people who are sick are those who suffer the most from air pollution.

4.2. Estimated results

- Analysis of factors affecting the number of medical visits

Table 3 . Estimated results of factors affecting the number of outpatient and inpatient visits

Independent variables	**Number of outpatient visits** (2)	**Number of inpatient visits** (3)
Health Insurance	0.672***	0.760***
	[0.0374]	[0.107]
Ethnic	0.259***	-0.118
	[0.0374]	[0.0872]
Residence	-0.204**	-0.228
	[0.0992]	[0.294]
Education of household head		
No degree (reference)		
Elementary school	0.226***	0.148
	[0.0399]	[0.0903]
Have a secondary school/high school diploma	0.303***	0.153*
	[0.0378]	[0.0870]
Have a high school diploma	0.407***	-0.183
	[0.0704]	[0.213]
Household size	-0.0687***	-0.0855***
	[0.00741]	[0.0183]
Gender of household head	-0.150***	-0.171**
	[0.0307]	[0.0748]
Education		
No degree yet (reference)		
Elementary school	-0.232***	-0.381***
	[0.0375]	[0.0943]
Have a secondary school/high school diploma	-0.326***	-0.184**

	[0.0362]	[0.0842]
Have a high school diploma	-0.610***	-0.145
	[0.0736]	[0.187]
Income	0.0976***	-0.00631
	[0.0196]	[0.0476]
Age	0.00479**	-0.00419
	[0.00204]	[0.00466]
Squared-age	0.0000545**	0.000173***
	[0.0000232]	[0.0000528]
Gender	-0.256***	-0.163***
	[0.0232]	[0.0571]
Number of times sick	0.233***	0.413***
	[0.00806]	[0.00902]
Distance to nearest medical facility	0.00229	-0.00083
	[0.00147]	[0.00320]
Environmental pollution	-0.00101	-0.0383***
	[0.00583]	[0.0130]
_cons	-1,556***	-1.207**
	[0.211]	[0.480]
Number of observations	10580	10580

*Note: The symbols***/** /* represent significance at 1%, 5% and 10%, respectively.*

Source: Estimates from 2016 VHLSS data.

The coefficient of Health Insurance is positive in column (2) and column (3), both statistically significant at the 1% level. This result shows that when people have insurance, people go to the doctor more often. This result is similar to the study of Nguyen Huu Dung (2016). Currently, the health insurance policy stipulates to pay 100% of medical expenses for medical examination at the commune level for the items covered by the insurance, and 100% of the cost of health insurance for when going to the right doctor for a one-time payment less than 15% of base salary. As a result, the number of outpatient and inpatient visits has increased. Thus, the 2014 revised health insurance policy has a positive effect in encouraging people to visit doctors more.

The results also show that Kinh people have better access to outpatient health care services. Because ethnic minority people often live in mountainous and highland provinces, their understanding of health care is still limited. When they get sick, they usually self-treatment, so medical expenses are lower.

Regarding the place of residence, people in urban areas have fewer outpatient visits than in other regions. This is because in urban areas, living conditions are better, with better nutrition, so urban people have less outpatient medical care than in rural areas.

Regarding the education of the household head, the research results are quite similar to the results of Awiti (2014). The education of the household head positively affects the medical examination of the members of the household. Household heads with higher education have a better awareness of health care, so they are more concerned about the health of individuals in the household. In contrast, the coefficient estimates of the member's education variable are all negative, and this negative level increases with education level. The results show that members with higher education have a lower frequency of medical visits, indicating that with higher education, individuals are more conscious in health care.

The coefficients of the variable household size are negative and highly statistically significant in both models, showing that when the household size increases, individuals receive less health care, so the number of medical visits of the households increases. individuals in the household will decrease.

Regarding the gender of the household head, the estimated results show that the number of inpatient and outpatient visits of members of male-headed households is less than that of members of a male-headed household. household is female. This means that the female head of the household is more concerned with the health of the members than the male.

The coefficients of the income variable have a positive effect on the number of outpatient visits at the 1% significance level. This result suggests that individuals with a higher average income, which is interpreted as having better economic conditions, will take care of their health more often.

The results show that the frequency of outpatient visits increases with age. This is because as age increases, health declines, individuals experience more health problems and therefore the need for medical examination and treatment increases.

Men are shown to have a lower frequency of outpatient care than women, because women care more about their health, in addition, women are the object of childbirth, so they have to spend more during childbirth and pregnancy.

The level of illness of individuals also has a negative impact on the number of visits to the individual. Specifically, the number of times of being sick and unable to work increases,the number of outpatient and inpatient visits also increases.

Regarding environmental factors,the coefficient of air pollution in column 3 is negative and statistically significant. This is due to short-term research data, so in the short-term air pollution have not caused serious diseases that require inpatient treatment. However, in the long term, air pollution can cause serious illnesses and increase inpatient visits.

- *Analysis of factors affecting health expenditure*

Table 4 . Estimated results of factors affecting health expenditure

Independent variables	**Outpatient expenditure (2)**	**Inpatient expenditure (3)**
Health Insurance	-0,176**	-0,295*
	[0,0856]	[0,157]
Ethnic	0,257**	0,244*
	[0,110]	[0,145]
Residence	0,449	0,579
	[0,289]	[0,501]
Education of the household head		
No degree (reference)		
Elementary school	-0,154	0,254*
	[0,119]	[0,152]
Have a secondary school/high school diploma	-0,0376	0,399***
	[0,112]	[0,145]
Have higher school diploma	0,0247	0,198
	[0,201]	[0,354]
Household size	-0,00235	0,0396
	[0,0223]	[0,0294]
Gender of household head	-0,209**	-0,132
	[0,0864]	[0,128]
Education		
No degree (reference)		
Elementary school	0,352***	-0,134
	[0,114]	[0,157]
Have a secondary school/high school diploma	0,320***	0,072
	[0,111]	[0,149]

Have higher school diploma	-0,119	0,16
	[0,205]	[0,300]
Income	0,201***	0,320***
	[0,0551]	[0,0794]
Age	0,0226***	0,0421***
	[0,00617]	[0,00815]
Squared – age	-0,000186***	-0,000463***
	[0,0000709]	[0,0000939]
Gender	-0,0258	0,246**
	[0,0633]	[0,0954]
Number of times sick	0,281***	0,276***
	[0,0345]	[0,0383]
Distance to nearest medical facility	0,00588	0,0117*
	[0,00540]	[0,00659]
Environmental pollution	0,0779***	0,0420*
	[0,0178]	[0,0229]
_cons	1,628***	2,710***
	[0,628]	[0,814]
Number of observations	10580	10580

*Note: The symbols***/** /* represent significance at 1%, 5% and 10%, respectively.*

Source: Authors' estimates from VHLSS 201 6

The estimated results in Table 4 show that the coefficient of health insurance is negative and statistically significant at 1% in both columns (2) and (3), showing that health insurance contributes to reducing costs of inpatient and outpatient medical care compared to people without health insurance.

The coefficient of the positive ethnicity variable shows that Kinh people have higher health expenditure than ethnic minorities. This shows that ethnic minorities still have difficulty in spending on health. In addition, now that ethnic minorities have free health insurance,when they go to medical facilities, their medical costs are also reduced.

Higher education of the household head reduces the likelihood of individuals having to go to an inpatient clinic, indicating that with a high level of education, the household head has better knowledge of individuals' health care. As a result, they are less likely to have serious illnesses that require hospitalization. However, when a member is sick, the heads of these households are willing to spend more on health, so the average health expenditure of members of these households is also higher. This is also similar for the estimated results of the individual's education variable in outpatient spending.

The estimated results of the income variable show that with higher income, individuals have better access to health services and they are more willing to spend on health. Many households with good economic conditions are willing to use health services to expect the best medical treatment.

Outpatient expenditure of men is higher than that of women. For men, the more they age, the health of men less than women, men with average life expectancy is lower than women and often suffer from chronic diseases than women so health expenditure on average of men is more than that of women.

The coefficients of the variables age and age squared show that the likelihood of inpatient care and outpatient treatment increases with age, but the increase decreases with age. As age increases, health declines, therefore, health expenditure also increases .

The number times of being seriously ill increases, increases inpatient and outpatient expenditure of individuals. There is no evidence that distance to a health facility does not affect outpatient health spending, but increases inpatient health spending .

About environmental problems, pollution of air increases both inpatient and outpatient expenditure. Due to the development of industries and construction, air pollution is increasing day by day. When air pollution increases, people are prone to respiratory and cardiovascular diseases, so health spending also increases.

5. Conclusion

From the above analysis, the study draws some important conclusions as follows.

Firstly, health insurance increases the ability to use health services of individuals and reduces their health spending, thereby helping people get better health care. According VHLSS 2016, the rates of people having health insurance in Vietnam is 84%, the State needs to continue implementing policies health insurance the whole people to increase. Therefore, the State should continue to implement the policy of health insurance the whole people to increase audience participation health insurance,which will contribute to increase people's ability to access to medical care.

Second, economic conditions also have a positive impact on the use of healthcare. Members of households with high per capita incomeare willing to spend more on health care. Therefore, the State should have policies to promote economic development for the people and at the same time need to have policies to support members of low-income households to help them get better medical care.

Third, the research results also show that as the age increases, the demand for health also increases. Therefore, the State should continue to have health care policies for the elderly. Especially Vietnam is in a state of population aging, the proportion of people aged 60 years and above is high, accounting for 9.34% of the total population (VHLSS 2016), so the State should to focus on this group of people to give appropriate policies to enhance medical care for this group of people.

Fourth, environmental issues locally also affect health and increase health spending by individuals. In the coming time, the State needs to have good environmental management policies such as waste treatment, arrange production areas away from residential areas to reduce air pollution to protect people's health.

6. References

1. Ahmed, S. M., Tomson, G., Petzold, M., & Kabir, Z. (2005). Socio-economic status overrides age and gender in determining health-seeking behavior in rural Bangladesh. *Bulletin of the World Health Organization, 83*, 109-117. doi:10.1590/S0042-96862005000200011

2. Hoang Van Minh, Phuong, N., Saksena, P., James, C., & Xu, K. (2012). Financial burden of household out-of pocket health expenditure in Viet Nam: Findings from the National Living Standard Survey 2002-2010. *Social science & medicine (1982), 96*. doi:10.1016/j.socscimed.2012.11.028

3. Jowett, M., Contoyannis, P., & Vinh, N. (2003). The Impact of Public Voluntary Health Insurance on Private Health Expenditures in Vietnam. *Social science & medicine (1982), 56*, 333-342. doi:10.1016/S0277-9536(02)00031-X

4. Kevany, S., Murima, O., Singh, B., Hlubinka, D., Kulich, M., Morin, S., & Sweat, M. (2012). Socio-Economic Status and Health Care Utilization in Rural Zimbabwe: Findings from Project Accept (HPTN 043). *Journal of public health in Africa, 3*, 46-51. doi:10.4081/jphia.2012.e13

5. Laokri, S., Soelaeman, R., & Hotchkiss, D. R. (2018). Assessing out-of-pocket expenditures for primary health care: how responsive is the Democratic Republic of Congo health system to providing financial risk protection? *BMC health services research, 18*(1), 451-451. doi:10.1186/s12913-018-3211-x

6. Lépine, A., & Le Nestour, A. (2011). Health Care Utilization in Rural Senegal: What can We Expect from the Extension of Health Insurance to Farming Households? *SSRN Electronic Journal*. doi:10.2139/ssrn.1965752

7. Mocan, H. N., Tekin, E., & Zax, J. (2004). The Demand for Medical Care in Urban China. *World Development, 32*, 289-304. doi:10.1016/j.worlddev.2003.07.006

8. Nguyễn Thị Thùy Trinh, Nguyễn Thị Kim Xuyến, & An, N. V. V. (2018). Các yếu tố ảnh hưởng đến việc chi tiêu cho y tế của các nông hộ tại tỉnh Trà Vinh. *Tạp chí khoa học trường đại học Trà Vinh, 29*, 9-19.

9. Onwujekwe, O., Uzochukwu, B., Obikeze, E., Okoronkwo, I., Ochonma, O., Onoka, C., . . . Okoli, C. (2010). Investigating determinants of out-of-pocket spending and strategies for coping with payments for healthcare in southeast Nigeria. *BMC health services research, 10*, 67. doi:10.1186/1472-6963-10-67

10. Wagstaff, A., Lindelow, M., Jun, G., Ling, X., & Juncheng, Q. (2008). Extending Health Insurance to the Rural Population: An Impact Evaluation of China's New Cooperative Medical Scheme. *Journal of health economics, 28*, 1-19. doi:10.1016/j.jhealeco.2008.10.007

11. Waters, H. R. (1999). Measuring the impact of health insurance with a correction for selection bias—a case study of Ecuador. *Health economics, 8*(5), 473-483. doi:10.1002/(SICI)1099-1050(199908)8:5<473::AID-HEC453>3.0.CO;2-C

LISTED COMPANY AND DISCLOSURE OF CORPORATE SOCIAL RESPONSIBILITY (CSR): EMPIRICAL EVIDENCE FROM VIET NAM

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Abstract

Social responsibility disclosure (CSR) has become one of the strategic action programs in many countries. However, in Vietnam, this issue is not focused on the operation process of enterprises. On the other hand, differences in the business environment such as culture, geographic regions, politics, governance characteristics,... make policies on CSR information disclosure indicators in other countries are not appropriate when applying to Vietnam, so creating and building a set of indicators, assessment framework for the extent of social responsibility disclosure is becoming an important issue. Starting from that basis, the study examines the current situation of how corporate social responsibility disclosure in listed companies in Vietnam is taking place, along with that the study also examines corporate governance, ownership, characteristics, and financial factors that influence CSR disclosure through the development of indicators based on four dimensions of environment, human resources, products and customers, and community.

After performing regression analysis and resolving defects from the models OLS, FEM, REM and GLS with 240 listed company from 2013-2019, the results were for the proportion of female board members, foreign ownership, company size, enterprise age, auditing firm, and growth potential are positively correlated, with variables in state ownership and financial leverage having a statistically significant correlation with CSR. In addition, the research results also show that the situation of CSR information disclosure of Vietnamese listed companies is getting more and more attention, in which two indicators on human resource and product/customers information disclosure are the two most published indicators. Furthermore, the research results also show that enterprises whose activities directly affect the CSR indicator components a higher level of CSR information disclosure at that indicator.

Keywords: *CSR, listed company, Vietnam.*

1. Introduction:

1.1. Overview

The whole world is entering an explosive era of globalization and international integration, which presents the economies of nations with great opportunities and potentials for development. However, besides that integration process, sustainable development to ensure the maintenance of future resources for the whole society poses many challenges for businesses along with generating profits. In the past few years, with a series of social problems such as the case of Vedan company silently killing Thi Vai river (Dong Nai), a series of product quality scandals from the case of Tan Hiep Phat with "500 million flies" or most recently, the Formosa environmental disaster that killed a series of marine species along the central coast has raised concerns about the problem corporate social responsibility of Vietnamese enterprises.

The term corporate social responsibility in the world has been around for a long time and has been successfully implemented by developed countries in parallel with maximizing corporate profits. According to statistical data from Pricewaterhouse in 2012, more than 70% of the managers of enterprises consider the implementation of social responsibility disclosure as a matter of survival for the whole business. Especially, with the problems occurring in the country in recent times, the publication of information on social responsibility is even more important to help people understand and trust more in environmental and social values, etc. These businesses have been doing, and also help companies improve the quality and value of their brand in relation concerning other business entities.

In Vietnam, although the state has focused on issues of social responsibility since early with the policy "CSR towards sustainable development" (2005), in general, activities on CSR information disclosure of enterprises have not been really focused, perfected and complete. Besides, there are still not many empirical studies on the level of CSR information disclosure in Vietnam, if any, only at the level of basic research for specific industry groups or companies but not considering the overall market, with the level of information declaration is incomplete, not up to date such as: My, Nguyen Ha (2017) research-based on factors affecting CSR in Ho Chi Minh City Stock Exchange. Ho Chi Minh City; Thanh, Nguyen Le Van (2019) research on CSR in Vietnam's consumer goods industry;); eitc. From the reality of the current state of CSR disclosure in Vietnam, the author researches with the desire to contribute to the practice to help businesses recognize the factors and the extent of their impact on the environment. The publication of information on social responsibility will have a basis to build a suitable set of mechanisms for sustainable development commensurate with the issue of generating profits as well as helping investors and consumers use an effective source of information to make investment decisions and purchase choices more effectively.

1.2. Objective

Measuring the level of disclosure of social responsibility of enterprises listed on HOSE and HNX, thereby assessing the situation disclosure of social responsibility of the companies listed in Vietnam.

Identify factors related affecting the level of corporate social responsibility information disclosure on annual reports and corporate sustainability reports

1.3. Literature Review

1.3.1. Carroll theory

Archie Carrol's theory about corporate social responsibility was developed through various stages. At the first stage, this theory is understood as the connection of basic factors including Economy, environment and social responsibility in business. After this time, Archie Carrol developed CSR into a pyramid model that includes economic, legal, ethical and philanthropic responsibility. Accordingly, economic responsibility is located at the bottom of the pyramid, showing that the goal of creating profit value is the core and most basic motivation for all business activities and policies. Located on the bottom part, liability represents the act of complying with the provisions of the law in the process of manufacturing, designing, manufacturing finished products, and in the obligation to pay state taxes, etc. Ethical responsibility embodies standard rules that reflect the company's concern for what shareholders, consumers, employees and society consider right, not violating the ethical rules that these stakeholders respect and uphold. And finally, located at the top of the pyramid is charity responsibility, this responsibility shows the commitment of businesses in promoting the progress and development of the whole society through activities, campaigns to improve social welfare (Trevino and Nelson, 1999).

1.3.2. Agency theory

This theory was developed by Jensen and Meckling (1976), whereby the author deals with the relationship between shareholders and corporate managers and the conflicts of interest between them. While shareholders always want the business to carry out activities aimed at minimizing costs and maximizing profits for the business, in the opposite direction, managers also want to implement policies, projects, activities that bring fame and benefit to themselves. Therefore, to limit this behavior of managers, shareholders have increased the implementation of control measures as well as introduced agreements to punish and control managers, and this has appeared agency costs.

Therefore, in order to minimize this type of cost, one of the ways to show that managers are acting in the interests of shareholders is through the publication of management reports, financial statements, annual reports, sustainability reports, etc are published most transparent and clear way about the activities of the business in the period (Watts, 1977). In addition, according to Urquiza et al. (2010), it is also suggested that to strengthen the trust of shareholders, managers must increase disclosure of information on corporate social responsibility (Jo and Harjoto - 2011). However, this disclosure needs to be discussed and agreed to be consistent with the CSR goals of the shareholders or it will give rise to hidden problems in corporate governance (Eisenhardt, 1989).

1.3.3. Stakeholder theory

Stakeholder theory deals with the relationship between activities, policies of company and stakeholders directly and indirectly affected by those (Friedman, 1970) such as government, shareholders, creditors, employees, customers and the community, etc. Therefore, to maintain stable growth, it is extremely important to take care of the interests of stakeholders (Van der La, 2009).

Discussing the relationship between corporate social responsibility disclosure (CSR) and corporate stakeholders, Roberts (1992) show that the level of social responsibility disclosure (CSR) has a significant correlation with the interests of stakeholders, and with the economic performance of enterprises. In addition, Snider et al. (2003) also acknowledge that stakeholder theory provides a valuable framework for assessing corporate social responsibility disclosure (CSR) through social activities reported (Snider et al., 2003).

1.3.4. Legitimacy theory

According to Deegan (2002) defines that the legitimacy theory expressing the rights and responsibilities in business activities of the organization must derive from social benefits, not do any actions that negatively affect the value of the society. Parker (1989), O'Donovan (2002) also said that the theory of legitimacy is the point of view of the implementation of corporate policies based on society, minimizing the risks that may arise in the business process, and in which the transparent disclosure of social responsibility information is an effective method to demonstrate "corporate civic responsibility".

Applying the theory of legitimacy to the relationship between CSR and corporate social reporting, Cormier et al. (2011) when investigating the effects of social responsibility disclosure on the issue of inequality information between managers and investors in the market has shown that CSR disclosure is correlated with firm size, leverage, exposure to news related to the environment, and efficient environment. In which, the environmental performance has a direct correlation with CSR disclosure. Not only that, the higher the level of CSR disclosure also helps companies achieve a higher level of legitimacy.

1.3.5. Political costs theory

Political costs are considered as costs that external parties such as the state impose on businesses as compensation for political actions. On the other hand, the political theory holds that state managers decide to implement policies and measures affecting the interests of each enterprise based on information published by enterprises such as the application of taxes, taxation on goods, technology transfer, property, restriction of monopoly, etc.

From this point of view, Watts and Zimmerman (1978) have reported that depending on the size of the firm the political costs for firms can vary. In particular, large enterprises often have to bear higher political costs than small enterprises, as well as the more transparent disclosure of information will help reduce this cost for businesses and limit government intervention. Furthermore, the research results also show that businesses that currently have good business results will also tend to disclose more information to limit explanations or legal procedures due to less transparent information communication.

2. Methods

2.1. Data

Regarding qualitative data, the author builds a research scale based on content analysis that combines the international standard set of GRI Standards for sustainable development reporting - with the latest version upgraded from GRI4 and the highest international standards in sustainability reporting published by the Global Sustainable Development Standards Board (GSSB); Guidelines on environmental and social information disclosure issued by the State Securities Commission in collaboration with IFC; Circular No. 155/2015/TT-BTC issued on October 6, 2015 of the Ministry of Finance requiring the disclosure of sustainable development information of listed companies; the actual survey used to interview businesses was developed by MayBank Kim Eng Vietnam Limited Company on ESG issues and research by Branco and Rodrigues (2008) to establish a set of criteria to evaluate the information disclosure of social responsibility of Vietnamese enterprises with four groups including responsibility to the environment, responsibility to employees, responsibility to products/customers and responsibility to the community. After that, the author scores these criteria in turn on annual reports and reports on sustainable development of enterprises by industry group.

Regarding the source of quantitative data on the records of the Board of Directors and the market data compiled from the reports of 240 companies listed on HOSE and HNX from 2013 to 2019 through the websites of each enterprise, information from Stock Exchange or websites www.finance.vietstock.vn, www.fiinpro.com, www.scafef,vn,...

Table 1: Indicators measuring the level of information disclosure on social responsibility of listed companies in Vietnam

Serial	**Scale of indicators on the disclosure of corporate social responsibility information**
	Social responsibility towards the environment
1	There are policies to protect the environment

Serial	Scale of indicators on the disclosure of corporate social responsibility information
2	Efficient use of energy resources in business activities.
3	Compliance with the provisions of law on environmental protection
4	Compliance with the recycling, disposal and waste water in the enterprise
5	Pursue environmental goals.
6	No scandals or problems affecting the environment
7	Received certificates and awards for environmental protection activities
	Social responsibility for the company's human resources
1	Have policies that care about workers' health and safety
2	Policy to care about worker's health and safety
3	Training plan and roadmap for advancement for employees was clearly announced
4	There are policies on employee welfare and treatment.
5	There are policies to support and care for employees' families.
6	Announcement of average training hours per employee
7	Equality between male and female workers, among ethnic groups.
8	Do not use child labor
9	There are employee engagement activities throughout the company
10	There is information on the classification of personnel structure by qualifications
11	There were no scandals or issues related to employees' interests during the year
	Social responsibility for products and customers.
1	Disclosure of information on ingredients and quality of products and services of enterprises
2	Information about the management of input materials of the enterprise
3	Products and services of enterprises are certified safe
4	The enterprise has a product research and development department
5	No scandals or problems affecting product quality
6	Achieve customer satisfaction with products and services of the business.
7	There are awards for activities for the benefit of consumers
	Social responsibility towards the community
1	There are educational support activities
2	There are cultural and artistic support activities
3	Sponsor fitness events, sports and recreational activities of the community .
4	Contributing to charity funds for the poor, storms, floods, Agent Orange.
5	Support for local development projects and activities

Serial	Scale of indicators on the disclosure of corporate social responsibility information
6	Support social policy activities: Vietnamese heroic mother, wounded soldiers, sea and islands of the Fatherland, ...
7	Enterprises fully announce the fulfillment of tax obligations or achieve the State's certificate of merit on tax obligations, ensuring the fulfillment of tax obligations .
8	The business has an environmental and social impact report; Sustainability report in the company's annual report
9	Enterprises have reports related to green capital market activities under the guidance of the State Securities Commission
10	There are certificates and awards for social activities
11	In the year, enterprises won awards for the best annual report organized by HOSE and HNX or for transparent information disclosure in the market.
12	In the year, enterprises have won the award for the best sustainability report organized by HOSE, HNX and Investment newspaper.

Source: Compiled from the author's research

Table 2: Description of the model variables

Variables	Symbol	Formula	Expected correlation
Dependent variables			
Corporate Social Responsibility	CSR	$\sum_{i=1}^{mj} \frac{di}{nj}$	
Social responsibility towards the environment	ENV	$\sum_{i=1}^{mj} ENV \frac{di(env)}{nj\ (env)}$	
Corporate social responsibility for human resources.	HUM	$\sum_{i=1}^{mj} HUM \frac{di(hum)}{nj\ (hum)}$	
Social responsibility for products and customers	PRO	$\sum_{i=1}^{mj} PRO \frac{di(pro)}{nj\ (pro)}$	
Social responsibility towards the community .	COM	$\sum_{i=1}^{mj} COM \frac{di(com)}{nj\ (com)}$	
Independent variables			

Board size	BSIZE	Total member board	+
Proportion of independent members in the BOD	BINDEPE	$\frac{\text{Independent Board Member}}{\text{Total member Board}}$	+
Chairman of the BOD has political connections	POL	+ Get value 1 if the Chairman of the Board of Directors has political connections. + Get the value 0 if the Chairman of the Board of Directors has no political relationship.	-
Percentage of female members in the BOD.	FDSHIP	$\frac{Female\ member}{\text{Total member Board}}$	+
Percentage of members in the BOD with Master's and Doctoral degrees	BEDU	$\frac{\text{Board member holds an MA or Ph. D.}}{\text{Total member Board}}$	+
State ownership	OWNSTA	$\frac{\text{State shareholder's equity}}{\text{Enterprise's equity}}$	-
Foreign ownership	OWNFOR	$\frac{Foreign\ shareholder's\ equity}{\text{Enterprise's equity}}$	+
Company size	FSIZE	Logarit(Assets)	+
Year of business establishment	BOLD	Years of business established by the time of implementation of the study	+
Return on Assets	ROA	$\frac{\text{Profit after tax}}{Total\ Assets}$	+
Market Value Index	Tobin's Q	$\frac{\text{Market value of equity} + \text{book value of debt}}{Total\ Assets}$	+
Debt ratio	DEBT	$\frac{Total\ Assets}{Total\ Liabilities}$	-

Source: Compiled from the author.

2.2. Models

Based on the the original research paper by Branco and Rodrigues (2008). The first model is the model related to the level of information disclosure on corporate social responsibility in the annual report and sustainable development report of enterprises and models (2) (3) (4) (5) respectively, the component measuring groups of indicators related to the level of social responsibility information disclosure, including ENV (environment), HUM (employees), PRO (products and corporate customers) and COM (community).

(1) $CSRit = \alpha0 + \alpha1BSIZEit + \alpha2BINDEPEit + \alpha3POLit + \alpha4FDSHIPit + \alpha6BEDUit$ $\alpha7OWNSTAit + \alpha8OWNFORit + \alpha9FSIZEit + \alpha10BOLDit + \alpha11AUDit + \alpha12ROAit + \alpha13Qit + \alpha14DEBTit + έit$

(2) $ENVit = \alpha0 + \alpha1BSIZEit + \alpha2BINDEPEit + \alpha3POLit + \alpha4FDSHIPit + \alpha6BEDUit$ $\alpha7OWNSTAit + \alpha8OWNFORit + \alpha9FSIZEit + \alpha10BOLDit + \alpha11AUDit + \alpha12ROAit + \alpha13Qit + \alpha14DEBTit + έit$

(3) $HUMit = \alpha0 + \alpha1BSIZEit + \alpha2BINDEPEit + \alpha3POLit + \alpha4FDSHIPit + \alpha6BEDUit$ $\alpha7OWNSTAit + \alpha8OWNFORit + \alpha9FSIZEit + \alpha10BOLDit + \alpha11AUDit + \alpha12ROAit + \alpha13Qit + \alpha14DEBTit + έit$

(4) $PROit = \alpha0 + \alpha1BSIZEit + \alpha2BINDEPEit + \alpha3POLit + \alpha4FDSHIPit + \alpha6BEDUit$ $\alpha7OWNSTAit + \alpha8OWNFORit + \alpha9FSIZEit + \alpha10BOLDit + \alpha11AUDit + \alpha12ROAit + \alpha13Qit + \alpha14DEBTit + έit$

(5) $COMit = \alpha0 + \alpha1BSIZEit + \alpha2BINDEPEit + \alpha3POLit + \alpha4FDSHIPit + \alpha6BEDUit$ $\alpha7OWNSTAit + \alpha8OWNFORit + \alpha9FSIZEit + \alpha10BOLDit + \alpha11AUDit + \alpha12ROAit + \alpha13Qit + \alpha14DEBTit + έit$

Empirical studies around the world have shown that there are many problems with variable variance or autocorrelation when studying CSR. These defects may come from the reciprocal interaction between factors related to CSR and the Board of Directors, affecting the sustainability and research results. Therefore, the author uses FEM, REM and finally FGLS estimation models for panel data to be able to overcome these defects. The author will present these tests in turn in the regression results section.

3. Results

3.1. Descriptive Statistics

In this section, the author presents descriptive statistics related to the observed sample. Table 3 presents the statistical criteria for the variables in the model .

Table 3: Descriptive statistics table of variables

Variables	Number of observations	The average value	Standard deviation	Minimum value	Maximum value
CSR	1680	0,5779	0,1800	0,0833	0,9730
ENV	1680	0,6159	0,3061	0	1
HUM	1680	0,7048	0,1743	0,1000	1
PRO	1680	0,7372	0,2019	0,1429	1
COM	1680	0,3532	0,2338	0	0,9167
BSIZE	1680	5,8613	1,4526	3	15
BINDEPE	1680	0,1109	0,1595	0	0,800

POL	1680	0,3566	0,4791	0	1
FDSHIP	1680	0,1725	0,1736	0	1
BEDU	1680	0,2612	0,2515	0	1
OWNSTA	1680	0,1761	0,2528	0	0,9672
OWNFOR	1680	0,1419	0,1647	0	0,9000
FSIZE	1680	14,1695	2,2027	5,4272	21,1220
BOLD	1680	17,7708	10,6620	1	63
AUD	1680	0,3970	0,4894	0	1
ROA	1680	0,0710	0,1295	-0,4716	2,4116
Q	1680	1,1832	0,6292	0,1764	9,0440
DEBT	1680	0,4961	0,2392	0,0110	1,2945

Source: Statistical results from Stata 14

Overall, the statistical results described in Table 3 shows the significant difference between the minimum value and a maximum value of the variable group, in which the variables belonging to the group of corporate financial variables show a large difference. for example, ROA ranges from -0,4716 to 2,4116; Q ranges from 0,1764 to 9,0440 or Debt from 0.0146 to 0.9642, which indicates that there is a relatively large difference between market value and corporate CSR disclosure.

3.2. Results

In this section, the author will present the results related to the status level of corporate social responsibility information disclosure over the years, the relationship between CSR factors and corporate governance, ownership, characteristics and finance (Table 4). Besides, the author also show four regression equations with the dependent variable measuring the level of CSR disclosure, including indicators CSR total and indicators CSR components: environment (ENV), human resources (HUM), consumers and products (PRO) and communities (COM) and the independent variables divided into groups of variables related to the business (Table 5).

Table 4: The level of disclosure of CSR in each sector

Serial	**Sector**	**CSR**						
		2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
1	Information Technology	51.29%	50.90%	53.61%	59.41%	60.18%	57.46%	59.00%
2	Energy	58.02%	58.57%	62.08%	69.00%	69.31%	70.95%	73.14%
3	Utilities	49.25%	51.56%	53.74%	60.83%	61.27%	60.73%	61.38%
4	Health Care	57.92%	57.61%	61.72%	64.17%	65.87%	64.96%	65.57%

5	Consumer Discretionary	51.47%	53.19%	56.97%	60.25%	61.97%	61.80%	62.31%
6	Materials	43.84%	44.92%	48.42%	53.75%	55.91%	57.35%	57.04%
7	Consumer Staples	42.30%	44.68%	52.24%	57.48%	57.86%	59.78%	59.86%
8	Financial	55.19%	56.92%	59.79%	65.18%	65.62%	67.01%	67.52%
9	Industrial	47.60%	48.74%	54.01%	59.26%	59.74%	60.19%	60.70%

Source: Analysis from Stata 14.0

In Table 4.2, we see that the level of information disclosure of social responsibility of industry groups has increased gradually over the years, which shows that later listed companies pay more attention to the issue of information disclosure about corporate social responsibility. In which, the energy sector has the highest growth (from 58.02% to 73.14%).

Table 5: Results of regression method FGLS

Variables	CSR	ENV	HUM	PRO	COM
Constant	0,0115 (0,48)	-0,0978** (-2,35)	0,4257*** (20,72)	0,1796*** (11,02)	-0,4699*** (-12,59)
Group of corporate governance variables					
BSIZE	0,0020 (1,18)	-0,0021 (-0,74)	0,0013 (1,19)	0,0015* (1,92)	0,0001 (0,04)
BINDEPE	0,0097 (0,79)	0,0103 (0,62)	0,0046 (0,55)	-0,0079 (-1,29)	0,0115 (0,61)
POL	-0,0067 (-1,36)	-0,0087 (-0,97)	0,0031 (0,71)	-0,0057** (-1,58)	-0,0103 (-1,30)
FDSHIP	0,0701*** (3,29)	0,0192 (0,55)	0,0720*** (3,96)	0,0361** (2,35)	0,0849*** (2,91)
BEDU	0,0160 (1,62)	0,0134 (0,88)	0,0039 (0,48)	0,0211*** (3,45)	0,0365** (2,10)
Group of business ownership variables					
OWNSTA	-0,0224** (-2,15)	-0,0009 (-0,05)	-0,0151 (-1,56)	- 0,0439*** (-5,97)	-0,0480*** (-2,60)

OWNFOR	0,0440** (2,18)	0,0922*** (3,52)	0,0064 (0,74)	0,0364*** (2,86)	0,1037*** (3,34)
Group of variables of business characteristics					
FSIZE	0,0352*** (15,99)	0,0502*** (14,22)	0,0189*** (10,71)	0,0377*** (24,70)	0,0520*** (15,55)
BOLD	0,0028*** (7,43)	0,0024*** (3,94)	0,0008*** (2,68)	0,0018*** (7,77)	0,0029*** (5,77)
AUD	0,0488*** (5,88)	0,0892*** (6,13)	0,0199*** (3,00)	0,0192*** (4,05)	0,0622*** (5,06)
Group of corporate financial variables					
ROA	0,0029 (0,58)	0,0095 (0,84)	-0,0012 (-0,13)	0,0053 (1,17)	0,0016 (0,16)
Q	0,0211*** (4,85)	0,0232*** (3,99)	0,0052 (1,57)	0,0126*** (4,31)	0,0374*** (5,68)
DEBT	-0,0972*** (-8,43)	-0,1981*** (-9,81)	-0,0498*** (-5,44)	-0,0775*** (-7,48)	-0,1465*** (-6,85)
Prob > F	0,0000	0,0000	0,0000	0,0000	0,0000

Source: Analysis from Stata 14.0

Note: The symbols (*) (**) (***) represent the significance levels of 10%, 5%, 1%.

Table 5 shows that when considering the aspects of CSR indicators including environmental, human resources, product/customer and community indicators and the variables represent the results heterogeneous correlation for each indicator, so when considering the overall correlation of CSR, the author draws the following results:

For the group of corporate governance variables, the variables on the number of board members, independent members of the Board of Directors, and the chairman of the Board of Directors having political relationships show a negative correlation with the issue of CSR disclosure, in then, the percentage of female members, the educational level of the members of the Board of Directors has a positive correlation, in which the percentage of female members in the Board of Directors shows a statistical significance of 1%, similar to the research results of Frias-Aceituno et al (2012), Isidro and Sobral (2014). This shows that the existence of female members on the Board of Directors will help the implementation of social responsibility information disclosure take place better due to gender-related characteristics such as caution, aversion to risks. , sympathy and compassion (Eagly and Johasen Schmidit, 2003) thereby helping the Board of Directors discuss and come up with the most appropriate policies for the goal of maximizing corporate value without harming the environment. , to workers and social life.

For the group of variables on corporate ownership structure, there is a statistically significant negative correlation at 5% for state ownership and a statistically significant positive correlation of 5% for foreign ownership. This shows that the existence of state ownership will affect the separation of management rights and control rights of enterprises. On the other hand, taking advantage of state ownership, enterprises can also take various measures to avoid the issue of information disclosure, especially information about the social environment that affects the environment. bad for the company's position in the industry. Meanwhile, the existence of foreign ownership will help businesses make better use of foreign experience and resources from countries that have developed regulations and institutions on information disclosure standards. corporate social responsibility. This result is consistent with the original expectation of the author and is similar to the results of Naser (2002), Chapple and Moon (2005), Luo et al (2006), Jiang and Habib, (2009), Solima et al. colleagues (2013), while contrasted with Ghazali (2007), Wuttichindanon (2017).

For the group of variables on corporate characteristics, the three variables of firm size, operating time and audit unit of the business all show a positive effect on CSR at the 1% statistical significance level. , in line with the author's expectations. This shows that the larger the enterprise and the longer it has been operating in the market, the better it will be to disclose information about social responsibility because the better understanding of market psychology, behavior consumers as well as the creation and maintenance of brand reputation. Along with that, businesses with annual reports or sustainability reports audited by Big4 audit firms also show that their CSR implementation is clearer and more transparent. This result is consistent with the studies of Trotman and Bradley (1981), Roberts (1992), Ghazali (2007), Rettab et al. (2009), Santos (2011), Andrilopoulous and Bekiaris (2014) and contrary to the study of Freedman and Jaggi (1988), Yao et al (2011).

For the group of variables on corporate finance, the return variable and Tobin's Q show a positive impact on CSR, in which Tobin's Q shows the 1% statistical significance. In contrast, the financial leverage variable shows a negative impact on CSR at the 1% statistical significance level. This result shows that enterprises with good growth potential will perform better on corporate social responsibility disclosure than those with low growth potential, on the other hand, enterprises with high debt level. Higher borrowing will indicate poorer CSR disclosure because concerns about debt reduce the value of the company to the market, so businesses may hide their shortcomings. This result is similar to the results from Raza et al

(2012), Harjoto and Jo (2011), Cahan et al (2016), Chung et al., 2008, different from the results by Yang et al (2008), Maskun (2013).

4. Conclusions and Policy Implications

4.1. Conclusions

From the research results, the author draws the following main conclusions: Firstly, the existence of female members in the Board of Directors will help increase the level of CSR disclosure because with the female character, she will effectively harmonize the dictatorship of an all-male leadership team, they will contribute more valuable ideas in terms of risk management, minimizing the impact on natural resources from human activities, as well as strengthen the implementation of sustainable development policy

Second, enterprises need to reduce state ownership and increase foreign ownership to increase CSR disclosure. Because when foreign ownership accounts for a high percentage of the enterprise, it will be the motivation for managers to adjust their behavior. They will be responsible for more information disclosure, focusing on reasonableness, completeness and transparency to meet the requirements as well as attract more and more investment from foreign shareholders, especially foreign investors who plan to expand the business market.

Third, the entity whose report is audited by Big4 including Delloite, E&Y, KPMG and PwC will make the CSR disclosure level better by satisfying the objectivity and trust value for the end users. results of the audit. Not only that, for listed companies, this factor is also an effective way to signal to investors to understand the business's real concern for social responsibility and the source of information content which enterprises provided to meet fully the transparent and objective spending.

4.2. Policy Implications

4.2.1. For the state

Firstly, the state needs to standardize the requirements for the disclosure of corporate social responsibility information, and it is necessary to develop a common set of evaluation criteria such as a set of indicators or a common scale for all enterprises and each industry group to be able to compare and evaluate the level of information disclosure between enterprises and between industry groups.

Second, the state needs to develop a system of regulations on CSR disclosure, and should include specific regulations on environmental management, pollution control, and food safety in the Enterprise Law, providing service quality, employee employment practices, etc. as a mandatory regulation and with sanctions to deal with specific and clear violations.

4.2.2. For Enterprises

Firstly, business managers need to raise awareness about the impacts and benefits of social responsibility information disclosure, properly aware of the nature of CSR, as well as each specific aspect of CSR. Moreover, the state needs to develop a system of regulations on CSR disclosure, which should be included in the Law.

Second, enterprises should build effective ownership structures for businesses, which reduces the percentage of ownership of the state and increase the percentage of ownership from foreign shareholders to increase the level of CSR.

Third, businesses need to pay more attention to gender diversity as well as within enterprises need to build a strong union union, representing employees to give opinions and discuss with Senior management of the enterprise regarding the conditions, working time, training, salary, bonus, welfare and many other benefits of employees.

5. Reference

1. 1Andrikopoulos, Samitasand Bekiaris (2014). Corporate social responsibility reporting in financial institutions: Evidence from Euronext. Research in International Business and Finance, 32: 27-35.
2. Branco Castelo M. and Rodrigues Lima L. (2006), *Corporate Social Responsibility and Resource-Based Perspectives*. Vol 69, 111-132 .
3. Chapple, W. and Moon, J. (2005). *Corporate social responsibility in Asia: A seven-country study of CSR websites reporting*. Business and Society, 44(4): 415-441.
4. Cormier, D., Magnan, M., & Velthoven, B. V., 2005. E*nvironmental disclosure quality in large German companies: Economic incentives, public pressures or institutional conditions?* European Accounting Review, 14(1): 3-39.
5. Luo, S., Courtenay, S. M. & Hossain, M. (2006). *The effect of voluntary disclosure, ownership structure and proprietary cost on the return-future earnings relation*. Pacific-Basin Finance Journal, 14: 501-521.
6. Naser, K., Al-Khatib, K. & Karbhari, Y. (2002). Empirical evidence on the depth of corporate information disclosure in developing countries: The case of Jordan. International Journal of Commerce & Management, 12: 122-155.
7. Freedman, M., & Jaggi, B., (1988). An analysis of the Association between Pollution Disclosure and Economic Performance. Accounting, Auditing & Accountability Journal, 1(2): 43-58.
8. Isidro, H. & Sobral, M. The Effects of Women on Corporate Boards on Firm Value, Financial Performance, and Ethical and Social Compliance. J. Bus. Ethics 132, 1–19 (2015).

9. Jensen, M. C., & Meckling, W. H., (1976). *Theory of the firm: Managerial behavior, agency costs and ownership structure*. Journal of Financial Economics, 3(4): 305-360.

10. Parker, L. (1986). *Polemical Themes in Social Accounting: A Scenario for Standard Setting*. Advances in Public Interest Accounting, 1:67-93.

11. Rettab, B., Brik, A.B. and Mellahi, K., (2009). *A study of management perceptions of the impact of corporate social responsibility on organizational performance in emerging economies: The case of Duba*i. Journal of Busniess Ethics, 89: 371-390.

12. Roberts, R. W. (1992). *Determinants of corporate social responsibility disclosure: An application of stakeholder theory*. Accounting, Organizations and Society, 26: 175–191.

13. Santos, M., 2011. *CSR in SMEs: strategies, practices, motivations and obstacles*. Social Responsibility Journal, 7(3): 490-508.

14. Trotman, K. T., & Bradley, G. W., (1981). *Associations betweem social responsibility disclosure and characteristics of companies*. Accounting, Organizations and Society, 6(4): 355-362.

15. Urquiza, F., Navarro, M., Trombetta, M. (2010). Disclosure theories and disclosure measures. Revista Espanola De Financiación Y Contabilidad, 39(147): 393-415.

16. Watts, R. L. & Zimmerman, J. L. (1978). *Towards a Positive Theory of the Determination of Accounting Standards.* The Accounting Review, 53(1): 112-134.

17. Wuttichindanon, S. (2017). Corporate social responsibility disclosure-choices of report and its determinants: Empirical evidence from firms listed on the Stock Exchange of Thailand. Kasetsart Journal of Social Sciences, 38: 156-162.

18. Yang, F-J., Han, C-T., Sheu, H-J, (2008). The interrlationships between corporations' dependence on external financing, information disclosure and cost of capital. International Journal of Electronic Finance, 2(4): 383-403.

THE USING OF LOGO AND BRAND NAME IN ADVERTISING TO CONSUMERS' BRAND AWARENESS: CASE STUDY OF COMMERCIAL BANKS

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Abstract

The process of consumer brand awareness has long been a special interest to businesses, scholars, and researchers. For consumers, brand awareness is an important stage of the cognitive process, and is the basis for the brand to be present in the minds of consumers (Howard & Sheth, 1969; Campbell, 1969; Narayana & Markin, 1975). From a business perspective, brand awareness in particular and consumer brand awareness in general are considered the results and efforts of businesses in building their own mark of the brand in the minds of consumers. In which, advertising is an activity of an enterprise that is a tool with the task of creating a change in consumers' perception of the brand. However, in Vietnam, this activity still faces many big challenges: How to effectively use and exploit brand elements in advertising? How should brand elements be combined in different types of advertising messages? Those are questions that are posed to business managers. In theory, in the world, there have been many authors studying the influence of advertising on the cognitive process of consumers such as Engel- Blackwell-Miniard (1968), McGuire (1969), Dember (1980), G. Belch (2009). Several authors have opened the beginning stage for studies on the influence of factors in information advertising messages to consumers' perceptions such as Claude Hopkins (1923), Rossiter and Percy (1978, 1987), Lutz and Lutz (1978). These studies have provided meaningful contributions. However, there are few studies on how to effectively use brand elements in advertising messages such as repetition, resizing, and color and its effect on consumers' brand awareness, especially in the context of research in Vietnam.

Keywords: *Advertising message, logo, brand name, repetition, size, color, brand awareness.*

1. Introduction

1.1. Consumer's brand awareness

The cognitive process is defined by Dussart Christian (1989) as an important stage of the cognitive process in which the consumer receives and refines complex information about factors from the environment. Engel-Kollat-Blackell (1968) pointed out that the stages include awareness, attention, understanding, acceptance, memory, comprehension, and attitude formation (positive or negative). Duval, Shelley, Wicklund and Robert (1972) identify the value dependence of the stimulus and the consumer's access conditions; Howard-Sheth (1973) the process of receiving stimuli is the process by which consumers perceive the brand; Lane, Richard, Schwartz & Gary (1987) The consumer's cognitive process undergoes the following levels of transition: (1) Physiological collision; (2) Psychological collision; (3) Personal feelings, (4) Acceptance; (5) Memorization; Assael Henry (1995) made the point of view that there are two stages occurring in the consumer's cognitive process, which are: (1) the Recognition process; (2) Memorization process (information is stored in memory for use according to need). McGuire W.J (1969) when studying the cognitive process of consumers clarified that this process is formed through five stages: Awareness - Attention - Understanding - Acceptance - Memory.

Awareness is understood as an individual's recognition that there is an impact from the environment. Attention refers to the ability to process information after the individual recognizes stimuli. Know (Knowledge). Accept an individual who can understand the stimulus. Remember (Recall), understood as the act of storing stimulus information into the consumer's memory. Earlier, Engel, Kollat, Backwell (1968) also proposed a model of consumer buying behavior combined with cognitive processes. Studies show that the consumer's cognitive process is a complex process with levels from low to high, and depending on the level of impact of stimuli, consumers will have different trips. cognitive process changes.

Author / **Cognitive process**	Engel-Kollat-Blackell (1968) Dussart Christian (1989)	Duval, Shelley, Wicklund và Robert A (1972), Assael	GuireW.J (1969)
Awareness level	Recognize Attention Understand	Physiological touchpoints Psychological touchpoints	Recognize Attention Understand
Emotion level	Acceptance	Personal feeling Acceptance	Acceptance
Behavior level	Retention	Retention	Retention

Figure 1.1 Studies on consumer awareness and cognitive processes.

Source: Author

In summary, the studies of the above authors and especially Guire WJ (1969) have made important conclusions: (1) consumer perception is a process consisting of many stages (2) The first stage of the cognitive process is awareness, this is a stage of special importance, because it is the basis to help consumers operate the following stages.

1.2. The effect of advertising on consumer brand awareness

Stokes (1985) mentioned that the awareness stage is very important, because it will be the driving factor for the next stages in the consumer's brand awareness process. Philip Hans Frances and Marco Vriens (2004) have shown that the impact of advertising on consumers' brand awareness is influenced by: exposure level, consumer motivation and especially is the involvement of brand elements in advertising. Rossiter and Percy (1987) demonstrated that advertising influences consumer brand awareness, and argued that awareness precedes all other steps in the consumer perception process. According to the author, consumers' brand awareness has three levels: (1) First awareness in the mind (top of mind); (2) Spontaneous awareness; (3) Assisted awareness and advertising can influence these three levels.

Advertising message

The advertising message is the core element of advertising that is reflected through words, images, sounds, etc., and is defined in a space and time to convey to the target audience in order to create affect their cognition, emotions and behavior. According to George Belch (2010) advertising message is a system of stimuli used in advertising, through which information flows one way from the sender. Akhila Thazhakkal (2016) advertising message is the point of advertising that customers will receive through words or images. According to Akhilap (2016), the structure of an advertising message includes groups of elements: Title (language or image); Content; Slogans and brand identity elements. According to Rossiter and Larry Percy (1990), the structure of an advertising message includes: The text/text; The art part is images, colors, sounds; The brand elements involved in the advertising message include: logo, brand image, color, brand name (text), sound (brand music). Rossiter and Percy (1978) proposed a model of the structure of advertising messages, and divided the stimuli into two groups including visual images (visual) and words or words (Verbal).

In summary, the common advertising message structure includes: (1) Language (word or voice), brand name, message content; (2) Image: image of character and background, brand logo; (3) Color: standard color for brand identity; (4) Sound: brand music. Besides, the structure of the message depends on the arrangement of the message components in space, time and medium.

Logo and brand name

According to Zajonc et al. (1972), logo is a simple visual element, capable of visual stimulation, a tool used in communication, and an element to achieve specific communication goals. Wheeler (2009) states that a logo is a visual sign of a brand. According to Richard Moore (2011), a logo is a visual graphic template designed in combination with character patterns, symbols or brand names to show images showing the brand personality. Neumeier (2010) argues that brand names are meaningful terms, capable of creating subtle awareness. Bornstein (1989)gave the definition of a brand name as a part of a brand consisting of readable and spelled words for the name of a product, service or company. Kotler and Armstrong (1998) propose a broader concept when conceptualizing that a brand name is a term, or a combination of a term with a sign or symbol. As for David Aaker (1991), a brand name is a fundamental element of a brand, the basis for raising brand awareness and communication efforts. More important than a brand name is a fact that can describe a brand's value set.

1.3. Some methods and techniques in building advertising messages to affect consumers' brand awareness

Imagery usage

According to Toglia and Battig (1978) images are visual elements, in advertising the visual element is expressed through visual stimuli. Pezdek and Evans (1979) argue that images are elements that describe reality reflected through human vision. People often associate words with visual images. David Ogilvy (1963) pointed out the influence of images in advertising on brand awareness through its reflective form, in addition to the combination of images and words for influence. to consumer brand awareness. Besides, there are also studies of the authors Paivio (1971), Shepeard (1967), Wright (1979), Bruce & Young (1986), Rik Pieters, Michel Wedel (2004), especially Larry Percy's. and John R. Rossiter (1983) investigate the impact of two variables related to the way images are represented in advertising, namely image size and color, which have a significant influence on consumer perception.

Color usage

Larry Percy & John R. Rossiter, (1983) suggested that brand responses, specifically consumer awareness and subsequently attitudes, are closely related to their perception of color. Satyendra Singh (2006) suggested that color can be used as an information encoding, attracting attention and increasing the ability of consumers to recognize and remember the brand. Gerald J. Gorn et al. (1997) showed that the majority of color ads are often more recognizable and responsive, leading to better ad preference than black and white ads. Javed Hussain and Rizwan Khan Nizamani (2011) show that in outdoor advertising, color is the factor that has the greatest influence on consumers' brand awareness.

Text usage

Elizabeth C. Hirschman (1985) has shown that, along with images, language in advertising is an important factor in creating awareness. Piller (2003) focuses on clarifying the discourse in advertising, and argues that language is an important element in the message that affects consumers' perception. P Bruthiaux (2005) argues that language is an important factor affecting the audience in advertising. Jaime Noriega, Edward Blair (2008) Words as a strategic tool to influence consumer awareness and behaviour. Teresa J. Domzal, James M. Hunt & Jerome B. Kernan (2015) use special words that can enhance the effectiveness of advertising, especially increasing awareness and memory of the public.

Logo and brand name usage

According to Herr et al. (1996), brand logo is a factor that has a strong influence on consumer perception, is the basis for recognizing and distinguishing brands and products. Aaker and Equity (1991) agreed that brand logos can influence the perception and perception of brand attributes and benefits. In advertising messages, logos are considered to be the simplest visual elements with strong visual stimulation, shown to create contacts Zajonc (1968, 1972). Carpenter and Nakamoto (1989) thought logo is an element that helps to establish a brand's position and maintain brand equity. According to Henderson and Cote (1998) noted that logo influences consumer response through brand awareness. Kevin Lane Keller, Susan E. Heckler and Michael J. Houston, (1998) believe brand names generate higher brand awareness and memory than brand names that are ambiguous and do not refer to or are unrelated to the meaning. product.

Adjustments of elements in advertising message design

Christie L. Nordhielm (2002) said that when the stimulus elements are not repeated in the advertising message (the stimulus appears once in a message), the awareness level of consumers is low; when repeating stimuli (stimuli appear 02 times in a message), consumers' awareness level is higher; but when the number of repetitions of the stimulus is increased (03 times) or more, it may create a negative response (against cramming) of the consumer. Chris Janiszewski, Tom Meyvis (2001) have clarified that stimuli will increase with the number of repetitions of the logo with initial exposure, familiar stimuli are perceived by consumers more quickly. ZajoncJohn, W. Pracejus (1972) demonstrated that repeated randomization with an unfamiliar brand with an initial exposure time of 1-6 seconds or more had a positive effect. consumers' perceptions and attitudes towards brands. In summary, repetition is a method of using brand elements to create effects that affect the audience's perception, emotions and behavior, especially awareness, and repetition is most effective at times. Monday.

1.4. Research model & hypothesis

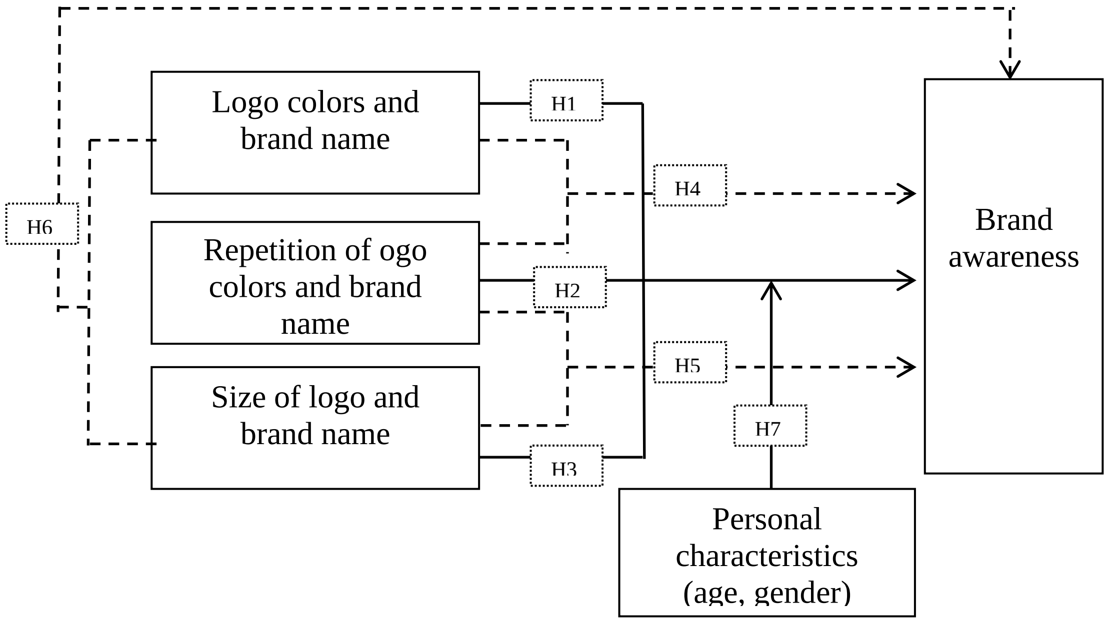

Figure 1.2 Research model

Source: Author

The author conducts an overview test according to the following topics: (1) User's brand awareness; (2) Influence of advertising on user's brand awareness; (3) Message, logo and brand name; (4) Methods and techniques in formulating advertising messages affect users' brand awareness.

Hypothesis:

H1: The color of the logo & brand name in the advertising message affects the brand awareness of consumers.

H2: Repetition of logo & brand name in advertising message affects consumer brand awareness.

H3: The size of the logo & brand name in the advertising message affects the brand awareness of consumers.

H4: Color combinations and repetition of logos & brand names in advertising messages affect consumer brand awareness.

H5: Combining size and repetition of logo & brand name in advertising message affects consumer brand awareness.

H6: The combination of color and size of logo & brand name in advertising message affects consumers' brand awareness.

H7: Personal characteristics regulate the influence of logos & brand names in advertising messages to consumers' brand awareness.

2. Methods

2.1. Selection of research context

In Vietnam, the banking sector has been established since 1951. In recent years, the tendency of international economic integration, system of commercial bank has developed rapidly, and has become an important financial institutions importance of the national economy. Advertising activities and the application of logos and brand names in advertising by commercial banks in Vietnam in recent years have had certain effects, however, due to lack of scientific basis, there are only few commercial banks in Vietnam that do this effectively. In fact, logos and brand names play a very important role in the advertising activities of commercial banks in Vietnam, expressed in these aspects: Representability; Applicability; Repeatability; Brand identity maintenance and reflection; Intangibility; Competition; Brand protection. Therefore, the author has selected commercial banks as a suitable context to conduct research.

2.2. Research design

To test the research hypotheses, the author chooses to collect observational data by experimental method. Specifically, the author changes the logo and brand name in advertising message with different variations in repetition, color and size.

Independent variable design: bank service flyer with adjusted logo and brand name

To ensure objectivity in the research, the author chooses to create a hypothetical bank, with the logo and brand name never appearing, and design flyers for a similar banking service from other commercial banks in Vietnam. Adjust logo and brand name in flyer templates: Color: two flyer variations with color logo and brand name and black and white logo and brand name. Occurrences: two flyer variations with the logo and brand name appearing once and the logo and brand name appearing twice. Size: Logo and brand name are presented in regular size: (100% = 210mm x 297mm) and small size (50% = 105mm x 148.5mm)

LEAFLETS Logos and name brand appear	COLOR		BLACK AND WHITE	
	100% regular size	SMALL size (50%)	100% regular size	SMALL size (50%)
01 TIME	A	B	A1	B1
02 TIMES	C	D	C1	D1

Table 2.1 Coding table of advertising flyer templates

Source: Author design

Dependent variable (brand awareness):

To measure consumers' brand awareness after being exposed to advertising messages (brochures for commercial banking services), the author has consulted the empirical survey method of Rossiter and Percy (1978). Respondents were exposed to a flyer template and asked to consider all the information on both the front and back of the flyer as if it were an actual advertisement. After (3-5 minutes), samples of flyers will be revoked and the object will answer some questions in the survey to assess the role of the logo and the brand name in the ad to receive know the brand. The author chooses a direct measurement method to assess the level of brand awareness of consumers. A table identifying logos and brand names including 05 logo samples and 05 different brand names is given, and the survey participant chooses only one correct option by indicating his logo and brand name for was seen in the leaflet.

The questionnaire includes: (i) Explain the meaning of terms logo, brand name; The table identifies the logo and brand name with two questions: (ii) Identify (recognize) the logo; (iii) Identify (recognize) the brand name; (iiii) General personal information (demographic) of the survey subjects.

Plan for the public to be exposed to leaflets

Based on the survey method of Larry Percy & Rossiter (1983) and Chris Janiszewski & Tom Meyvis (2001), the author analyzes the plan for the public to be exposed to advertising messages, specifically as follows: Survey subjects exposed a single flyer template. The entire survey sample will be divided into 08 groups, each group will be exposed to 1 leaflet. The survey subject viewed and read the leaflet sample as with a regular advertisement, then the leaflet sample was recovered and the subject was asked to indicate the logo and brand name among the 05 options given on the questionnaire. *Advantages:* The survey subject is not affected by the previewed samples and the researcher can obtain the natural (initial) responses of the surveyed subjects. *Limitations:* The differences in the level of brand awareness of customers may stem from subjective causes (psychological characteristics of the subject), besides the impact of the leaflet template.

Sample selection and data collection implementation

The author selected survey with the amount of 686 subjects, who are students studying in universities in Hanoi, have characteristics similar demographic, who also belongs to consumer groups targeted by banks. In order for the collected data to ensure objective reliability, the survey sample needs to be representative and accurately reflect the parameters of the population. The demographic characteristics of the sample object: gender, age: Percentage of men and women (men 41%), women (59%); Aged mainly: from 18 - 23 years.

2.3. Data analytics methods

Chi-Square test: used in testing the relationship between nominal variables or hierarchical identifiers. The test helps the study to know if there is a relationship between two variables in the population. In SPSS, P-Value is the Sig value. In the table of test results, α is the possibility of error allowed in the test, i.e. the ability to reject the null hypothesis (H0) despite the fact that H0 is true. If α = 5%, the test accepts the maximum possibility of error of 5%, from which the test reliability (1- α) = 95%.H0: 02 independent factors, Hi: 02 factors not independent (dependency). In the author's research, the author will test the hypothesis by the method: direct measurement, through the public identifying the logo model and the brand name that they have seen (measure the logo awareness and awareness respectively. brand name) answer the questions in the brand identification sheet. *Impact analysis using Binary Logistics regression model: Logistic* regression analysis is a technique to analyze the relationship between an independent variable (either a quantitative or a qualitative variable) and a dependent variable which is a binary variable: $Y=\alpha + \beta x+\varepsilon$.

3. Results

Testing hypotheses about the effects of logo and brand name modification

Hypothesis H1 about the effect of color

Table 3.1 Chi-Square analysis comparing two cases of black and white and color leaflets

Recognition		**Correct**	**Wrong**	**Total**	**Correct rate**	**Wrong rate**	**Pearson-Chi-square**	**Asymp.Sig.(2-Sided)**
Brand name recognition	Black and white	138	204	342	40%	60%	8,960a	0.003
	Colored	178	166	344	53%	47%		
Logo recognition	Black and white	83	259	342	24%	76%	20,405a	0.000
	Colored	139	205	344	40%	60%		

Source: survey results

For the variable “brand awareness”, the value Chi-Square = 8,960a (sig=0.003), for the variable “logo awareness” the value Chi-Square = 20,405a (sig=0.000). Therefore, it can be concluded that color has an effect on consumers' brand awareness. Hypothesis H1 is supported, and at the same time, the influence of color on brand awareness through logos is more pronounced than in brand names.

Hypothesis H2 about the effect of repetition

Table 3.2 Chi-Square analysis comparing two cases of repeating/non-repeating leaflet

Recognition		**Correct**	**Wrong**	**Total**	**Correct rate**	**Wrong rate**	**Pearson-Chi-square**	**Asymp.Sig.(2-Sided)**
Brand name recognition	Do not repeat	144	204	348	41%	39%	6,239a	0.001
	Repeat 02 times	172	166	338	51%	49%		
Logo recognition	Do not repeat	92	256	348	26%	74%	11,327a	0.001
	Repeat 02 times	130	208	338	38%	62%		

Source: survey results

For the variable "brand awareness", the Chi-Square value = 6.239a (sig = 0.001), for the variable "logo awareness" the Chi-Square value = 11.327a (sig = 0.001). Therefore, it can be concluded that repetition has an effect on consumers' brand awareness. Hypothesis H2 is supported, and at the same time, the influence of repetition on brand awareness through logos is more pronounced.

Hypothesis H3 about the effect of size

Table 3.3 Chi-Square analysis comparing the two cases of full and small leaflets

Recognition		**Correct**	**Wrong**	**Total**	**Correct rate**	**Wrong rate**	**Pearson-Chi-square**	**Asymp. Sig.(2-Sided)**
Brand name recognition	Full (100%)	177	157	334	53%	47%	12,582a	0.000
	Small (50%)	139	213	352	39%	61%		
Logo recognition	Full (100%)	140	194	334	42%	58%	27,148a	0.000
	Small (50%)	82	270	352	23%	77%		

Source: survey results

For the variable "brand awareness", the value Chi-Square = 12,582a (sig=0.000), for the variable "logo awareness" the value Chi-Square = 27,148a (sig=0.000). Therefore, it can be concluded that size has a significant effect on consumers' brand awareness. Hypothesis H3 is supported again, it can be seen that the effect of size adjustment on brand awareness through logo is higher than that on brand awareness. The results of testing hypotheses H1, H2 and H3 show that the influence of color, repetition and size on brand awareness in all situations has a stronger influence on logos than brand names.

Hypothesis H4 the effect of the combination of repetition and color adjustment

Table 3.4 Chi-Square analysis comparing leaflet case (repeated color matching)

Recognition		**Correct**	**Wrong**	**Total**	**Correct rate**	**Wrong rate**	**Pearson-Chi-square**	**Asymp.Sig.(2-Sided)**
Brand name recognition	Other cases	224	296	520	43%	57%	7,718a	0.003
	Repetition & color	92	74	166	55%	45%		
Logo recognition	Other cases	138	391	520	27%	73%	31,126a	0.000
	Repetition & color	83	83	166	50%	50%		

Source: survey results

For the variable "brand awareness", the Chi-Square value = 7.718a (sig= 0.003), for the variable "logo awareness" the Chi-Square value = 31.126a (sig= 0.000). Therefore, it can be concluded that repeated color combinations have a significant effect on consumer brand awareness. Hypothesis H4 is supported, which shows that the effect of repeated adjustment in combination with color on brand awareness through logo is higher than that on brand awareness.

Hypothesis H5 on the effect of combined adjustment of repetition and size

Table 3.5 P comparative leaflet Chi-Square analysis (repeated size combination)

Recognition		**Correct**	**Wrong**	**Total**	**Correct rate**	**Wrong rate**	**Pearson-Chi-square**	**Asymp.Sig.(2-Sided)**
Brand name recognition	Repeat full size (100%)	103	67	170	61%	39%	19.189a	0.000
	Other cases	213	303	516	41%	59%		
Logo recognition	Repeat full size (100%)	76	94	170	45%	55%	15,734a	0.000
	Other cases	146	370	516	39%	61%		

Source: survey results

For the variable "brand awareness", the value Chi-Square = 19,189a (sig= 0.000), for the variable "logo awareness" the value Chi-Square = 15,734a (sig= 0.000). Therefore, it can be concluded that repeated size combinations have a significant effect on consumer brand awareness. Hypothesis H5 is supported, which shows that the effect of repeated adjustment combined with size on correct brand name recognition through brand name is higher than logo recognition.

Hypothesis H6 effects of color and size adjustment combinations

Table 3.6 Chi-Square analysis comparing leaflet case (colour combined with size)

Recognition		**Correct**	**Wrong**	**Total**	**Correct rate**	**Wrong rate**	**Pearson-Chi-square**	**Asymp.Sig.(2-Sided)**
Brand name recognition	Colored + full size (100%)	97	65	162	60%	40%	16,286a	0.000
	Other cases	219	305	524	42%	58%		
Logo recognition	Colored + full size (100%)	87	75	162	54%	46%	44.133a	0.000
	Other cases	135	389	524	26%	74%		

Source: survey results

For the variable “brand awareness”, the Chi-Square value = 16,286a (sig= 0.000), for the variable “logo awareness” the Chi-Square value = 44,133a (sig= 0.000). Therefore, it can be concluded that color combined with size has a significant effect on consumer brand awareness. Hypothesis H6 is supported, which shows that the influence of color matching and size adjustment on correct brand name recognition through brand name is higher than logo recognition. As with H5, the effect of color matching size adjustment on logos is higher than that of brand names.

Hypothesis H7 on the regulatory role of age and gender on the influence of logo and brand name adjustment on brand awareness

Adjustment of age on the effect of logo and brand name adjustment on brand awareness

The results of Binary logistics analysis show that age-adjusted characteristics for the effect of color and size-specific adjustment B=1,713 (sig=0.000) for age and color, and B=2,166 (sig=000) for age and size. While B=0.266 (sig=0.682) for age and repeat did not moderate the effect. The results of the Binary logistics analysis show that B = -0.508 (sig = 0.310) for age and color, and B = 0.280 (sig = 0.631) for age and size and B = -0.238 (sig = 0.693). The above results show that age does not moderate the effects of color, repetition and size adjustment on brand awareness through logos.

4. Discussion and Conclusion

Research has confirmed that logos and brand names have an influence on consumers' brand awareness depending on different variations: color; repetition and size, especially the adjustment of the color, repetition and size of logos and brand names have an influence on consumer brand awareness. The research results help administrators of commercial banks in particular and expert advertising design in Vietnam in general see more clearly the role and importance of the method of using the logo and the brand name in advertising message. Research results have shown the role of logos and brand names in advertising activities in general, and in advertising to build brand awareness in particular in the field of commercial banking in Vietnam, besides their influence of the elements of advertising message, such as message words, language (words), images... that previous studies have done, there are 3 groups of factors that positively affect the brand awareness of consumers. Those are: Logo colors and brand names in advertising message; Repetition of logo and brand name in advertising message; Size of logo and brand name in advertising message, and especially the effect of logo and brand name when adjusting for color, repetition and size. Thus, commercial banks in Vietnam who want to use logos and brand names in effective advertising messages need to focus on the following specific issues: Firstly, it is necessary to emphasize the role of color when use logos and brand names in advertising messages; Second, when using logos and brand names in advertising messages, it is necessary to pay attention to the degree of repetition (the number of times the logo and brand name appear in an advertising message); Third, when using the logo and brand name in the advertising message, it is necessary to pay attention to the size of the logo and the brand name in the advertising message; Fourth, when using logos and brand names in advertising messages, it is necessary to focus on methods of adjustment, combining elements of color, repetition and size.

5. References

1. Aaker, D. (1991), *Managing brand equity: Capitalizing on the value of a brand name'*, The Free Press New York. Page.252-282.

2. Adtech-Việt nam (2012), *Vietnams Digital Marketing Technology and views on Data-Driven Advertising, Adnetwork, Adsercer, mobile Advertising*, Dinhledat.com/tag/adtech-vietnam.

3. Assael Henry (1995),_*Advertising performance as a function of print ad characteristics*, Journal of Advertising Research.

4. Bruce & Young (1986), *Understanding face recognition*, British journal of psychology, 1986 - Wiley Online Library.

5. Belch, G.E. (2013), *The future of creativity in advertising*, Journal of Promotion Management, Taylor & Francis No.12, Page.172-185.

6. Bornstein (1989), *Exposure and affect: overview and meta-analysis of research, 1968–1987*, Psychological bulletin, 1989 - psycnet.apa.org.

7. Campbell, M., & Keller, K.L. (2003), *Brand Familiarity and Advertising Repetition Effects*, Jounal of consomer research, No.10, Page.292-304.

8. Carpenter, G.S., & Nakamoto, K. (1989*), Consumer preference formation and pioneering advantage*, Journal of Marketing Research, Page.285-298.

9. Cohen, L. (1995), *Time Frequency Analysis*, Prentice Hall Press, Page.70-80.

10. Dussart Christian (1985), *Advertisers and the factual content of advertising, Journal of Advertising*, Taylor & Francis

11. David Ogilvy (1963), *Mimi, scurrae, histriones: entertainers of the early Middle Ages*, JDA Ogilvy - Speculum, Journals.uchicago.edu

12. Daniel, M. (2011), *Color vision and colorimetry: theory and applications / Daniel Malacara, Society of Photo-Optical Instrumentation Engineers*, Press Marcel Dekkel, Inc, Page.12-15

13. Davison (2008), *'Rhetoric, repetition, reporting and the "dot.com" era: word, picture, intangibles'* Jounal information, No21 (6), Page.791-826.

14. Dember, W.N. (1999), *Effects of cueing and knowledge of results on*

workload and boredom in sustained attention, Journals.sagepub N28, Page.111-120.

15. Duval, S., & Wicklund, R.A. (1972), *A theory of objective self awareness*, Oxford, England: Academic Press, N12, Page.28-32.

16. Edward, R. & Paivio, A. (1971), *Imagery and repetition instructions in verbal discrimination and incidental paired-associate learning*, Journal of Verbal Learning and Verbal Behavior, No.10(6), Page. 668-672.

17. Engel, J., Blackwell, R., & Miniard, P. (1993), *Consumer behavior*, South Western Educational, No.8, Page.120-128.

18. Elizabeth C. Hirschman (1985), *Scientific style and the conduct of consumer research*, Journal of Consumer Research, academic.oup.com

19. Philip Hans Frances & Marco Vriens (2004), *Advertising effects on awareness, consideration and brand choice using tracking data*, papers.ssrn.com

20. Paivio (1971), *Imagery and language*, Acadamic Press.

21. Henderson & Cote (1998), *Building strong brands in Asia: Selecting the visual components of image to maximize brand strength*, International Journal.

22. Herr & PH Farquhar, RH Fazio (1996), *Impact of dominance and relatedness on brand extensions*, Journal of Consumer Psychology

23. Howard, J.A., & Sheth, J.N. (1969), *The prototypicality of brands: Relationships with brand awareness, preference and usage*, Press ACR North American Advances, No12, Page.218-222.

24. Janiszewski, C., & Meyvis,T. (2001), *Effects of Brand Logo Complexity, Repetition, and Spacing on Processing Fluency and Judgment*, Jounal of consomer research, No10, Pages.18-32.

25. John, J. R. (1982), *Visual Imagery: Applications to Advertising*, Advances in Consumer Research, N 19, Page.101-106.

26. Javed Hussain and Rizwan Khan Nizamani (2011), *Factors Affecting Consumer Attention in Billboards Advertising*, South Asian Journal of Management, sajms.iurc.edu.pk

27. Kevin Lane Keller, Susan E. Heckler and Michael J. Houston, (1998), *The effects of brand name suggestiveness on advertising recall*, Journal of marketing, journals.sagepub.com

28. Lane, R.W., & Schwartz, J. (1987), *Levels of emotional awareness: a cognitive-developmental theory and its application to psychopathology*, *The American journal of psychiatry*, No18, Page.20-28.

29. Lutz, K. & Lutz, R. (1977), *Effects of interactive imagery on learning: Application to advertising*, *Journal of Applied Psychology*, No62 (4), Page 493.

30. Larry Percy và John R. Rossiter (1983), *Effects of picture size and color on brand attitude responses in print advertising*, ACR North American Advances, acrwebsite.org

31. McGuire, W.J. (1969, 1979), *Message Discrepancy*, Journal of Personality and Social, No12, Page.207-217.

32. M.Neumeier (2010), *Brand gap*: *Revised Editon*, Press, Social Labor.

33. Nguyen Quang Dung (2017), *Application of logos and brand names in advertising of commercial banks in Vietnam*, Proceedings of the National Scientific Conference: Marketing in Vietnam from theory to practice,Page .247-254.

34. Nordhielm, C. (2002), *The Influence of Level of Processing on Advertising Repetition Effects, Jounal of consomer research*, No10, Page. 371-382.

35. P Bruthiaux (2005), *Language of Advertising*, A linguistic approach, books.google.com

36. Percy, L. & John, J. R. (1983), *Effects of Picture Size and Color on Brand Attitude Responses in Print Advertising*, *Association for Consumer Research*, N 44. Page..17-20.

37. Pezdek & Evans (1979)**,** *Journal of Experimental Psychology*, psycnet.apa.org

38. Pieters, R., Wedel, M. (2004), *A Review of Eye-Tracking Research in Marketing*, Review of Marketing Research, No 4. Page..123-147.

39. Piller (2003), *Customers as co-designers*, Manufacturing Engineer

40. Roshni P Sawant (2012), *Impact of advertising on brand awareness and consumer preference (with special reference to mens wear)*, IOSR Journal of Business and Management, researchgate.net.

41. Shepeard (1967), *Recognition memory for words, sentences, and pictures*, Journal of verbal Learning and verbal Behavior**.**

42. Terence, S. (1981), *Attitude toward the ad as a mediator of consumer brand choice',* Journal of advertising, No.10(2), Page. 9-48.

43. Teresa J. Domzal, James M. Hunt & Jerome B. Kernan (2015), *Programs as Products Assessing Television for the New Technology,* Academy of Springer

44. Wheeler, A. (2009), *Designing Brand Identity,* NXB Wiley.Sons.Inc

45. Zajonc, R.B., Shaver, P., Tavris, C. & Kreveld, D. (1972), *Exposure, satiation, and stimulus discriminability*, Journal of Personality and Social Psychology, No 21(3), Page..70.

A STUDY ON WOMEN ENTREPRENEURSHIP IN THE CONTEXT OF VIETNAMESE TRANSITION ECONOMY

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Abstract

Women entrepreneurship has recently been a fashionable trend in research. The mixed methodology of this study has shed light on the barriers in women entrepreneurship by examining the factors affecting the entrepreneurial performance of female entrepreneurs' work. A quantitative analysis of 87 female entrepreneurs combined with qualitative analysis via in-depth interview with 10 entrepreneurs show that work-life balance, financial support and gender bias are challenges facing women entrepreneurship. Further, this study also reports that emotional support, in particular from family members will improve the performance of female entrepreneurs' work. Some policy implications are offered by this study. Policy makers should focus on financial support for women entrepreneurship because of the flaw of the current supporting policy. Further, gender equality movement still has a long way to go in order to support women entrepreneurship in Vietnam.

Keywords: *Entrepreneurship, challenges, women entrepreneurship, Vietnam*

1. Introduction

At global scale with continuous change, women entrepreneurs confront surmounting challenges that create a need for effective support mechanisms leading to strengthening businesses in order to satisfy the demands of customers, market conditions, supply chains, competitors, and can adapt to changes in technology.

Women entrepreneurs have to confront many challenges: the majority of those who run a business do not have previous experience as a business person but have only been employees in state enterprises; their main concerns are to provide the everyday living, and not necessarily to develop themselves in the perspective of the business; they do not have extensive technical and material endowments; and they have limited financial resources. Lack of public policies to sustain entrepreneurship, lack of businesswomen association networks, professional stereotyping, the stereotype of the mentality of society, maternity and childcare; difficulty in finding the equilibrium between work, family, and private life, the stereotype of the promotion of women in mass media, identification of contracts, and access to new technologies can all be considered as barriers.

Although the global list of most famous entrepreneurs is long, few women are included. This historic trend of low representation of women entrepreneurs confirms a persistent inequality in the workforce and highlights unsolved problems that women confront to start a business or deters their efforts to pursue entrepreneurial activities. A particular problem for women is the harmonization between work and family life, rather than the lack of family support and proactive actions of the state in encouraging entry into entrepreneur stream. The obligations to perform several roles at the same time can negatively influence the professional success and satisfaction of women (Zapalska et al., 2005). These mixed feelings of guilt and fear of neglecting their family and/or their business force women to learn ways to manage these competing demands on time (Abrar et al., 2011). Besides, the absence of childcare facilities in some transition countries is a limitation to one's entrepreneurial career. Hence, it can be concluded that women were not able to combine work and family due to the lack of affordable social services and childcare facilities (ILO, 2002; Ramadani et al., 2013). The development of mechanisms to advance cultural change through national policies are needed. These are aiming to secure shared family responsibilities between men and women, because the stereotype that woman need help at work and at home is misleading and obsolete. What women need today is men's collaboration, at work and at home.

For women entrepreneurs, quality education is irreplaceable to consolidate start-ups and take advantage of opportunities. Quality education is important in developing countries where women in general and women entrepreneurs particularly confront obstacles in terms of limited access or, most commonly, attend obsolete programs that curtail women's potential to become successful entrepreneurs (Lepeley and Albornoz, 2013). Klaus Schwab, founder and executive chairman of the World Economic Forum, highlights the importance of education to develop the skills entrepreneurs need to prepare for the future and solve increasingly complex business problems in the global economy. He assesses that quality education needs to be a top priority for governments and entities in the private sector to attain growth rooted in human and social progress. Educating women in developing countries and providing them with training in future-looking business management for sustainability is a pending challenge that governments and society need to address to foster social and economic development.

Even though women have access to the same education and jobs as men, they have more difficulty accessing external financial assistance (GERA, 2013). Obtaining financial support to start or continue a business is another obstacle faced by female entrepreneurs. It can be difficult to obtain finance because of social positioning or, as in some countries, because women are not allowed to seek finance as an individual and must have a male family member such as a father, brother or husband obtain it for them (OECD, 2004). An alternative for many potential entrepreneurs is microfinancing, which is the practice of providing financial services to low-income households (OECD, 2002).

Policies are needed to improve the business environment and encourage entrepreneurship, especially women entrepreneurship. Measures to change the mentality are needed. Thus, suitable local, regional, and national strategies are needed in correlation with the local particularities, considering that “the most difficult challenge to transition in the former communist countries is to change the mentality of individuals” (Kenny and Trick, 1995; Suutari and Riusala, 2001).

Vietnam’s economic reform has gained substantial achievements and interested researchers. The reform is known as “Doi Moi” has been emerged a rich theoretical context. Painful reforms have been undertaken to transform the stiff central planning system into a market economy, breaking the long-standing hurdles to the private sector and provoking entrepreneurship development. Entrepreneurship has become an essential driving force for the development. The Vietnamese Government (in short Government) applied a learning-by-doing approach with reformative ideas initiated, implemented, then ratified and officially encouraged. Policies shifted from a de-entrepreneurship to pro-entrepreneurship stance. Multi-face economic sectors, supportive policies have been cultivated in quest for prosperity among businesses, grounding on a more levelled playing field for all. Overcoming decades of the clash of ideologies and socio-economic upheavals, what we have today is a country well on its way to transitioning into a fully-functioning market economy.

With women accounting for about 26% in the national assembly, Vietnam is among the world’s leading countries and the second in the Asia-Pacific region, after New Zealand, in terms of female representation in parliament. Women also account for about 20% of managerial positions in state agencies at all levels (Debroux, 2010). A law passed in 1987 paved the way for the de facto de-collectivization of agriculture. Peasants were given long-term land-use rights. Individual farmers became the major players in the rural economy. The following year the legitimacy of the non-agricultural private sector was recognized. In 1990 encouragement for the private sector was raised to the level of official government policy with the enactment of a law on private enterprise. Since then many enterprises have been established by former employees of state companies and civil servants, including a considerable number of women.

Vietnam was one of the first countries to ratify the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW) convention in 1982. But even before the ratification, gender equality was enshrined in the 1946 constitution. The Gender Equality Law was enacted in 2006, already men and women are subject to the same criteria in terms of qualifications and age in matters of employment, job assignment, promotion and access to training. Even though, restrictions still exist that contain elements of gender discrimination. Vietnamese women retire at 55 years old, against 60 for men, in the public sector. Public companies will continue to be a major employer of women for some time, and because they provide better training than most private concerns they are likely to be an important source of female opportunity entrepreneurship. The different retirement ages are a factor in reducing the career and promotion prospects for women. It is observed that they are passed over for promotions or career development opportunities at a younger age than men, usually by the same five-year gap. This is a double challenge for women, who may also have missed earlier promotion opportunities while they had young children. Gender distribution by sector and type of occupation creates clusters of male or female jobs for which there are differences in wages and career opportunities. Even in the sectors where there are many women, such as education, health and culture, they are mostly concentrated in occupations that offer little chance of careers or acquisition of marketable skills. There are, for instance, very few women in top positions in the academic world despite the large number of women in university jobs. The gap in training opportunities seems to remain large, as male access to on-the-job training is eight times higher than that of female employees. As result, a gender-neutral policy language may not result in gender-egalitarian outcomes when implemented in a gendered environment that is influenced by gender imbalances and biases. The development of female entrepreneurship is indeed linked with equality, but the linkage is not straightforward. It can develop in an environment characterized by gender inequality and occupy a specific place in society and economy, as access to formal equality does not guarantee that it will flourish. The neutral language of many laws can work alongside mores, traditional customs and cultural expectations in ways that can hinder the economic advancement of women. Formal political and economic equality in the labor market was bestowed on women decades ago. It opened new horizons and paved the way to the slow development of entrepreneurship. But it remained stuck (and still is to some extent), with the gender-biased reality of regulatory, cognitive and normative institutional obstacles.

Property rights still remain as gender issues for women entrepreneurs in Vietnam when land generally has been registered in the name of the husband. Although traditional inheritance practice in Vietnam gives men and women equal rights to inherit land, in practice women are less likely to be registered as land users. Most of the land-use rights certificates issued were in the name of the husband only. A 2003 revision of the Land Law dictates that land-use rights certificate must include the names of both husband and wife. It ensures that many women gain access to land and, subsequently, get better access to finance thanks to the property titles. However, the previous documents have not been rescinded. The titles issued before the revision are still under the name of the husband. About 75 per cent of Vietnamese women are self-employed, mostly in agriculture or the informal sector (Debroux, 2010). Improved access to capital resources would have a significant impact on their ability to upgrade their productivity and expand their businesses.

Gender disparity is influenced by economic development, but also by institutional obstacles and the resistance of traditional society to change. A distinction has to be made between segregation and equality. Equality can be measured by criteria such as rights, independence, access to education and healthcare, etc. Segregation is the allocation of life patterns or specific life spaces to one sex or the other. Broadly speaking, the transitions in socio-economic and business models seem to lead towards gender equality.

The start-up context in Vietnam presents opportunities as well as challenges for women entrepreneurship. This study aims to shed light on the status of women's entrepreneurship in terms of resources and barriers that women face when starting a business.

2. Method

This study uses a mixed research approach (qualitative and quantitative), in which qualitative research will shed light on women's resources and perspectives on entrepreneurship, quantitative research will help uncover challenges facing women's entrepreneurship.

In-brief descriptions of qualitative approach and quantitative approach are respectively presented as follows:

The research uses a multidisciplinary approach based on the intersection of the gender field and the start-up (business) field, set in the new context of the transitional economy in Vietnam. Accordingly, this study will use a gender lens to analyze issues surrounding women's entrepreneurship, focusing on the barriers that women in Vietnam encounter in starting a business in Vietnam. rapidly changing socio-economic landscape in a transitional economy.

The study also used in-depth interviews in qualitative analysis to explore more about the resources mobilized in women entrepreneurship and women’s perception of entrepreneurship. The authors conducted in-depth interviews (online) with 10 women entrepreneurs of SMEs. The in-depth interview method currently collects 5 out of 10 expected subjects. Women participating in this study are business owners in Hanoi city. The time since the establishment of the enterprise is not more than 7 years. These female business owners meet the sampling criteria for this study: married women with their children. The selection based on these criteria stems from integrating the findings from the research review with the actual context in Vietnam – its culture is influenced by Confucian ideology. Cultural characteristics set up relatively specific barriers for female entrepreneurs in Vietnam.

The qualitative data analysis goes through a process of 3 stages: first, after transcribing the audio recordings, the researcher proceeds to reduce the text; second, using codes for groups of repeating ideas; third, grouping codes into themes. Coding and qualitative data analysis were performed with the help of NVIVO software version 12.

This study collected primary quantitative data on entrepreneurship with 87 respondents being female entrepreneurs of small, micro and medium-sized startups. Quantitative analysis will show the barriers as well as their impact on women's entrepreneurship. Quantitative data analysis was performed with the data obtained from the survey on 87 female entrepreneurs. After the data-inserting process, the analysis is supported by SPSS software. The basic analysis steps include: data coding, testing the reliability and suitability of the measure, regression analysis to test the research hypotheses and evaluate the impact of factors on the women entrepreneurship.

3. Results

Table 1: Demographic characteristics of the sample

		Frequency	Percent
Age	< 30 years old	25	28.7
	31 – 40 years old	41	47.1
	Over 40 years old	21	24.2
Business industry	Food	26	29.8
	Construction	17	19.5
	Handicraft	6	6.9
	Catering services	28	32.1
	Technology	10	11.7
Number of children	1 child	26	29.9
	2 children	61	70.1

Table 1 shows that business industry is diverse among female entrepreneurs including construction, handicraft, catering service and technology. Noticeably, 10 start-up entrepreneurs got involved in this survey showing the new trend in the business field of Vietnamese women.

Table 2: Reliability and Validity tests

Variables and items		Mean	Std. Deviation	Factor Loadings
Work-life balance	Cronbach's Alpha = 0.762			
	WLB1	3.38	0.721	0.656
	WLB2	3.02	0.643	0.748
	WLB3	3.58	1.012	0.776
	WLB4	3.29	0.930	0.829
	WLB5	3.22	0.952	0.812
Emotional support	Cronbach's Alpha = 0.845			
	ES1	3.51	0.992	0.801
	ES2	3.49	0.829	0.621
	ES3	3.43	0.833	0.687
	ES4	3.28	0.977	0.739
	ES5	3.52	0.923	0.701
Financial support	Cronbach's Alpha = 0.731			
	FS1	3.38	1.051	0.701
	FS2	3.63	1.112	0.610
	FS3	3.67	0.846	0.712
	FS4	3.49	1.023	0.893
	FS5	3.53	1.019	0.833
Gender bias	Cronbach's Alpha = 0.821			
	GB1	3.45	0.791	0.601
	GB2	3.51	0.829	0.521
	GB3	3.61	0.601	0.728
	GB4	3.16	0.812	0.774
	GB5	3.39	1.212	0.821
Entrepreneurial Performance	Cronbach's Alpha = 0.832			
	EP1	3.43	0.812	0.695
	EP2	3.71	0.865	0.729
	EP3	3.33	0.864	0.912
KMO	0.692			
Total Variance	61.579			
(*): Statistics for Independent Variables				

Source: from survey results

As reported in the table 2 and other results from the current survey, all of observed variables are reliable and the values of Cronbach's Alpha of all variable are higher than 0.7. It means that the measure is reliable for further analysis.

Table 3: Rotated Component Matrix[a]

	Component			
	1	2	3	4
WLB1	.656			
WLB2	.748			
WLB3	.776			
WLB4	.829			
WLB5	.812			
ES1	.672	.801		
ES2		.621		
ES3		.687		
ES4		.739		
ES5		.701		
FS1			.701	
FS2			.610	
FS3			.712	
FS4	.502		.893	
FS5	.521		.833	
GB1				.601
GB2				.521
GB3				.728
GB4				.774

To make sure that the observed variables of each factor will only reflect the factor that they are grouped in, the authors continue to use EFA. The table 3 shows that the item ES1 should be removed because it appears in two factor and the gap between the 2 factor loadings is less than 0.3. FS4 and FS5 are kept because the gap between the 2 factor loadings is more than 0.3. In other words, the variable FS will include 5 observed variables while ES will now have ES2, ES3, ES4, ES5.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.612[a]	.573	.503	.4934	1.531
a. Predictors: (Constant), WLB, ES, FS, GB					
b. Dependent Variable: Entrepreneurial Performance (EP)					

Regression results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.219	.122		-.543	.329		
	WLB	-1.264	.036	-1.061	2.594	.013	.731	1.321
	ES	.713	.120	.628	3.216	.091	.403	1.621
	FS	-.514	.048	-.509	2.617	.002	.882	1.553
	GB	-1.025	.529	-1.291	4.203	.000	.629	1.712

a. Dependent Variable: EPMEAN

The regression results confirm that WLB, FS and GB have negative impacts on performance of female entrepreneurs while ES imposes a positive impact on it with confidence interval at 90%. Adjusted R square at .503 means that WLB, FS, ES and GB explain 50.3% of the average variation of EP.

EP = -1.061*WLB + 0.628*ES – 0.509*FS – 1.291*GB

4. Discussion and Conclusion

The mixed methodology of this study has shed light on the barriers in women entrepreneurship by examining the factors affecting the entrepreneurial performance of female entrepreneurs' work. A quantitative analysis of 87 female entrepreneurs combined with qualitative analysis via in-depth interview with 10 entrepreneurs show that work-life balance, financial support and gender bias are challenges facing women entrepreneurship.

Further, this study also reports that emotional support, in particular from family members will improve the performance of female entrepreneurs' work.

However, the study has some limitations. First, it cannot use the control group of non-entrepreneurial females to compare the differences between two groups. Second, a relatively small-size sample of 87 observations will limit the representativeness of the research results.

Some policy implications are offered by this study. Policy makers should focus on financial support for women entrepreneurship because of the flaw of the current supporting policy. Further, gender equality movement still has a long way to go in order to support women entrepreneurship in Vietnam.

5. References

1. Zapalska, A. M., Bugaj, M. N. and Rudd, D. (2005), Female entrepreneurship in transition Polish economy, *Problems and Perspectives in Management*, 2, 32–40.
2. Abrar, A., Rauf, A., and Gohar, M. (2011), *Conceptualizing Gender and Entrepreneurial Learning a Review of Literature*. Available at: http://www.academia.edu/709752/
3. ILO (2002), *Decent Work and the Informal Economy*, Geneva: ILO.
4. Ramadani, V., Dana, L-P., Gërguri, S., and Tašaminova, T. (2013), Women entrepreneurs in the Republic of Macedonia: Waiting for directions, *International Journal of Entrepreneurship and Small Business*, 19(1), 95–121.
5. Lepeley, M. T., and Albornoz, C. (2013), Advancing people skills for 21st century business education in Chile. In Alon, I., Jones, V., and McIntyre, J. (Eds.), *Innovation in Business Education in Emerging Markets*, pp. 27–42, London: Palgrave Macmillan.
6. Global Entrepreneurship Research Association (GERA) (2013), *Global Entrepreneurship Monitor 2012 Women's Report*. Available at: http://gemconsortium.org/docs/download/2825
7. OECD (2002). *Networking 2002: The Keys for Successful Women Entrepreneurs*, Paris: OECD Publishing.
8. OECD (2004). *Women's Entrepreneurship: Issues and Policies*, Istanbul, Turkey. http://www.oecd.org/cfe/smes/31919215.pdf
9. Kenny, C. (2013), Divorce's rise in emerging economies helps women get ahead, *Bloomberg Business News*. Global Economics.
10. Debroux, P. (2010). *Female entrepreneurship in East and South-East Asia: Opportunities and challenges*. Chandos Publishing.

FACTORS AFFECTING MARKET ACCESS OF AGRICULTURAL PRODUCTS: A CASE STUDY GREEN TEA IN VEN VILLAGE

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Abstract

Market development of agricultural products has been a fashionable trend in research, in particular the transition economy like Vietnam. The purpose of the current study is to analyze the impact of determinants of market accessibility of green tea. This paper applies a mixed approach including both quantitative methodology based on 110 observations collected through survey questionnaire and qualitative methodology with 06 in-depth interviews that are conducted in Ven village, Yen The District. The research results show that road status, market information access, agricultural extension services, the linkage and age significantly positively affect the market accessibility of Ven village's green tea. Conversely, educational level and distance to output market impose weak impacts while gender and ownership of communication electronic devices have no significant impacts on market accessibility of this product.

Keywords: *Ven village's green tea, market accessibility, information, access*

1. Introduction

Agriculture plays an extremely important role in social - economic development, especially for developing countries. It not only helps ensure national food security but also provides inputs for processing industries. In addition, agricultural development is associated with rural development and poverty reduction because most of the poor's livelihoods depend on agriculture (Ahmed et al., 2016; Markelova et al., 2009). As an inevitable consequence in the context of industrialization and modernization in many countries, industry is having a significantly reduced share in the economic structure. According to World Bank statistics, the share of agriculture in Vietnam is only approximately 14% (World Bank, 2019). Contrary to this trend, some localities in Vietnam still take agricultural development as the focus for local social - economic development. Yen The district, Bac Giang province is one of the typical examples of this approach.

Taking advantage of the conditions of soil, climate and terrain conditions, Yen The district has successfully built and developed many agricultural models, creating recognizable brands in the market such as Yen The chicken, Hong Ky mountain goat, Hong Ky wild honey... Besides, the locality is also promoting the development of the green tea brand in Ven village. In recent years, green tea in Ven village has been one of the main crops of the locality, becoming the main source of livelihood for farmers, helping to improve living standards and reduce poverty. Contrary to the existing results of quality-based certification (Ven village green tea was recognized as a 4 - star product in 2019), this product is still mainly consumed in Yen The district and surrounding areas. From the above analysis, the main research question that the research team propounded is: what factors have affected the market access of Ven village green tea products?

This study has the following main contributions: (1) In terms of academic contributions, this study approaches the research problem based on mixed research methods. This allows to provide more in - depth results about the research problem. Besides, this study approaches the problem of a brand with low brand awareness - as opposed to the technical standard endorsement achieved by the product. Finally, this study takes into account the linking factors in market development, age in the research model; (2) On practical contributions, first of all, the result of this study answers the question of policy makers and managers about the phenomenon of low market access of agricultural products under supported conditions by local and international stakeholders. On the other hand, policy suggestions from this study may be of specific policy application to promote market expansion and development of Ven village green tea in particular, and agricultural products in general.

This study focuses on analyzing the following three main contents: firstly, assessing the status of market access of green tea in Ven village; secondly, identifying influencing factors and analyzing their impact on market access; thirdly, it provides policy implications to enhance market access of green tea in Ven village.

2. Literature Review

Some scholars such as Machete (2004), Mwangi et al. (2015), and Ahmed et al (2016) believe that poor market access of households is the main cause of the phenomenon of a product that meets the standards. quality but sold at low prices and small market size. Previous research by Sendal et al (2007) also showed that low access to output markets will have a negative impact on increasing profits and improving the quality of life of farmers, because thereby, reducing the motivation of farmers to participate in the market (A. De Janvry et al., 1991). Market access plays an extremely important role in promoting rural development, poverty reduction and income enhancement (Jayne et al., 2010; Cai et al., 2012; Ahmed et al., 2016).

According to Nutilus Consultants (quoted in Nguyen Tien Hung, 2009, p.5), market access is defined as a series of commercial activities by which producers bring goods to consumers. Another definition is that market access is the researching of the product output market, in order to grasp the needs and tastes of consumers in order to build an appropriate production organization plan to meet the requirements and wishes of customers in the best way

(Luu Thanh Duc Hai, 2007). Thus, it can be generalized that: Market access is a multi-step process of a supplier from determining the output market to bringing its products to the market.

Indeed, access to output markets is influenced by many factors. For example, Kyaw et al (2018) and Kuma (2012) conclude that distance has a strong and negative impact on market access. On the other hand, there are studies that show that access to the output market is strongly influenced by the gender variable, in which, men have better market access than women (Asfaw et al., 2012; Sigei et al., 2012). 2014; Kihiu & Amuakwa-Mensah, 2020). In contrast, research by La Nguyen Thuy Dung & Mai Van Nam (2015) found that gender is not correlated with market access. Not only that, age is also one of the factors that strongly affect market access (Asfaw et al., 2012; Kassa et al., 2017; La Nguyen Thuy Dung & Mai Van Nam, 2015; Nguyen Quoc Nghi & Mai Van Nam, 2014). In addition, factors such as education level, road conditions, access to market information, linkages, ownership and access to extension services have also been shown to have a positive and very strong impact. to market access (Ahmed et al., 2016; Apind et al., 2015; Kuma, 2012; Kassa et al., 2017; Kyaw et al., 2018; La Nguyen Thuy Dung & Mai Van Nam, 2015 ; Mwangi et al., 2015; Nguyen Quoc Nghi & Mai Van Nam, 2014; Onoja et al., 2014; Siziba et al., 2011).

The common thread in previous studies is that they look at developing countries and often assess market access for agricultural products as a whole, rather than a particular local product. In addition, these studies have not considered the linkages between stakeholders including farmers, cooperatives and localities. Besides, past studies have not built a measurement framework to measure market access, but mainly use dummy variables with two values of 0 and 1 (Ahmed et al., 2016; Asfaw). & associates, 2012; La Nguyen Thuy Dung & Mai Van Nam, 2015; Nguyen Quoc Nghi & Mai Van Nam, 2014). Therefore, this study used observed variables to measure the dependent variable (market access) and used a 5-level Likert measure to be able to clearly and more closely reflect on the level of market access. market access of green tea in Ven village. Specifically, the study examines the influence of 9 factors on the dependent variable, including: distance, gender, age, education level, access to market information, road conditions, association connect, own and access agricultural extension services.

3. Methods

3.1. Researching methods and materials collecting

With the quantitative research method, the study uses primary data, collected from the survey for Yen The district officials, cooperative officials and tea farmers. These are the people who are directly involved in the production and consumption of local Ven village green tea. The questionnaire was designed in two parts. The first part is the personal information of the survey respondents, including gender, age, education and occupation. The rest builds on the development of a measure to understand the factors that influence the marketability of tea products. In the second part, in addition to the questions designed in an integrated form (distance and access to extension services), the remaining questions about road conditions, access to market information, linkages, Ownership and market access are used 5-level Likert measure to show the level of agreement of the surveyed subjects, in which 1 is completely disagree and 5 is completely agree.

After designing the survey questionnaire, the author used a combination of Anket method by sending online questionnaires and direct distribution of questionnaires to collect data. Specifically, the online survey was sent to district and cooperative officials. As for farmers, the method of submitting online survey forms is not suitable because many tea farmers do not have smart electronic devices and have difficulty using these devices. On the other hand, if the household fills out the survey by themselves, the probability of incorrect filling out the form will be higher due to misunderstanding of the question. Therefore, the questionnaire needs to be distributed directly so that reliable and accurate answers can be obtained. The data collection process took place for 1 month and collected 115 votes. However, after processing (cleaning) the data, 5 invalid votes were eliminated because the participants only filled in 1 answer for different questions, which did not guarantee reliability.

In addition to the survey survey with a quantitative approach, primary data was also collected through in-depth interviews by purposefully sampling six people with certain knowledge about the aspects and issues that the topic asked. I want to clarify. The questions aim to clarify and provide more in-depth analysis of the factors affecting market access of green tea in Ven village and help explain the regression results.

3.2. Researching hypothesis

Based on an overview of previous research papers, the author has developed a research hypothesis about the market accessibility of green tea in Ven village as shown in **Figure 1** below:

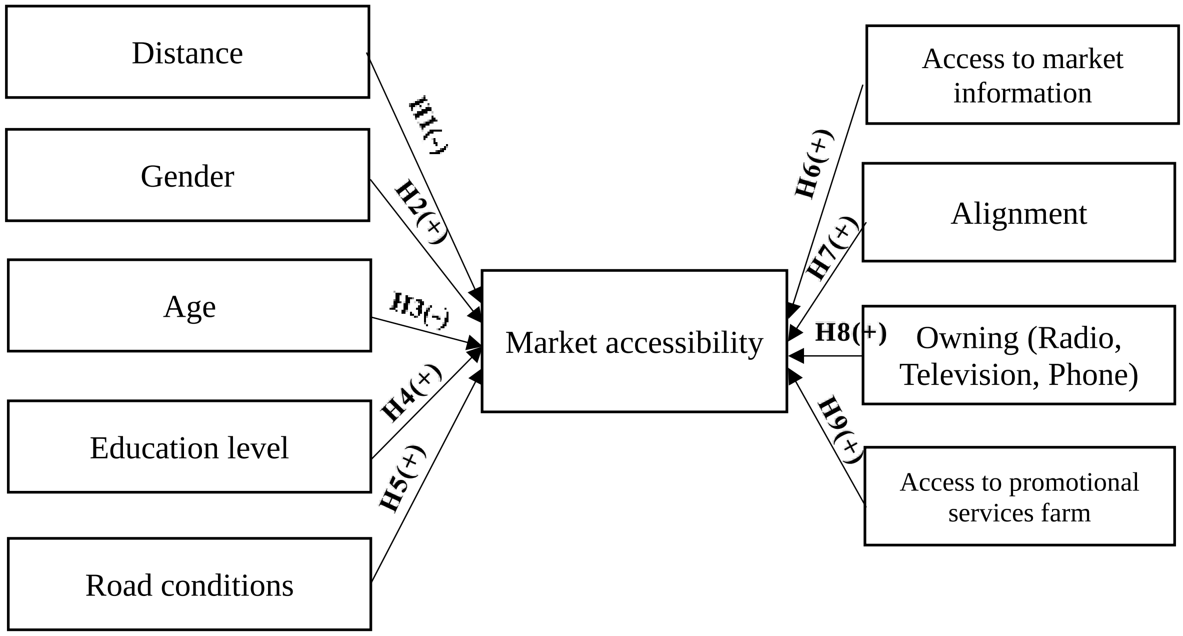

Figure 1: Research hypothesis about market access of green tea in Ven village

Source: Author's team

3.3. Researching paradigm

Many previous studies have used quantitative research methods with multivariate regression models to identify factors affecting the ability to access output markets, such as the study of La Nguyen Thuy Dung & Mai Van. Nam (2015), Nguyen Quoc Nghi & Mai Van Nam (2014), Ahmed et al (2016), and Kihiu & Amnuakwa-Mensah (2020). Based on those studies, this study builds a regression model of factors affecting market access of green tea in Ven village as follows:

$$MA=\alpha+\beta_1*DIS+\beta_2*GEN+\beta_3*AGE+\beta_4*EDU+\beta_5*ROAD+\beta_6*INF+\beta_7*ASS+\beta_8*OWN+\beta_9*EXT+\mu$$

Insides: α, β_1, β_2, β_3, β_4, β_5, β_6, β_7, β_8, β_9 are the coefficients; μ is the error

Accordingly, MA: Accessibility to market, DIS: Distance to market, GEN: gender of owner of household or cooperative, AGE: Age of farmer or cooperative, EDU: Education level of farmer or cooperative , ROAD: Road conditions, INF: Access to market information, ASS: Alignment, OWN: Owning at least one of three radio, TV, smartphone devices, EXT: Access to promotional services farm.

4. Results

4.1. Testing result Cronbach's Alpha and EFA

To check the reliability and suitability of the measure, the authors used Cronbach's Alpha test and Exploratory Factor Analysis (EFA). The test results show that the values of Cronbach's Alpha coefficient are all greater than 0.7, so the measure used is good. In particular, the two total variables Connectivity and Market Access have Cronbach's Alpha coefficients of 0.957 and 0.968, respectively, very close to 1, reflecting this measure very well. Thus, there is no case where removing the observed variable can make the Cronbach's Alpha of these measures greater than the value of its Cronbach's Alpha coefficient. At the same time, no observed variables will be removed from the measure because their correlation coefficients with the total variable are all greater than 0.3. Therefore, all observed variables are accepted and will be used in the next factor analysis. In other words, the measures all meet the requirements of statistical reliability.

For EFA exploratory factor analysis, the results of KMO coefficient and Bartlett's test both reflect that the factors in the model are consistent with the research data and there is a correlation between the observed variables in the factors. element. Besides, the results also show that the Eigenvalue at the fourth variable is 1.142 (> 1), which implies that 04 factors are significant and will be retained in the model. Furthermore, the cumulative variance is 72.972% (>50%), so the EFA model is completely suitable. This means that 04 factors in the model are explained by 72.972% of the variation of observed variables. In addition, the analysis results of the rotation factor matrix also show that there is no change in the observed variables measuring the independent variable compared to the original. Thus, through Cronbach's Alpha coefficient test and EFA exploratory factor analysis, it can be seen that the independent and dependent variable measures ensure the reliability to perform regression analysis.

4.2. Status of market access of green tea in Ven village

Table 1 below presents the status of market access of green tea in Ven village. All observed variables for the MA factor have a minimum value of 2 and a maximum value of 5. The observed variable MA1 has a mean value of 3.09, which is normal, reflecting the products from Green tea in Ven village has not really met the needs of consumers. Besides, the average value of the observed variable MA5 is 3.52, which is greater than 3.5, so it can be said that the survey participants agree with the view that the difference between production and consumption Is negligible. In other words, the amount of tea inventory after each crop is relatively low.

In contrast, with other observed variables of MA such as MA2, MA3, MA4 and MA6, the mean value is relatively low, below 3. Therefore, the descriptive results of the observed variables MA2, MA3, MA4 and MA6, showing that the green tea market in Ven village is not known to many people, the market has not been expanded, has not been consumed in many parts of the country and the farmers in Yen The are still not really satisfied. about the current selling price. On the other hand, the average agreement of the observations of the MA variable is 2,735, less than 3. Therefore, it can be concluded that the accessibility to the green tea market in Ven village, Yen The district, Bac Giang province is still poor.

Table 1: Statistics describing the status of market accessing

Variable name	Describe	N	GNNN	GTLN	Average	Standard deviation
MA1	I see that green tea products in Ven village are gradually meeting the needs of consumers better	110	2	5	3,09	1,064
MA2	I noticed that green tea products in Ven village are becoming more and more popular	110	2	5	2,8	1,107
MA3	I noticed that green tea in Ven village has more and more new markets	110	2	5	2,46	1,163
MA4	Currently, the market for green tea consumption in Ven village is available in many places across the country	110	2	5	2,23	0,974
MA5	I find the difference between total production and total consumption to be negligible	110	2	5	3,52	1,141
MA6	I feel satisfied with the current selling price	110	2	5	2,31	1,139
MA					2,735	

Source: Analysis from the author's survey (2021)

4.3. Analysis of factors affecting market accessing

Linear regression results in the analysis model of factors affecting market access of green tea in Ven village are shown in Table 2 below. Specifically, the research results show that the sex variable is not statistically significant in the regression model because the Sig coefficient has a value of 0.706 (>0.1). Thus, this result is completely similar to the study in Vietnam by La Nguyen Thuy Dung & Mai Van Nam (2015), but contrary to the previous conclusion of Asfaw et al (2012) and Sigei et al. (2014) in an output market access study in Kenya.

Besides, the ownership factor does not affect the market access of green tea in Ven village because the Sig coefficient of the OWN variable is 0.269 (>0.1). This result is in contrast to previous studies where most of the authors believe that owning a smartphone, radio or TV will help them increase their market access (Asfaw et al., 2012; Bwalya & associates, 2013; Mwangi et al., 2015). Therefore, the research results do not support the hypothesis H2 and H8.

Table 2: Regression results of the market access model of tea in Ven village

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-2.671	.398		1.684	.095		
	DIS	-.017	.025	-.025	-1.495	.038	.736	1.359
	GEN	.026	.028	.013	.378	.706	.887	1.128
	AGE	-.606	.003	-.593	-2.116	.037	.513	1.851
	EDU	.100	.055	.099	1.821	.072	.334	1.493
	ROAD	.882	.079	.865	3.560	.000	.481	1.079
	INF	.918	.044	.914	1.407	.035	.797	1.255
	ASS	1.218	.068	1.398	7.641	.000	.235	1.263
	OWN	.006	.041	.008	1.111	.269	.833	1.200
	EXT	.795	.019	.794	3.320	.000	.292	1.423

a. Dependent Variable: MA

Source: Analysis from survey (2021)

On the other hand, with 95% confidence, the variables DIS, AGE, ROAD, INF, ASS and EXT are statistically significant in the regression model because their Sig coefficients are all less than 0.05. However, the EDU variable is not statistically significant at the 95% confidence level because the Sig coefficient has a value of 0.702 (>0.05), but it is statistically significant at the 90% confidence level. Thus, the market accessibility of green tea in Ven village is affected by 07 factors, including distance, age, education level, road conditions, access to market information, linkage and access to agricultural extension services.

The values of the normalized regression coefficients show that the link between the actors in the tea consumption in Ven village has the strongest and positive impact on market access, similar to the research results of Anteneh & associates (2011) and Kuma (2012).

Next, the second positive and strong factor affecting market access is access to market information with a standardized regression coefficient of 0.914 (hypothesis H6 is supported). Indeed, most of the previous studies also came to the same conclusion that the relationship between access to market information and market access is a positive and very close relationship (Ahmed et al., 2016; Apind et al., 2015; Maziku, 2015; Nguyen Tien Hung, 2009; Onoja et al., 2014).

Morever, road conditions and access to agricultural extension services are also factors that positively and greatly affect the dependent variable, similar to the research results of Kyaw et al (2018), Kassa et al. (2017), and Siziba et al (2011). In other words, hypotheses H5 and H9 are supported. Moreover, the study also shows that the variable 'age' has a large and negative influence on the market access of green tea in Ven village. This means that young people will have better market access than older people (hypothesis H3 is supported). This result is similar to other studies (Asfaw et al., 2012; Kassa et al., 2017; La Nguyen Thuy Dung & Mai Van Nam, 2015).

In contrast, the correlation between distance and market access is very weak. With a standardized regression coefficient of -0.025, distance is the negative and least influential factor on market access (hypothesis H1 is supported). Indeed, the greater the distance from the subject's home to the market, the worse the market access and vice versa. This finding is also shown in the study of Kyaw et al (2018), Kuma (2012), and Nguyen Tien Hung (2009).

Besides, education level also has a small impact on market access with a standardized regression coefficient of 0.099. With such a regression coefficient, education level has a positive and relatively small impact on market access (hypothesis H4 is also supported). In other words, the higher the education level, the better the accessibility to the green tea market in Ven village. Although previous studies have also concluded that the correlation between education level and market access is positive, most scholars have demonstrated that education level has a strong influence on market access. market access (Ahmed et al., 2016; Bwalya et al., 2013; La Nguyen Thuy Dung & Mai Van Nam, 2015; Nguyen Quoc Nghi & Mai Van Nam, 2014).

Thus, the degree of impact of the independent variables on the accessibility of green tea market in Ven village in order from strongest to weakest, respectively as follows:

ASS>INF>ROAD>EXT>AGE>EDU>DIS

From the research results, we have a linear regression function:

$$MA = -2{,}671 - 0{,}017*DIS - 0{,}606*AGE + 0{,}1*EDU + 0{,}882*ROAD + 0{,}918*INF + 1{,}218*ASS + 1{,}795*EXT$$

To clarify some quantitative research results, this study also uses qualitative research methods through in-depth interviews. All three farmers participating in the in-depth interviews said that the reason why owning electronic devices does not affect their market access is because most of the farmers research prices and input markets. out through merchants and neighbors. In addition, finding market information through electronic devices helps them know prices and market information, but finding markets and connecting with new markets costs a lot, so they will choose sell to traders instead of looking for new markets and new customers. This is reflected in the following excerpt from the interview with Ms. HL: “Even if we find out what the customer wants on the internet or TV, we will still accept that we can't do it, because it spends a lot of money that we can't afford. Here, we only sell dried tea, if they ask for incense, we will do it."

Not only that, most of the participants in the in-depth interviews also agreed that the association and cooperation between the participants strongly influenced the accessibility to the green tea market in Ven village. Mr. TNK, an officer of Yen The district's Department of Economic and Social Affairs and Ms. LTH (Than Truong Cooperative) said that "Currently, the linkages in tea production and consumption have been established in Yen The district, however, there are still some gaps in production and consumption. very limited, links between localities, cooperatives, enterprises and farmers are still poor. Thus, making tea prices highly dependent on merchants, making it difficult to expand and connect with new markets and meet the needs of customers in big cities such as Hanoi, Quang Ninh, Hai Phong, etc. ...".

As for farmers, the longer their relationship with traders is, the more stable the price is and the easier it is to sell tea. Ms. HL shared: “She sells to 1 person for a long time, compared to neighboring households, she still doesn't have to force the price because she can still buy the price, she still sells normally...”. Thus, the impact of the linkages between actors in the consumption of tea in Ven village on market access are similar between quantitative and qualitative results.

5. Discussion and Conclusion

5.1. Conclusion

Research results show that the market accessibility of green tea in Ven village, Yen The district, Bac Giang province is relatively low. The products are not diverse and rich, mainly dry tea, so they have not met the needs of consumers. Besides, the consumption market is mostly in the district and surrounding areas, so the ability to recognize the green tea brand in Ven village, especially in big cities like Hanoi and Quang Ninh, Hai Phong, Da Nang, ... are still low. The size of the green tea consumption market in the village is still small, it is still limited in expanding and connecting with new markets due to the lack of linkages in product consumption and the form of advertising and promotion of products has not yet been established effectively. Besides, tea farmers in Yen The have not yet decided on the price of their products, and are still heavily dependent on traders.

On the other hand, this study shows that linkage is the main factor affecting the market access of green tea in Ven village. Moreover, the dependent variable is strongly influenced by factors such as access to market information, road conditions, access to agricultural extension services and age, however, the direction of impact is opposite. While age has a negative relationship with market access, the remaining factors are positively correlated with the dependent variable. On the contrary, the dependent variable is positively and very little affected by the educational level factor. However, distance is the negative and least impacting factor on the accessibility to the green tea market in Ven village.

5.2. Policy implications

Good market access not only helps to raise incomes and improve people's living standards, but also contributes to promoting social - economic development of the locality. Therefore, the state and local authorities need to issue policies to support and encourage actors in finding, expanding and connecting the market. From the results of the correlation regression analysis and in-depth interviews, the study provides a number of policy implications to increase market access to green tea in Ven village, Yen The district, as follows: 1) It is necessary to strengthen the linkages between the two countries. cooperation in the consumption of green tea in Ven village, based on the principle of ensuring the harmonization of the interests of the parties involved; 2) Promote access to output market information; 3) Policy to increase investment in transport infrastructure; 4) Strengthen agricultural training and extension policies.

Specifically, Yen The is a mountainous district with a low starting point and poor social - economic development conditions, facing many difficulties in mobilizing external capital sources and attracting investment. Therefore, the state should have policies to attract enterprises to invest in building tea processing factories; investment in regional transport infrastructure; encourage private investment to develop transport services from tea plantations to national highways and to city centers such as Hanoi, Hai Phong, Quang Ninh, Bac Ninh, etc. Policies to attract investment Investment can be capital support, preferential land use and creating a stable legal environment.

To promote market access, this study indicates that it is necessary to strengthen close linkages between farmers, extension workers, local authorities and other stakeholders, creating opportunities for farmers to have can accurately, fully and timely capture information on output market and prices. On the other hand, regularly organize training classes for local officials and cooperative officials to improve management capacity and foster knowledge related to market, marketing and application of science and technology. Next, this study also emphasizes the role of training and extension services to help farmers master tea growing and care procedures to meet standards like Vietgap and find outputs for farmers to grow. ensure that the output they produce is procured in its entirety at a good price.

6. References

1. Ahmed, U. I., Ying, L., Bashir, M. K., Abid, M., Elahi, E., & Iqbal, M. A. (2016). Access to output market by small farmers: The case of Punjab, Pakistan. *Journal of Animal and Plant Sciences*, *26*(3), 787-793.

2. Anteneh, A., Muradian, R., & Ruben, R. (2011). Factors affecting coffee farmers market outlet choice. The Case of Sidama Zone, Ethiopia. *Centre for International Development Issues Nijmegen, Radboud University, the Netherlands*.

3. Apind, B. O., Lagat, J. K., Bett, H. K., & Kirui, J. K. (2015). Determinants of Small-holder Farmers Extent of Market Participation; Case of Rice Marketing in Ahero Irrigation Scheme, Kenya. *Journal of Economics and sustainable development*, *6*(2), 154-160.

4. Asfaw, S., Lipper, L., Dalton, T. J., & Audi, P. (2012). Market participation, on-farm crop diversity and household welfare: micro-evidence from Kenya. *Environment and Development Economics*, *17*(5), 579-601.

5. Bwalya, R., Mugisha, J., & Hyuha, T. (2013). Transaction costs and smallholder household access to maize markets in Zambia.

6. Cai, G., Dai, Y., & Zhou, S. X. (2012). Exclusive channels and revenue sharing in a complementary goods market. *Marketing Science*, *31*(1), 172-187.

7. De Janvry, A., Fafchamps, M., & Sadoulet, E. (1991). Peasant household behaviour with missing markets: some paradoxes explained. *The Economic Journal*, *101*(409), 1400-1417.

8. Jayne, T. S., Mather, D., & Mghenyi, E. (2010). Principal challenges confronting smallholder agriculture in sub-Saharan Africa. *World development*, *38*(10), 1384-1398.

9. Kassa, G., Yigezu, E., & Alemayehu, D. (2017). Determinants of smallholder market participation among banana growers in bench Maji Zone, Southwest Ethiopia. *International Journal of Agricultural Policy and Research , 5 (11)*, 169-177.

10. Kihiu, E. N., & Amuakwa-Mensah, F. (2021). Agricultural market access and dietary diversity in Kenya: Gender considerations towards improved household nutritional outcomes. Food Policy, truy cập ngày 17 tháng 12 năm 2020, từ https://doi.org/10.1016/j.foodpol.2020.102004

11. Kuma, B. (2012). Market access and value chain analysis of dairy industry in Ethiopia: The case of Wolaita Zone (Doctoral dissertation, Haramaya University).

12. Kyaw, N. N., Ahn, S., & Lee, S. H. (2018). Analysis of the factors influencing market participation among smallholder rice farmers in magway region, central dry zone of Myanmar. *Sustainability*, *10*(12), 4441-4456.

13. La Nguyen Thuy Dung and Mai Van Nam (2015), “Market access ability of rice production households in association with enterprises in An Giang province”, Science Journal of Can Tho University, No. 38, p. 25-33.

14. Luu Thanh Hai (2007), Applied Marketing, Statistical Publishing House, Can Tho.

15. Machethe, C. L. (2004, October). Agriculture and poverty in South Africa: Can agriculture reduce poverty. In *overcoming underdevelopment conference held in Pretoria* (Vol. 28, No. 1, pp. 29-43).

16. Markelova, H., Meinzen-Dick, R., Hellin, J., & Dohrn, S. (2009). Collective action for smallholder market access. *Food policy*, *34*(1), 1-7.

17. Maziku, P. (2015, July). Market access for maize smallholder farmers in Tanzania. In *Proceedings of the Second European Academic Research Conference on Global Business, Economics, Finance and Banking*, 1(2), 282-296.

18. Mwangi, M. N., Ngigi, M., & Mulinge, W. (2015). Gender and age analysis on factors influencing output market access by smallholder farmers in Machakos County, Kenya. *African Journal of Agricultural Research*, *10*(40), 3840-3850.

19. Nguyen Quoc Nghi and Mai Van Nam (2014), “Market access of pineapple farmers in Tan Phuoc district, Tien Giang province”, Can Tho University Science Journal, No. 35, p. 24-31

20. Nguyen Tien Hung (2009), "Research on solutions to improve market access of flower and ornamental plant growers in Bac Ninh province", Master thesis, Hanoi University of Agriculture.

21. Omiti, J. M., Otieno, D. J., Nyanamba, T. O., & McCullough, E. B. (2009). Factors influencing the intensity of market participation by smallholder farmers: A case study of rural and peri-urban areas of Kenya. *African Journal of Agricultural and Resource Economics*, *3*(1), 57-82.

22. Sigei, G., Bett, H., & Kibet, L. (2014). Determinants of market participation among small-scale pineapple farmers in Kericho County, Kenya.

23. World Bank (2019), “Agriculture, forestry, and fishing, value added (% of GDP)- Vietnam”, từ https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?locations=VN

ASSESSING THE IMPACT OF ENTREPRENEURSHIP EDUCATION ON STUDENTS' ENTREPRENEURIAL INTENTIONS

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Abstract

Entrepreneurship has become a widely research topic in Vietnam in recent years. This topic covers a wide range of unit of analysis from national level (entrepreneurial ecosystem), firm, individuals to university level. This study aims to scrutinize the impact of entrepreneurship education at the university level on entrepreneurial intentions of students. Using a quantitative research method based on a sample of 210 students at the National Economics University, this study shows that aspects of entrepreneurship education entrepreneurship intentions of students in various directions. From the study results, the paper also offers some policy implication for entrepreneurship education of higher education institutions in Economics and Business Management.

Keywords: *Entrepreneurial intention; Entrepreneurship; National Economics; Vietnam*

1. Introduction

Entrepreneurship and innovation are seen as an important tool to tackle global challenges in the 21st century. It contributes to sustainable development by creating new areas of employment, providing employment opportunities, economic growth and improving social welfare. Enterprises are an important component contributing greatly to economic growth, poverty alleviation and job creation in the economy. Entrepreneurship is considered an important content in Vietnam's strategic development orientation in order to use and exploit resources and potentials to contribute to economic growth. The 12th National Party Congress first mentioned the issue of entrepreneurship and designated 2016 as the Year of Startup Countries. According to the "Vietnam Business White Paper 2020", as of 2019, Vietnam has 758,610 operating enterprises, contributing over 60% of the country's GDP. The strong startup trend in Vietnam is demonstrated by thousands of newly established companies and millions of entrepreneurs who have been trying to start a business. Recognizing the importance of entrepreneurship, the Government has focused on supporting and promoting the development of the startup ecosystem through training workshops, mentoring programs (mentorship programs), business incubation centers and projects to support young businesses (young business accelerator project).

However, according to the results of the GEM 2017/18 study, the percentage of people intending to start a business tends to be opposite to the level of economic development. Countries with a development process based on unskilled labor and natural resources have the highest average proportion of people intending to start a business (30.3%), followed by countries with a development process. efficiency-based (26.3%) and finally countries with innovation-based development (15.2%). Although the rate of people intending to start a business in Vietnam has increased rapidly over the years and reached 25% in 2017, compared to other countries with the same level of development and ASEAN countries, it is still is still low, even lower than the average rate of people intending to start a business in developed countries based on performance (26.3%).

This study has the following major contributions

Theoretical contributions of the study include: the study explains the relationship between entrepreneurship education and the entrepreneurial intention of the learners. On the other hand, this study approaches the role of entrepreneurship education on the sub-components of entrepreneurship education, besides the factors belonging to the learners themselves.

The research's practical contributions include: the results of this study are suggestions for policy change in entrepreneurship education from the perspective of managers and policy decision-makers in the field of education. , especially higher education.

This study focuses on analyzing the following main contents: (1) Factors of entrepreneurship education affecting students' intention to start a business; (2) The degree of impact of entrepreneurship education on students' entrepreneurial intention.

2. Literature Review

Theoretical basis and research model

Some researchers have explored the relationship between entrepreneurship education and entrepreneurship intention of students. Studies suggest that education has become an important way to stimulate entrepreneurship for a variety of reasons (Sánchez, 2011). First, education provides individuals with a sense of independence, self-control, and self-confidence. Second, education makes people aware of career alternatives. Third, education broadens people's horizons, making them better able to perceive opportunities. And finally, education provides knowledge for individuals to develop new business opportunities. Through a proper entrepreneurship education, an individual can acquire the skills and knowledge needed to create and grow a new business. According to Drucker (1985), entrepreneurship is like a subject, and like any course, it can be learned. The presence of successful entrepreneurs and the increase in the number of entrepreneurs in society depends on the extent to which potential entrepreneurs are educated in entrepreneurship.

Béchard & Toulouse (1998) consider that entrepreneurship education is a series of training courses to teach students about models of business formation and development. It focuses on stimulating the passion for entrepreneurship in students through imparting the knowledge and skills needed to create a business and guiding the business in its early stages to growth. According to the definition of Byabashaija & Katono (2011), entrepreneurial behavior can be classified as planned behavior while behavior is influenced by individual intentions. Indeed, according to Ajzen & Fishbein (1975), intention is a measure of an individual's readiness for a future behavior and it is considered as an important basis directly determining human behavior. According to Ajzen (1991), intention is often considered the sole predictor of an individual's participation in a planned behavior. Behaviors, whether simple or complex, are derived from the intentions of the performer. Intentions play an important role in whether we decide to perform a behavior or not. The stronger the intentions, the more motivating and motivating the individual to perform the desired behavior.

Many models have been used in the study of entrepreneurial intention, but the dominant theoretical model is the theory of planned behavior (Theory of Planned Behavior) developed by Ajzen in 1991. According to this theory , the intention to perform a behavior is influenced by three factors: the individual's attitude towards the behavior, common norms and perceived ability to control the behavior. An individual's attitude toward a behavior is developed based on the individual's beliefs about whether the behavior is positive or negative. Common norms refer to an individual's perception of the beliefs of other individuals. It is the fact that groups with close and important relationships with the subject approve or disapprove of the performance of a certain behavior. Perceived behavioral control is a perception of how easy or difficult it is to perform a behavior within the limits of one's own abilities and resources.

Besides, according to the social cognitive theory (Social Cognitive Theory) developed by researcher Albert Bandura in 1986, human behavior is explained through the mutual interaction between 03 factors as individuals. , environment and behavior. From the perspective of the relationship between environmental factors and behavior, Bandura's theory emphasizes the importance of mimicking recorded behaviors through observing patterns from the environment.

Christensen (1991) suggest that knowledge only becomes "useful if it were included in situations that require applications to solve specific problems." Research by Bell & Bell (2016) confirms the effectiveness of experiential learning through business planning. Their research shows the positive effects of this learning method on students' self-confidence and their belief in entrepreneurship.

Meanwhile, Laurillard (2002) points out that feedback is also part of interaction and reflection. Feedback gives learners the opportunity to adjust behavior as needed. Laurillard (2002) also suggests that if students receive feedback during the course, students' entrepreneurial intentions may also be affected.

From the above theoretical analysis, the authors develop the following hypotheses:

Hypothesis H1: Positive attitude to start the business of students increases the level of their intention to start a business

Hypothesis H2: There exists a relationship between standards and subjective way of starting a business and entrepreneurship intention of students

Hypothesis H3: Student's strong perception of the possibility of success in starting a business positively affects their intention to start a business.

Hypothesis H4: The level of access to inspirational figures in entrepreneurship education has a positive impact on students' entrepreneurial intention.

Hypothesis H5: The use of business planning activities in entrepreneurship education has a positive effect on students' entrepreneurial intention.

Hypothesis H6: The provision of feedback in entrepreneurship education have a positive impact on entrepreneurship intention of students

3. Method

The research method used in this study is the quantitative research method. The analysis includes: measure test analysis to check and determine the reliability of the measure. This is a preliminary research phase, conducted to recalibrate the quantitative measures that were used before to suit the conditions and practical basis of the research.

Regression analysis: The purpose of this research step is to measure the impact of 6 variables on students' entrepreneurial intention.

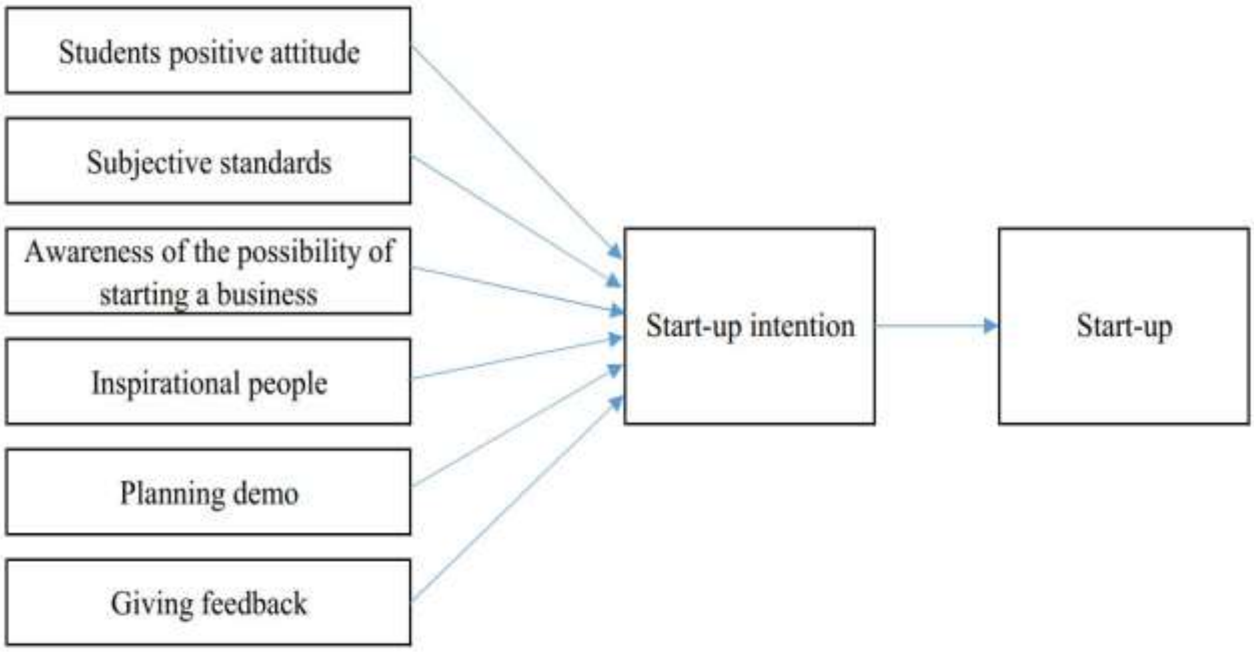

Figure 1: Research diagram

According to Hair et al. (2010), the minimum sample size can be determined based on the number of variables in the analysis. Generalized by the formula, we have: n = k x N (where, n is the minimum sample size; k can take the value 5, 10 or 20; N is the number of variables included in the model). In this study, the author uses the formula with k = 20, the number of variables included in the study includes 7 variables (1 dependent variable, 6 independent variables). Therefore, the minimum number of observations to be collected is 20 x 7 = 140 observations. Thus, the minimum sample size for this study is 140 observations.

Data used in the study is primary data, collected through questionnaires online. The data collection process was carried out from December 2020 to March 2021. The number of observations was 216, including students of different programs of the full-time and international training at the University. Studying National Economics. After data cleaning, the number of valid observations was 210. Thus, the size of this survey exceeded the minimum sample size required to perform the tests and run the model.

After the data was collected and cleaned, the data processing was done through SPSS software. The main results will include the test of the suitability of the measure, linear regression using OLS estimation, and analyzing the effects of the factors of the entrepreneurship education program on the intention to start a business student's career.

4. Results

4.1. Descriptive statistics

Table 1: Information about the respondent

Sample: n = 210		Frequency	%
Majors	General economic field	67	31,9
	The field of business administration	82	39,05
	Other areas	61	29,05
Sex	Female	109	51,9
	Male	101	48,1
School year	First year	31	14,8
	Second year	53	25,24
	Three years	78	37,14
	Last year	48	22,82

Source: Results from the author's survey

The survey sample shows that there is not much difference between the groups of students represented in this sample. The author has divided the group into 3 groups of fields including: 1) General economic sector (including Development Economics); 2) The field of business administration (including the majors of the Faculty of Business Administration, the Institute of Business Administration, the Entrepreneurship and Business Development major of the International Training Institute, ...) and 3) The field of business administration. Other fields (Banking - finance, Accounting - Auditing, ...).

4.2. Check the suitability of the measure

The results of testing the reliability of the measure show that most of the observed variables (items in the questionnaire) of both independent and dependent variables have high reliability. For items 2, 5, 14, and 29, because the coefficient value is less than 0.6, it will be removed to increase the reliability of the measure in the fact that the observed variables are still many. . (Details see Appendix 1.))

4.3. EFA exploratory factor analysis

Results of KMO test and Bartlett's test

- KMO coefficients of the independent variables are all (> 0.5). Concluded that this factor analysis consistent with reality.

- P-value of Bartlett test we get 0.000 < 0.05. There is a correlation between the observed variables in each factor.

- Test of extracted variance of factors (% Cumulative Variance): Cumulative coefficient results are in the range from 0.74 (> 0.5) to meet the standard. We conclude that 74% of the variation of the factors is explained by the observed variables. In other words, the observed variables used measured about 74% of the factors it measured.

Next, the authors use the factor rotation matrix to reduce the measure.

The results from the factor rotation matrix (presented in Appendix 2) show that, after removing the items after Cronbach's Alpha test, the remaining items all accurately and uniquely reflect the factors it measures. In other words, now the measure has reached the standard for further analysis tích.

4.3. Regression analysis

Before conducting regression analysis, the author checks the defects of the model (function form, variable variance, multicollinearity).

Results (see Annex 3) allow give some important conclusions following:

- The model has no defects in functional form.
- The results of the B-G test show that the model is not defective in terms of variable variance.
- Magnification factor coefficients of the independent variables are less than 10 so the model does not suffer from multiple disabilities collinear.

Carrying out the model regression, we have the following results (details see in Appendix 4)

The P-values of the variables in the model are statistically significant.

R2 = 0.56 means that the variables in the model explain on average 56% of the variation of the dependent variable

From the results in the table above, we replace the values of the coefficients from β_1 to β_6 into the model, we get the following results:

yd= - 0.65237ph - 0.48368do + 0.99014ko + 0.95177at + 0.74270cm + 0.44292nt + 0,01248

In the above model, the influence of the independent variables is statistically significant because the P-values of all variables are less than 0.05. The above model shows that students' curricula have some 'positive' effects on students' intention to start a business. Among them, the use of design lectures with the participation of entrepreneurs (inspirational characters) or based on their real stories has the greatest impact on this intention. Next, students' attitudes also greatly influence their intentions. Smallest influence is aware of the possibility to establish enterprises. This can be explained from the fact that students do not fully understand the difficulties, challenges or opportunities when starting a business while still in school. On the contrary, the results of this study indicate that the feedback and hands-on demos did not deliver the results of the program's design goals. However, this result also shows the great role of the curriculum in relation to entrepreneurship for students' entrepreneurship and entrepreneurial intentions.

5. Discussion and Conclusions

The results of the study indicate that different aspects of entrepreneurship education affect students' entrepreneurial intentions differently and policy makers can apply the results of this study to implement change policies in line with the goal of promoting entrepreneurship among students.

Recommendations include:

- *Increase the use of inspirational characters about entrepreneurship*

The results of this study suggest that entrepreneurship education programs need to be designed more vividly and practically, rather than focusing only on theories. The introduction of entrepreneurial stories or ideally the participation of entrepreneurs in the teaching process of entrepreneurship has a great influence on students' entrepreneurial intentions. This poses a requirement to change the current program design in many universities - where only theory is taught in a field that requires practical content such as entrepreneurship.

- *Increased provision of feedback on student learning*

Teachers have an important role in enhancing students' self-regulation ability. Feedback from teachers is a source for students to assess progress. Furthermore, teachers can detect students' mistakes rather than letting students be self-aware of their own mistakes. Therefore, providing feedback to students is very important to ensure student learning.

- *Expand opportunities for dialogue between teachers and students*

One approach to increasing the value and effectiveness of the feedback provided is dialogue, rather than just conveying information. Feedback in the form of dialogue means that students will not only receive written feedback, but also have the opportunity to discuss the feedback afterward. In this case, to make feedback more effective and valuable, students must understand it before it can be used to improve performance.

- *Encourage the confidence of students*

Motivation can play an important role in learning and assessment because they help students understand self-regulation when they encounter failure. Therefore, teachers should evaluate students' progress instead of pointing out mistakes, instead commenting that pass or fail helps students recognize mistakes and find solutions to overcome.

6. References

1. *Báo cáo chỉ số Khởi nghiệp Việt Nam 2017/2018* (2018), Nhà xuất bản Thanh niên, Hà Nội.

2. *Sách trắng Doanh nghiệp Việt Nam năm 2020* (2020), Tổng cục Thống Kê, Hà Nội.

3. Ajzen, I. (1991). The theory of planned behaviour. Organizational Behaviour and Human Decision Processes, 50 (2), 179-211.

4. Bandura, A. (1986). Social foundations of thought and action. *Englewood Cliffs, NJ*, *1986*(23-28).

5. Bechard, J. P., & Toulouse, J. M. (1998). Validation of a didactic model for the analysis of training objectives in entrepreneurship. *Journal of business venturing*, *13*(4), 317-332.

6. Bell, R., & Bell, H. (2016). Replicating the networking, mentoring and venture creation benefits of entrepreneurship centres on a shoestring: A student-centred approach to entrepreneurship education and venture creation. *Industry and Higher Education*, *30*(5), 334-343.

7. Byabashaija, W., & Katono, I. (2011). The impact of college entrepreneurial education on entrepreneurial attitudes and intention to start a business in Uganda. *Journal of Developmental Entrepreneurship*, *16*(01), 127-144.

8. Christensen, C. R. (1991). *Education for judgment: The artistry of discussion leadership*. Harvard Business School Press, Boston, MA 02163.

9. Drucker, P. F. (1985). Innovation and Entrepreneurship: Practice and Principles, New York: Harper& Row. *Innovation*.

10. Fishbein, M., & Ajzen, I. (1977). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Addison-Wesley

11. Hair, J.F., Black, W.C., Babin, B.J., & Anderson, R.E. (2010). *Multivariate Data Analysis*. Seventh Edition. Prentice Hall, Upper Saddle River, New Jersey.

12. Laurillard, D. (2013). *Rethinking university teaching: A conversational framework for the effective use of learning technologies*. Routledge.

13. Sánchez, J. C. (2011). University training for entrepreneurial competencies: Its impact on intention of venture creation. *International Entrepreneurship and Management Journal*, *7*(2), 239-254.

Appendix 1: Checking the reliability of the measure

	Cronbach's Alpha coefficient	Total variable correlation coefficient	Overall Cronbach's Alpha coefficient
Feedback in the curriculum			**(0,71)**
1. I often get feedback on ideas or contribute during discussion	0,66	0,58	
2. After receiving feedback, I can do it myself	0,56	0,51	
3. Lessons with teachers motivated me to start-up	0,82	0,78	
4. Teacher comments - She is very clear and helpful	0,81	0,77	
Practical demos in the course			**(0,68)**
5. I am often encouraged to develop my own business ideas when I take classes	0,45	0,30	
6. In the class, I usually up ideas about business	0,70	0,62	
7. I enjoy the process of writing a business plan	0,88	0,85	
8. I learned about business ideas	0,79	0,69	
Introducing inspirational characters			**(0,82)**
9. I was listening to presentations by entrepreneurs	0,86	0,85	
10. Among startup influencers, I admire many of them	0,80	0,76	
11. The appearance or presentation they made me love the business	0,87	0,86	
12. I am interested in the process of learning from the example of a typical case of start-up	0,79	0,73	

13. Other students also like this design in the program	0,88	0,82	
Student's positive attitude			**(0,77)**
14. Start-up gives me many advantages	0,46	0,23	
15. A job like start-up attracts me	0,79	0,75	
16. If I have the opportunity and enough resources, I will start-up	0,75	0,74	
17. Between so many career options, the startup is my first choice	0,71	0,70	
18. Start-up helps me fulfill my passion	0,65	0,63	
Subjective norms			**(0,84)**
19. Start-up is what to do with students	0,80	0,77	
20. Start-up is highly appreciated by society	0,87	0,68	
21. Start-up gives me confidence	0,9	0,79	
22. I appreciate start-up in young people	0,79	0,76	
Awareness of the possibility of establishing business			**(0,62)**
23. I think starting a business and running it is easy for me	0,76	0,73	
24. I was prepared to ready to start-up	0,79	0,74	
25. I can control the start-up process	0,73	0,7	
26. I know what it takes to start-up	0,66	0,64	
27. I know how to develop a project to start-up	0,65	0,6	
28. I tried to start-up, the probability of success is very high	0,61	0,58	

Intention to start-up			**(0,73)**
29. I will do everything to become a start-up	0,46	0,4	
30. I will try my best to start-up	0,7	0,66	
31. I am confident to build my own company	0,74	0,71	
32. I decided to start-up from a small business	0,73	0,65	
33. My career goal is to be a start-up	0,78	0,7	
34. I thought about start-up a private company in earnest	0,8	0,72	

Appendix 2: Factor Rotation Matrix

Principal Components Analysis

Call: principal (r = bdl, nfactors = 6, rotate = "varimax")

Standardized loadings (pattern matrix) based upon correlation matrix

item		RC1	RC2	RC3	RC4	RC5	RC6
ph1	1	**0.77**					
ph3	3	**0.72**					
ph4	4	**0.70**					
do2	6		**0.85**				
do3	7		**0.81**				
do4	8		**0.72**				
ko1	9			**0.69**			
ko2	10			**0.72**			
ko3	11			**0.76**			
ko4	12			**0.80**			
ko5	13			**0.73**			
at2	15				**0.73**		
at3	16				**0.68**		
at4	17				**0.81**		
at5	18				**0.71**		
cm1	19					**0.60**	
cm2	20					**0.82**	
cm3	21					**0.72**	
cm4	22					**0.65**	

nt1	23	**0.78**
nt2	24	**0.63**
nt3	25	**0.61**
nt4	26	**0.70**
nt5	27	**0.74**
nt6	28	**0.84**

Appendix 3: Inspection of defects of the model

Functional form test: Result of testing the Ramsey

RESET test

Data: model

RESET = 0.8152, df1 = 2, df2 = 129, p-value = 0.498

B-G test (Test of Variance of Variation)

Breusch-Godfrey test for serial correlation of order up to 1

Data: model

LM test = 0.67302, df = 1, p-value = 0.3991

Magnification factor (Variance inflation factor)

ph	do	ko	at	cm	nt
3.0192	7.0394	9.0128	5.0192	2.2440	3.001

Appendix 4: Regression results

Residuals:

Min	1Q	Median	3Q	Max
-1.1829	-0.3945	-0.0241	0.31470	1.28214

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
ph	-0.65237	0.03471	4.609	9.47e-06	***
do	-0.48368	0.09867	2.930	0.004	**
ko	0.99014	0.03931	12.477	< 2e-16	***
at	0.95177	0.02917	3.819	2.71e-07	***
cm	0.74270	0.01719	1.728	0.001	**
nt	0.44292	0.06103	7.109	< 2e-10	***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05

Residual standard error: 0.3651 on 210 degrees of freedom

Multiple R-squared: 0.61, Adjusted R-squared: **0.56**

F-statistic: 2610 on 3 and 210 DF, p-value: < 2.2e-16

AN EVALUATION ON STABILITY OF COMMERCIAL BANKS IN VIETNAM THROUGH FINANCIAL STABILITY INDICATORS AND BANKRUPTCY RISK SCORE

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Abstract

Recently, in Vietnam, financial stability has always been regarded as the priority. In particular, maintaining the stability of banking system plays such a significant role in stabilizing macro-finance. Under the impact of widespread and intensive economic integration, Vietnam's commercial banking system in recent years has experienced various changes. In fact, financial instability appeared due to stumbling blocks of financial market in general and banking system itself in particular. Especially, in the post-crisis period, Vietnam's commercial banking system confronted high risk of breakdown due to influences from external factors including global economic recession, and macro-economic instability as well as internal factors namely poor management capability and ethical risks, etc. This paper explores instability of Vietnam's commercial banking system from 2015 to 2018 based on the utilization of financial stability indicators (FSIs) and bankruptcy score (Z-score) in order to propose essential evaluation.

Keywords: *Bankruptcy score, Financial stability indicators, Fiscal policy, Monetary policy.*

1. Introduction

1.1. The necessity of the research

The process of international economic integration has brought many development opportunities but also made financial markets become complicated and risky. Over the past 20 years, the world has witnessed many large-scale financial-monetary crises. The losses that these crises have caused to the economy are extremely serious. Consequently, ensuring macroeconomic stability, especially stability of banking system, is becoming an important goal in the monetary policy conducting of central banks and governments in many countries around the world. This paper explores instability of Vietnam's commercial banking system from 2015 to 2018 based on the utilization of financial stability indicators (FSIs) and bankruptcy score (Z-score) in order to propose essential evaluation.

1.2. Theoretical basis for financial stability and banking system stability

1.2.1. Definition, characteristics of financial stability and banking system stability

There have been different concepts about financial stability based on a close relationship between financial stability and banking system stability. Crockett (1997) associated banking instability with non-financial stress, which might cause damages in huge banks and bankruptcy in smaller ones. Consequently, banks with stable financial status were capable of satisfying their own responsibilities without any external support.

According to International Monetary Fund - IMF (2006), financial stability meant avoiding both the breakdown of great number of financial organizations and the interruption of financial intermediary function of banking system on the basis of payment, saving, credit distribution as well as efforts in supervising capital users and minimizing risks.

Borio (2003) explored financial stability with two major models, which based on micro and macro conservative elements. In particular, while micro conservative elements would help in decreasing bankruptcy possibility in each bank, macro ones should concentrate on economic system in general to reduce all negative impacts of the financial crisis. There have been certain studies demonstrating apparent findings related to those effects through the usage of loan loss provision out of total loan, and non-performing loan as measurement of credit risks which would put negative impacts on financial stability.

According to European Central Bank, ECB (2007), financial stability should refer to the status, of which the financial system would be comprised of financial intermediary, financial market and infrastructure being capable of handling risks and shocks caused by financial unbalance. This would lead to the decrease in possibility of breakdown of financial intermediary, which initially has negative impacts on saving distribution and investment.

1.2.2. Measurement of financial stability and banking system stability

Criteria for the evaluation of financial stability in general and each financial institution in particular: Financial stability indicators - FSIs have significant meaning in the evaluation of healthy of credit institutions. In 2006, IMF introduced financial stability indicators with 39 ones divided into two categories. Particularly, the first one would cover core indicators, including 12 ones related to banking area. The rest 27 indicators should belong to the second category with other banking indicators, which are linked with non-banking financial organizations, non-financial companies, households, financial market and real estate market. The introduction of non-banking indicators reflected the connection between financial sector and other real economic sectors, for example, disadvantages within enterprise sector illustrated by bank's loan portfolios might cause negative impact on financial stability.

In parallel with financial stability indicators published by IMF, ECB co-operated with the central banks of other country members in order to release measurement method and collect macro-prudential indicators – MPIs to observe financial performance of the banks, which would help in identifying possible risks arising from financial sector, especially banking area.

According to Geršl and Heřmánek (2007), there were huge differences between indicators introduced by IMF and those applied by ECB. *Firstly*, MPIs would demonstrate more numbers than FSIs. Different supervised areas and categories revealed that MPIs made great efforts in identifying and measuring numerous influencing factors on financial stability of banking sector in the Europe. *Secondly*, most MPIs related to the banks were published based on integrated principle, which meant that indicators for the banks in a specific country should cover branches, subsidiaries and other financial organizations controlled by those banks in other European countries.

There have been other indicators reflecting banking stability, which helped in reflecting stability of the financial system. So far, academic materials have been inconsistent in identifying representative indicators for banking risks in order to define risky banks and risky behaviours of the banks. Therefore, a wider but more specific concept of risk based on Z-score was approached serving the evaluation on financial stability, and aggregate risks or bankruptcy of the banks. **Bankruptcy score** (Z-score) was introduced by Ed Ward I. Altman in 1968 in order to forecast bankruptcy possibility of the banks and enterprises in the future. Additionally, Z-score was also regarded as a useful tool to identify fraud in financial statements. According to Altman (1968), managers might use Z-Score model to predict managing problems, especially those related to financial management in order to make timely decisions so that they could tackle arising matters, which might result in bankruptcy. At first, this study could forecast just 72% of bankruptcy possibility of a particular bank. Also, Z-score was created to give prediction of manufacturing companies. However, there were series of studies following this model. In the work by Altman (2000), Z-Score could help in the prediction of non-manufacturing companies. Altman and Hotchkiss (2006) researched changes of Z-Score to provide accurate prediction for most kinds of enterprises and financial sectors.

In order to be used for the prediction of bankruptcy, Z-score formula should be shown as the following:

$$Z\text{-}score = \frac{ROA + EA}{\sigma(ROA)}$$

ROA meant return on assets, EA meant equity-to-asset and σ (ROA) meant standard deviation of ROA. The greater the Z-score was, the more possibility of high financial stability or low aggregate risks. This score would be completely based on accounting data, illustrating the number of standard deviation of interest, at which if expected ROA value decreased, the equity would be dried up and it would be impossible for the banks to pay. This score also considered three important aspects in the evaluation on banks' performance, including capital adequacy ratio (CAR), profit and risks (reflected by standard deviation of ROA, or fluctuation of the profit) (Roy, 1952).

So far, Z-score has been regarded as an advisable representative indicator for aggregate risk of the banks, or a suggested tool for financial measurement because when this score decreases, the bankruptcy possibility would increase. According to Chiaramonte et, al. (2016), 76% of failure possibility of the banks could be predicted by well by Z-score. This score can be used to calculate risk-taking behaviour of the banks through their capitalization, profit and asset changes. These fluctuations would be appropriate with the evaluation of financial stability of the banks. Furthermore, another advantage of Z-score is its requirement of limited data and convenience to be calculated with available information on financial statements. This creates great priority for Z-score to be used in the evaluation of financial stability or aggregate risk of banking system in its development period.

2. Method

The authors used qualitative method through descriptive statistics; system observation method; analysis and synthesis method. In parallel, the financial indicators were used to analyse the financial and business situation of Vietnamese commercial banks. The secondary data was collected and synthesized from actual data in annual reports of Vietnamese commercial banks and the State Bank of Vietnam. In addition, data sources were also collected from official reports, official websites; scientific works related to the research topic.

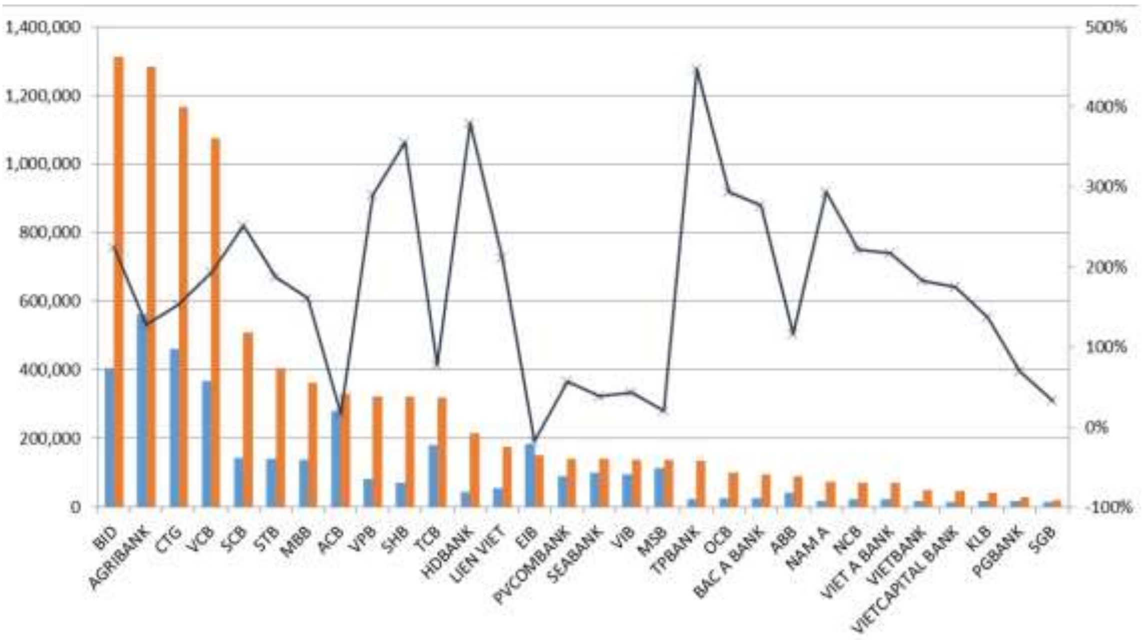
3. Results

3.1. Status of financial stability of commercial banking system in Vietnam based on FSIs

- ***Asset scale***

In 2013, there were 4 commercial banks with asset scale accounting more than 10 billion USD. However, by the end of 2018, there had been 11 banks achieving total asset with 10 billion USD.

Unit: Billion dong



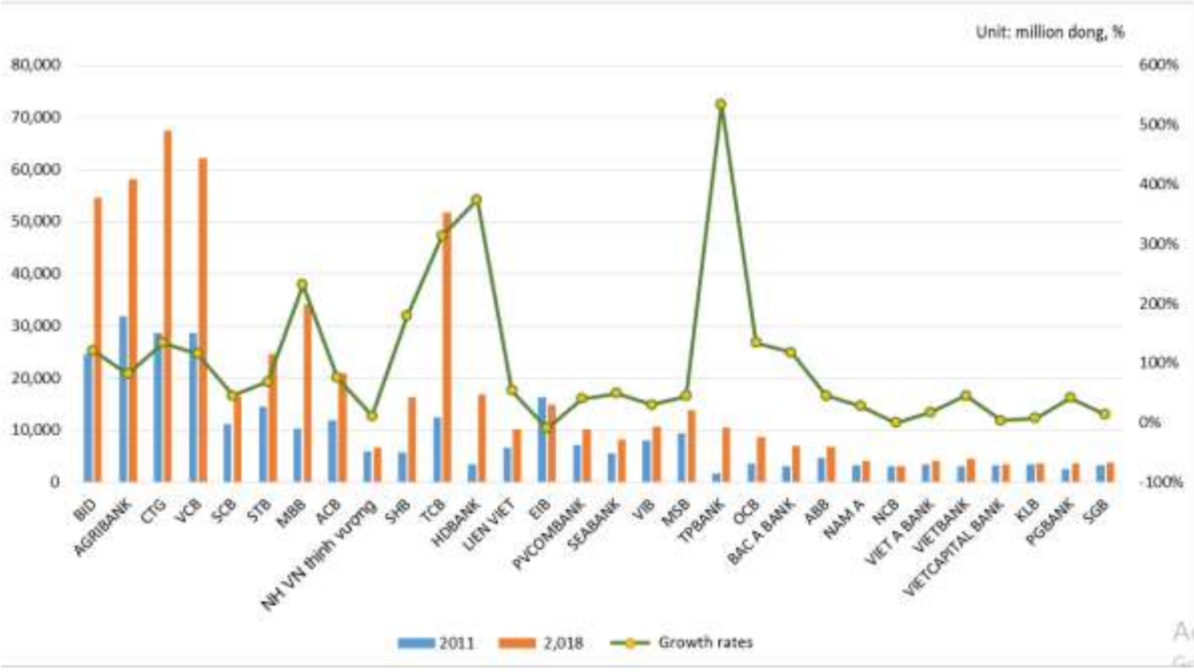
Source: Annual reports by Vietnamese commercial banks

Figure 1: Total asset of commercial banks in Vietnam

Most of these banks were those with great influence due to their market share accounting for 2/3 of deposit market and mobilization. In the past 5 years, the scale of credit organizations in Vietnam has been doubled. Total assets of Vietnam's credit organizations reached approximately 11 quadrillion at the end of 2018. Total asset of 30 banks at the end of 2018 was calculated at nearly 7,62 quadrillion, which increased by 10,35% compared with that number in the late of 2017.

➢ ***Equity capital scale***

This is the condition and the basis for a commercial bank to identify its operating scale. Despite its small or even extremely small proportion of total capital, equity capital is compared with a "mattress", which can prevent risks for operating activities of the banks. Equity capital also contributes to CAR, especially when the application of Basel II is approaching. Banks applying regulations of CAR at pre-deadline time would be prioritized by the State bank for their credit growth in 2020. Therefore, pressure on capital increase appears in commercial banks to successfully increase their capital so that they can achieve Basel II prior to the deadline.



Source: Annual reports by Vietnamese commercial banks

Figure 2: Equity capital scale of commercial banks in Vietnam

While total assets and equity capital of commercial banks have considerably grown up, the charter capital has slightly increased. By the end of 2018, charter capital of credit organizations in general had been supplemented with 152 trillion, of which, the number of charter capital of commercial banks accounted for the highest proportion with the best growth rate of 38% compared with that number at the end of 2013.

➢ *Capital mobilization scale*

In the past time, capital mobilizing activity of commercial banks in Vietnam has obtained considerable successes. Particularly, capital mobilization scale has experienced an upward trend through the years.

Table 1: Capital mobilization scale of commercial banks in Vietnam

Unit: Billion dong

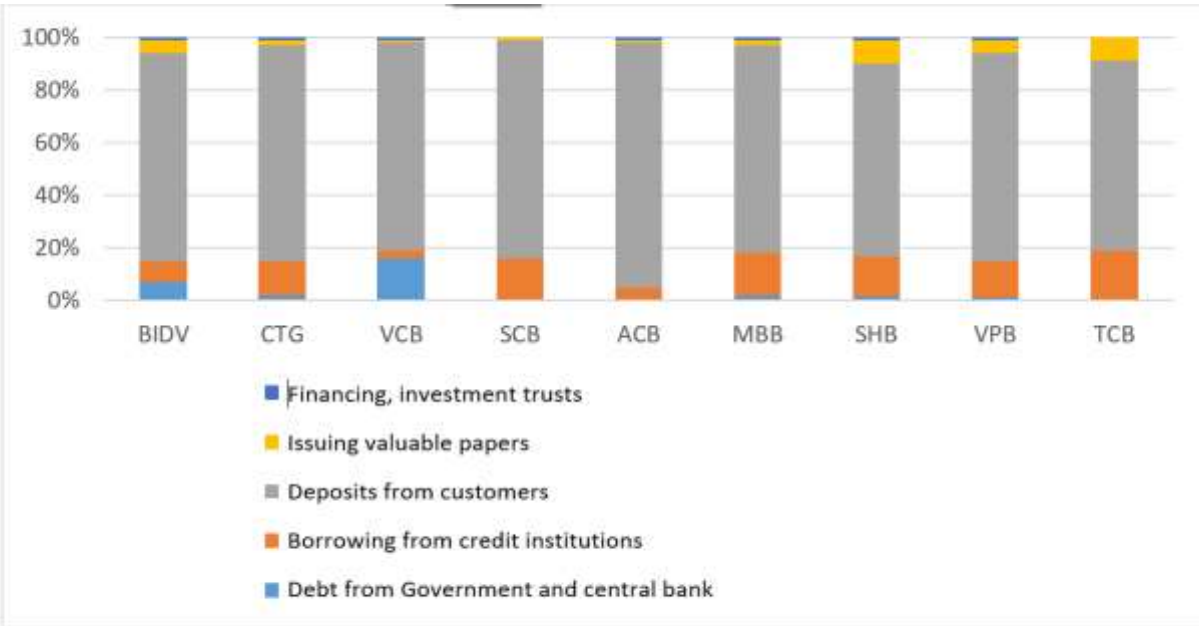
No	Bank's name	2015	2016	2017	2018
1	Sacombank	259.428	302.806	325.461	370.136
2	SHB	127.353	181.153	210.921	243.420
3	VP Bank	152.131	172.438	236.781	277.851
4	SGB	14.088	15.202	17.622	16.634
5	SCB	225.978	295.152	353.327	418.338

6	VIB	75.698	96.774	114.372	128.499
7	Techcombank	142.240	173.449	175.435	207.678
8	BIDV	790.580	-	1.106.517	1.226.454
9	Vietcombank	503.642	600.738	726.734	823.390
10	Vietinbank	711.785	862.000	837.180	825.216
11	ACB	175.000	207.000	241.000	270.000

Source: Annual reports by Vietnamese commercial banks

The average capital mobilization structure of commercial banks in Vietnam in the period of 2015 - 2018 is illustrated in figure 3 below:

Unit: %



Source: Annual reports by Vietnamese commercial banks

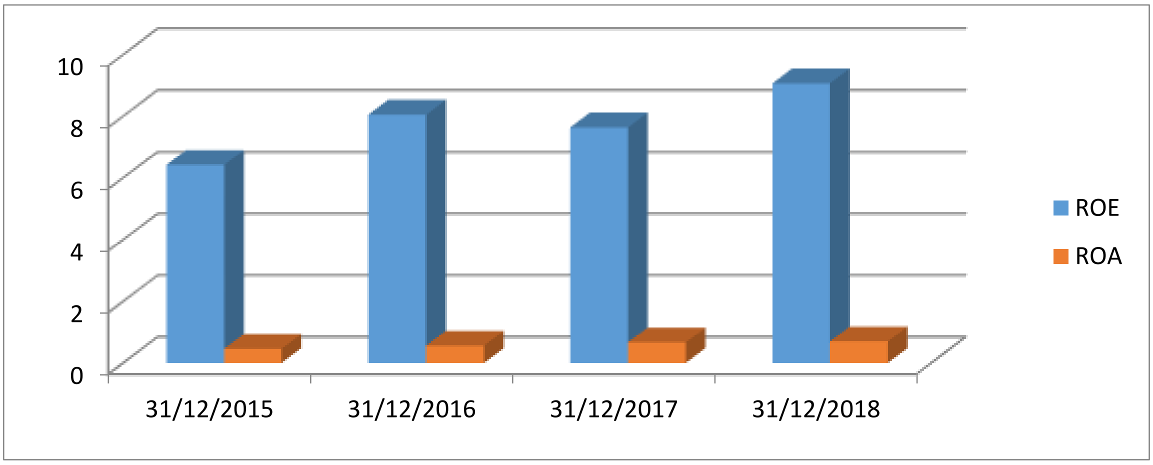
Figure 3: Capital mobilization structure of commercial banks in Vietnam

The above data reveals that capital mobilization source in the period of 2015 - 2018 concentrated mostly on customers' deposit. The second big capital source was loans from credit organizations and issue of commercial papers.

➢ ***Profitability***

Profitability is an important factor noticed by both managers and investors because when the banks attain high profit, they can keep their capital source, attract investment and increase market share.

Unit: %



Source: Annual report by the State bank of Vietnam

Figure 4: ROA and ROE of commercial banks in Vietnam

Two criteria to evaluate profitability of the banks are so-called ROE and ROA. The number of ROA and ROE depends on banks' scale, risks and seasonal business period. ROA of joint stock commercial banks (0,76%) was higher than that of the state commercial banks (0,62%), that number of foreign joint-venture banks was 0,88%. ROA of the whole banking system in four recent years has been more stable, which increased from 0,46% in 2015 to 0,7% in 2018.

Table 2: ROA, ROE of certain commercial banks in Vietnam

Unit: %

Bank's name	ROA				ROE			
	2015	**2016**	**2017**	**2018**	**2015**	**2016**	**2017**	**2018**
STB	0,27	0,03	0,29	0,46	3,23	0,40	4,40	7,48
SHB	0,43	0,42	0,59	0,55	7,32	7,46	11,03	10,66
VPB	1,34	1,86	2,54	2,45	24,38	28,26	27,48	22,83
SGB	0,26	0,76	0,27	0,20	1,25	4,04	1,58	1,22
SCB	0,03	0,02	0,03	0,03	0,54	0,49	0,78	0,95
VIB	0,63	0,59	0,99	1,67	6,09	6,47	12,83	22,55
TCB	0,83	1,47	2,55	2,87	9,73	17,47	27,71	21,52
MBB	1,18	1,20	1,21	1,81	12,5	11,91	12,93	20,10
BID	0,84	0,66	0,61	0,59	16,97	14,62	15,34	15,08
VCB	0,85	0,93	1	1,39	12,03	14,70	18,10	25,18
CTG	0,79	0,78	0,73	0,48	10,28	11,64	12,03	8,30
ACB	0,54	0,61	0,82	1,67	8,17	9,87	14,08	27,73

Source: Annual reports by Vietnamese commercial banks

It can be seen that different banks experienced different growth rate of total assets and profit. Banks with small and medium scale obtained high ROA whereas public-owned banks maintained relatively low ROA compared with the average number of the sector. The rest banks mainly achieved the rate between 0,5% and below 1%. The group of banks with effective performance, creating great profit obtained ROA from 1% to 2%. However, it is noticeable for the banks that activities with higher profit will be in parallel with higher risks.

Especially, ROE was contrastive to ROA. Also, medium and large scale banks had higher ROE than small scale ones. Based on the Circular No. 41/2016/TT-NHNN, banks should keep increasing equity capital to satisfy CAR in 2018. However, the growth rate of equity capital of the banks was not the same as post-tax profit growth rate. Therefore, ROE was still at high rate. Noticeably, in three years from 2016 to 2018, huge banks shared the same trend of decreasing ROE. At the same time, certain ones with small capitalization grew up gradually and even at sudden number.

Although all the banks tried to achieve positive profit, their effectiveness of asset and capital source exploration was differentiated. In particular, 3 banks with state capital namely BIDV, VietinBank and Vietcombank were those with the biggest assets and equity capital. However, they were not those with the most effectiveness exploration of asset and equity capital. Indicators in the report showed that there were private-owned commercial banks performing great effectiveness of asset usage.

➢ *Outstanding debt, non-performing loan*

Table 3: Non-performing loan ratio of commercial banks in Vietnam

Unit: %

Bank’s name		Non-performing loan ratio			
		2015	2016	2017	2018
1	STB	1,86	6,91	4,67	2,11
2	SHB	1,72	1,88	1,90	2,4
3	VPB	2,69	2,91	3,39	3,51
4	SGB			2,98	2,20
5	EIB	186	2,95	2,27	1,84
6	VIB		2,58	2,64	2,52
7	TCB	1,67	1,58	1,61	1,75
8	MBB	1,61	1,32	1,20	1,32
9	BID	1,68	1,99	1,62	1,69
10	VCB	1,84	1,50	1,14	0,98
11	CTG	0,92	1,02	1,14	1,56
12	ACB	1,32	0,88	0,70	0,73

Source: Annual reports by Vietnamese commercial banks

In 2015, the rate of non-performing loan of banking system decreased at nearly 3% of debit balance. Particularly, 60% of non-performing loan was tackled by cash collection, disposition of property and increase in loss provision. In 2016, the rate of non-performing loan experienced an upward trend compared with that number in the late of 2015. Total non-performing loan grew up to more than 14.876 billion, equal to an increase by 43% compared with 2015. In 2017, the whole banking system significantly decreased the rate of non-performing loan from 11,9% to about 9,5% because potential non-performing loan was restructured, receivables were hard to be collected and corporate bonds decreased. Financial reports in 2017 of 13 huge and average banks in Vietnam showed that total non-performing loan was at 60.533 billion, slightly increasing by 0,7% compared with early months of the same year. In 2018, generally, non-performing loan was handled with dramatically decreasing react. Based on the report by the State Bank, by the end of December, 2018, all credit organizations resolved 149,22 trillion, the rate of non-performing loans within credit organizations was 1,89%, showing a decrease compared with 2,46% at the end of 2016 and 1,99% at the end of 2017.

➢ *Capital adequacy ratio (CAR)*

During two continuous years, 2015-2016, average number of CAR of banking system in Vietnam was greater than 9%, which followed the regulation. This number was obviously categorized among small and large scale banks. The former ones had higher CAR, whereas the latter one had smaller CAR. In 2016, it can be seen that there was no increase in CAR. However, banks' profit grew up positively. According to the report by the State bank, CAR of Vietnam's banking system was 12,84% in 2016, which was not much different from 2015 with 13%. Also, joint-venture and foreign banks had CAR at 33,2%, that number of state-owned commercial banks was 9,92%, and joint stock commercial banks was 11,8%.

Table 4: Capital adequacy ratio of certain commercial banks in Vietnam

(Unit: %)

No	Bank's name	2015	2016	2017	2018
1	Sacombank	10,96	9,61	11,30	11,9
2	SHB	11,40	13	13,00	11,88
3	VP Bank	12,20	13,20	14,60	12,3
4	SGB	15,23	15,72	14,07	14,03
5	VIB	18,04	13,25	13,07	12,9
6	TCB	14,74	6,18	12,73	14,3
7	MB	12,85	12,15	10,99	10,9
8	BIDV	9,81	9,50	10,90	10,3
9	Vietcombank	11,04	11,13	8,80	12,1
10	ACB	12,80	13,19	11,49	12,81

Source: Annual report by the State bank of Vietnam

Data by the State bank showed that at the end of January 2018, CAR of the banking system was 12,37%; this number on February 2019 was 11,8%, of which, CAR of state-owned commercial banks was 9,42% and that of joint stock commercial banks was 10,76%. Compared with the findings at the end of 2018, CAR of the whole system and that of two above groups decreased at the end of February 2019. Consolidation of reports by 20 commercial banks presented in annual meetings in 2019 demonstrated that there were 16/20 banks publishing CAR. Also, there were certain banks evaluating that their CAR in 2018 improved compared with the previous year. By the end of December 2018, CAR of all the banks had decreased compared with early months of the year. In particular, the lowest number belonged to banks with the state capital (9.52%) and joint stock ones (11.24%). In regard of joint stock commercial banks, pressure on capital increase was rather slight when they were capable of keeping post-tax profit. At the same time, CAR within these banks was at safer level than the state-owned ones.

3.2. Status of financial stability of Vietnam's commercial banks based on Z- score

The above analysis shows the status of financial stability of Vietnam's banking system through FSIs indicators including total assets, total capital source, equity capital scale, CAR, indicators reflecting operating competency like ROA, ROE and those reflecting possible risks such as non-performing loan, outstanding debt. Based on these findings, the author calculated data to show the average index for the whole banking system, which also includes Z-score.

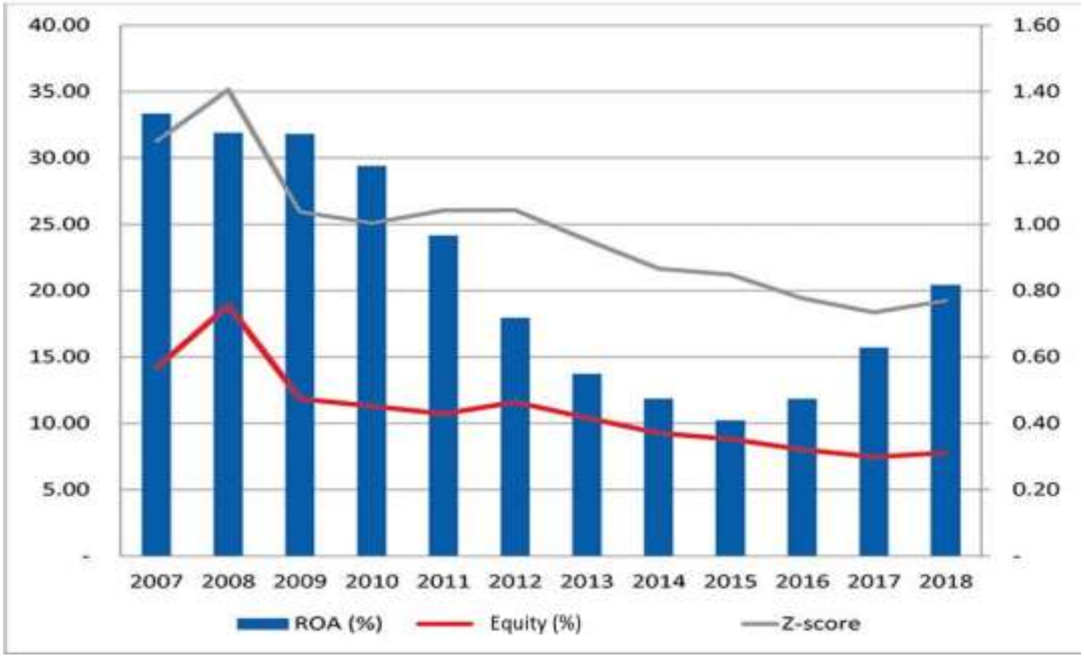
The statistical report is presented in table 5. It is obvious that operating performance, credit risks and capital adequacy of Vietnam's commercial banks have experienced great gaps with considerable differences between the extremes of measurement as well as huge deviation.

Table 5: Distribution value of indicators for the evaluation of stability of Vietnam's commercial banks

Indicators	Average	Standard deviation	Min Value	Max Value
ROA (%)	0,82	0,77	-5,51	5,95
Equity ratio (%)	10,75	7,42	3,25	80,83
Z-score	24,27	12,96	0,59	93,21
Provisioning rate (%)	1,27	0,62	0,00	3,97
NPLs ratio (%)	2,27	1,48	0,08	11,40

Source: Consolidation and calculation from annual reports by Vietnamese commercial banks

The above data states that ROA fluctuates from -5,51% to 5,95%, with the mean of 0,82%, showing deviation in terms of performance of Vietnam's commercial banks. The relatively low mean is appropriate with the status of initial development stage of banking system in Vietnam.



Source: Consolidation and calculation from annual reports by Vietnamese commercial banks

Figure 5. Financial stability of Vietnam's banking system based on Z-score

This figure reveals that Z-score dramatically decreased in 2008, when there was global financial crisis. This was partially distracted by the decline in ROA as analyzed above, which was an important part in the formula to calculate Z-score. However, it can be seen that the increase in benefit in 2015 was inadequate to create parallel rise in Z-score. This demonstrates that the increase in profit could not compensate for the poor capital buffer of the banks in this period. At the same time, although Vietnam's commercial banks were required to increase capital, especially in the context of Basel-based capital advocacy establishment; obstacles from too fast growth in credit and decreasing credit quality put pressure on the banks' capital buffer. Furthermore, the rise in capital within State-owned commercial banks was largely connected with the Government's managing direction and control. Therefore, it is possible that the continuously decreasing Z-score from 2008 better reflected the status of capital advocacy of Vietnam's commercial banks than fluctuations of comparative profit.

4. Discussion and Conclusion

Evaluation on stability of Vietnam's commercial banks based on financial stability indicator and Z- score.

Asset and equity capital: The equity capital to total asset ratio calculated for 25 commercial banks showed that the average number in 2017 and 2018 was 8,29%. Among these banks, there were 15 ones owning higher index than the average number of the group. The data stated that the equity to total asset ratio of three among four Big4 banks (Vietcombank, BIDV, Vietinbank) was smaller than the average number of the group. This reveals that huge banks were under the trend of using financial leverage with higher rate than equity capital. The reason for this was the banks' capability of attracting big deposit. Also, equity-to-assets ratio reflected a highly potential risk related to liquidity of the banks. In fact, the equity is the mattress to minimize shocks causing risks for the banks. So, if it is too weak compared with total capital source, the banks would find it difficult to satisfy liquidity. Despite their small equity-to-assets ratio, huge banks have good reputation, large capital scale, which would help them in stable performance and competency to confront strong economic changes. However, in regard of other banks, if the above ratio is too small, it would cause an alarming situation for the stability and development of Vietnam's commercial banking system.

Deposit**:** The ratio of total deposit to total outstanding balance for all the surveyed banks was 125,47%, of which, 15 banks achieved higher number than the average of the group. If compared with that ratio for Philippines and Indonesia (164,57% and 144,72% respectively), it can be seen that the above number for Vietnam's commercial banks was much lower than countries in the same region. This means that capital mobilized from deposit was not strong and huge enough to satisfy lending demand and payment of Vietnam's banks, which would result in instability in the operation of banking system in the case of unexpected affairs as well as impact on liquidity assurance of the banks.

Profitability**:** mean of ROA was calculated at 0,82%, which was lower than Philippines (1,28%) and Indonesia (1,87%). This means that ROA of commercial banks in Vietnam was weaker than other countries in the same region. There were 18 out of 25 surveyed banks having greater ROA than the average number of the group. In regard of ROE, with 15,80%, ROE of Vietnam was higher than Philippines 12,50%, although it was lower than that of Indonesia 17,51%. An insight into the banking system shows that there were 12 banks owning ROE higher than the average number of the group. This was compatible with banks in the research because when most huge commercial banks in Vietnam mobilized large loan, the ratio of equity to capital would be small, resulting in huge ROE.

Non-performing loans*:* The average ratio of non-performing loans to total debit balance was 2,27%, which was lower than Indonesia 2,57% and Philippines 3,56%. So, it can be stated that the status of credit risk and non-performing loans in Vietnam's commercial banking system was lower than that of other countries in the region. The fact that most large banks owning higher non-performing loans than the average rate revealed poor credit quality. This might be caused by pressure from credit growth, which led to poor concentration on project approval, review and returning capability of the borrowers.

***Z-score**:* Mean Z-score 24,27 of Vietnam's commercial banks was at compatible rate with the average number of more than 1.000 commercial banks in 29 new emerging countries in the world. In particular, that number of banks in Middle and Eastern Europe, Latin America and Asia was 24,61 in the period of 2000-2012 (Chen et, al., 2017). However, when compared with banks in developed countries in European area, Z-score of commercial banks in Vietnam was lower. Specifically, Z-score of 20 developing countries in the Europe was 28,22 in the period of 2000–2015 (Brana et, al., 2019). Previous studies stated that banking system in developing countries was highly stable. At the same time, in new emerging and developing economies, the stability of the banks was demonstrated to be lower.

Statistics indicated that based in Z-score, the decline in capital buffer would probably be the most important influencing factor on the stability of Vietnam's commercial banks. In other words, if the banks were incapable of sponsoring for their supplementary instruments like CAR assurance, they would have difficulties in providing possible responses to tackle with any financial obstacles. By contrast, post-tax profit of the banks would not contribute much to the reflection of financial instability. At the same time, risks in lending activities might cause damages for stability of the banking system, which would have huge delay.

5. References

1. Altman, E. (1968), "*Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy",* Journal of Finance, 23, 589-609.

2. *Annual report of Vietnamese commercial banks*

3. *Annual Report of the State Bank of Vietnam*

4. *Crockett, A. (1997), "Why is financial stability a goal of public policy?" Economic Review-Federal Reserve Bank of Kansas City, 82, 5–22.*

5. International Monetary Fund (2006), *"Financial Soundness Indicators: Compilation Guide*".

6. Borio (2003), *"Towards a macro prudential framework for financial supervision and regulation?",* BIS Working Papers No 128.

7. *European Central Bank (2005), "Assessing financial stability: conceptual boundaries and challenges".*

8. European Central Bank (2007), "Progress towards a framework for financial stability assessment", Istanbul, 28 June.

9. Adam Geršl & Jaroslav Heřmánek (2008), "Indicators of financial system stability: towards an aggregate financial stability indicator?", Prague Economic Papers, Prague University of Economics and Business, vol. 2008(2), pages 127-142.

10. Altman and Hotchkiss (2006), "Corporate Financial Distress and Bankruptcy: Predict and Avoid Bankruptcy, Analyse and Invest in Distressed Debt".

11. *Roy, A. D. (1952), "Safety first and the folding of assets. Econometric", 20(3), 431-449.*

12. *Chiaramonte, L., Liu, H., Poli, F., & Zhou, M. (2016), "How accurately can Z-score predict bank failure", Financial Markets, Institutions & Instruments, 25(5), 333–360.*

DEVELOPMENT SUPPLY CHAIN OF SAFE FOOD IN HANOI

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Abstract

The issue of safe food has been receiving great attention in countries like Vietnam and in Hanoi specifically. To ensure food safety, the supply chain needs to be analysed and improved. The result of qualitative research has shown that most supply chains providing safe poultry and vegetable in Hanoi have very loose relationships and most participating members do not care about how the safety of their food is ensured throughout the chain. This research calls for immediate changes in the behavior of participating members of the chain, in supply chain management and in policies as well.

Keywords: *Supply chain, supply chain management, safe food.*

1. Introduction

Food consumption has always been important in the lives of Vietnamese people. The strong urbanization process has led to an increasing demand for food in both quantity and quality in the large urban markets. Food quality is directly related to human health. The consumption of unsafe food not only negatively affects the health of the people but also the development of the race and the future of the whole Vietnamese nation, causing frustration for the whole society. The issue of ensuring safe food supply for consumers, especially in big cities, is gathering more and more attention in Vietnam. The supply chain of food items is a system of network of livestock establishments, processing facilities, food distributors and the final consumer. Therefore, research in developing supply chain models linking the stages of production, processing, distribution, circulation, consumption by industry, group or food item with many participants, in order to ensure the supply of safe food for the people is an urgent requirement of Vietnam today. With safe food supply model, food hygiene and safety will be controlled from the origin and throughout the entire circulation process from farms to the consumer's table.

Hanoi with a population of about 9 million in 2020, in which the urban population accounts for a large proportion, this is a large market for food products. The reality of the Hanoi market is that there are many types of food that are not safe and hygienic while they are an important commodity for Hanoi consumers. Businesses providing safe food products are facing many difficulties because they have not been able to convince consumers to buy and use them. There are also supermarkets and retail chains such as Big Green, Big C, BacTom, etc being interested in organizing the supply chain of products sold in their system.

In fact, the supply chains of safe food for the Hanoi market in the direction of linkage are few and their activities are very limited. In addition, state management agencies do not have good mechanisms and policies to manage the food market, control food hygiene and safety, and protect people's health and the living environment. How to develop effective safe food supply chains for the Hanoi market? How to change the method of buying and selling food in the direction of modern civilization and safety? How to organize and manage the entire food production and distribution process according to safety standards and achieve business efficiency? Which safe food supply chain model should be developed for the Hanoi market? The above are pressing questions for safe food manufacturers and regulators. For the above reasons, the research aims to develop safe food supply chains for the Hanoi market. In the results of this study, the authors focus on presenting two main chains: safe poultry chain and safe vegetable chain.

2. Method

- Approach: The study uses a supply chain approach in the analysis of safe food supply chains for the Hanoi market. The study will use this approach to map the safe food supply chain, describe the activities and functions of the chain, and describe the actors involved in the chain from producers, processors, distributors. distribution, to the final consumer. Comprehensive study of actors involved in the safe food supply chain across all aspects of business operations wil be conducted. The research comprehensively analyzes the theoretical basis of the safe food supply chain for markets to provide objective perspectives, principles and steps in the process of safe food supply chain management.

The research project of safe food supply chain models has been successful at home and abroad to draw lessons for safe food supply chain management for the Hanoi market. The thesis researches the issue of safe food supply chain management from the point of view of system administration and in relation to other activities of business entities. In particular, the topic also studies the role of state management, the legal system in the management of safe food supply chains for the Hanoi market. With the above scientific approach, the research will propose specific orientations and solutions for safe food supply chain management for Hanoi market in particular and Vietnamese cities in general. The proposed solutions include both short-term and long-term ones to ensure high applicability in practice.

- Information/data to be used in the research: Primary and secondary information

- Data collection and analysis method:

+ Empirical survey: The project is expected to investigate and survey groups of members in the supply chain of safe poultry and safe vegetables for Hanoi market, including: Group of households, farms , enterprises; Group of organizations and household businesses, wholesale and retail of safe vegetables; The final consumer is the household,...

+ The topic investigates the above groups to collect information about the supply chain such as behavioral characteristics of actors participating in the chain; scale, structure and characteristics of customers consuming safe poultry and safe vegetables for Hanoi market,...

+ In-depth interview: the topic conducts in-depth interviews with state management agencies, businesses, and households participating in the supply chain to collect qualitative information about the supply chain.

+ Group discussion: conducted with a group of retailers (each group of 15 retailers) and consumers (each group of 15 consumers) to collect qualitative information about their ability to participate in supply chain, job allocation in the chain, governance, innovation and upgrading capabilities in the chain.

3. Results and discussion

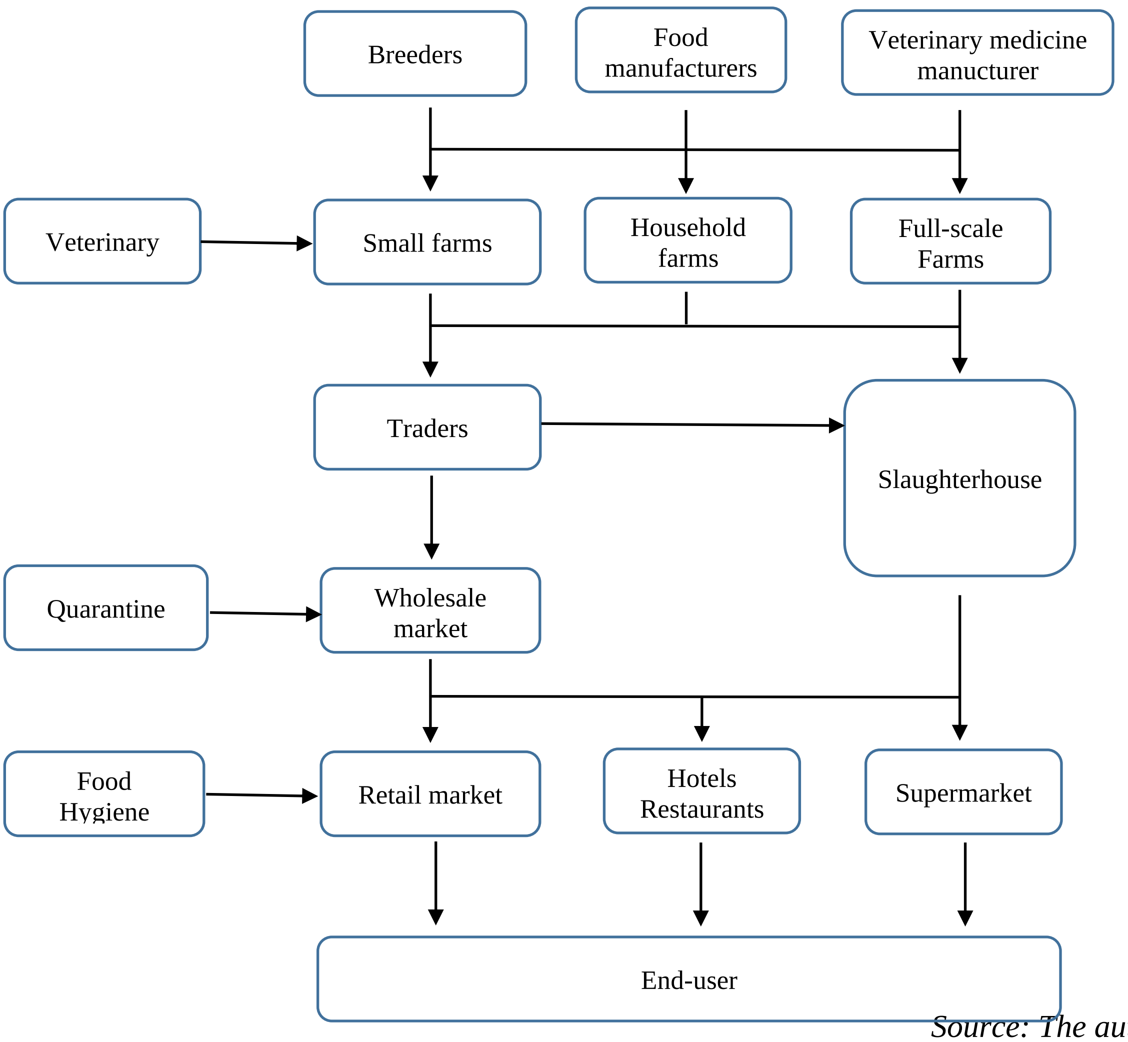
3.1 Current state of poultry product supply chains for Hanoi market

3.1.1 Current state of poultry product supply chain models

It can be seen that, to serve the inner-city market of Hanoi with nearly 9 million people is a network system of many complex poultry supply chains with many different intermediaries and many different types of poultry, participating business organizations and poultry supply chains intertwine and integrate with other food supply chains in the market. Most poultry supply chains are small in scale, with a narrow market scope. Besides the traditional poultry supply chain system, modern poultry supply chains have also been formed (although the number is still small).

A survey of poultry supply chain models serving the current inner-city market in Hanoi shows that most of the poultry supply chains operate in a pure market relationship model (meeting 80% of market demand).). Only about 20% of poultry products reach consumers' tables through organized supply chains, mainly supermarkets and large processing enterprises. The results of the survey of chain participants from poultry farmers to poultry distribution participants show that the chains are organized and governed in the style of a pure market relationship with many organizations/enterprises and participating individuals have formed a complex supply network in the Hanoi market. Poultry from raising households through traders is concentrated to sell to wholesalers at wholesale markets and from there through these poultry business households for further distribution to retailers and end consumers. and. With tens of thousands of livestock from households in the suburbs and neighboring provinces, hundreds of collectors, hundreds of wholesalers at wholesale markets and thousands of retail poultry shops in markets throughout the inner city. Hanoi has made the poultry supply network quite complicated. According to statistics, there are 1,042 markets in Hanoi's inner city; 417 supermarkets and fresh food stores; about 4,200 establishments consuming poultry meat products such as restaurants, hotels and collective kitchens. As a result, the poultry supply chain for Hanoi often has to go through many intermediaries, leading to increased transportation costs and high selling prices. Moreover, because there are many intermediaries and many members are involved in each stage of the supply chain, it is difficult to trace the origin of poultry and it is difficult to control food safety due to the steps in the chain. Therefore, the quality and safety of poultry products sold to Hanoi consumers are not guaranteed. Through the survey of large poultry raising areas such as Yen The, Ba Vi, Chuong My, the farming households all reflect that the consumption of products is completely dependent on traders. Traders buy according to their consumption capacity and market price at the time, with no commitment to livestock producers. On the contrary, livestock households do not have commitments to sell poultry to specific traders. The form of a product sales contract and a mechanism to ensure contract performance are not yet available. Traders depend on the orders of wholesalers at the wholesale market. However, the binding between traders and wholesalers is also loose and based on the commitment of each deal. Linkages between breeders, traders, wholesalers and retailers have not yet been formed. In the traditional poultry supply chains on the Hanoi market, the business relationship is often through buy-and-sell transactions between two adjacent members. Traders collect and buy poultry from farms and sell them to wholesalers at wholesale markets. Farmers only know about traders who buy and sell and do not care how their poultry continues their journey to consumers' tables. Breeders, traders, wholesalers and retailers participate in transactions only to seek direct profits, they are not interested in the operation of the entire chain. Therefore, the division of work and benefits between members in the chain is often not reasonable or fair. The operation of the chain is expressed through free transactions between independent business organizations/individuals who do not have a leadership role in the activities of all stages in the supply chain. In the current poultry supply chain structure, there are many competitive acts both horizontally and vertically, including conflicting acts. As a result, the chain of operations is inefficient, there are many conflicts that take place, breaking the existing business relationship, such as disagreements about operating locations, prices, delivery conditions, quantity and product quality, etc. When there are conflicts, chain members are willing to abandon the current business relationship in search of another (other supply chain) relationship that is more profitable, increasing circulation costs due to the disruption from overlapping functional operations in the chain.

Figure 1: Poultry supply chain for Hanoi inner city



Source: The author

Due to the large number of livestock raising households, small-scale collectors and retailers, the transaction relationships in the chain are very complicated, sometimes overlapping. The lack of system-wide management has led chain members to pursue short-term profits and their own goals, and has also given rise to negative issues in food safety and hygiene such as the use of banned substances in raising and preserving poultry meat causing unsafe food.

3.1.2. Current state of relationships and linkage mechanisms among members in the poultry product supply chain for the Hanoi market

As pointed out above, the food supply chains for the inner city market in Hanoi are mainly chains according to traditional market relations, so the linkage between chain members is very loose. Business transactions are mainly on a case-by-case basis, with little commitment to maintaining a long-term business relationship. The mechanism to create the link is mainly based on the credibility of the business person. Sanctions to create a solid guarantee of purchase and sale relationships between organizations participating in the supply chain are incomplete and not yet effective.

Relationships among members in traditional supply chains

First, the relationship between farms and livestock households with customers who are traders or slaughterhouses. Breeders sell products to these customers on a one-to-one basis. Traders buy poultry from households and then sell it to wholesalers at wholesale markets, accounting for the largest proportion (95%), in addition, poultry slaughterhouses also buy directly from households. Poultry household farms in the suburbs of Hanoi and neighboring provinces are mostly small-scale ones. Poultry sold to traders usually does not have a legal contract. Quantity and price agreements are based on acquaintance and trust between individuals, payment is mainly in cash.

Second, the relationship between traders and wholesalers at wholesale markets. These links are relatively loose. Wholesalers at the wholesale market can import goods from many different traders. Although, traders also have prior contacts with wholesalers regarding the number of batches of poultry. However, the wholesaler's commitment on the quantity of imported goods is usually on a per shipment basis, with no long-term commitments. Wholesalers easily switch to import goods from new traders if they see better prices and supply conditions.

Third, the relationship between wholesalers at wholesale markets, poultry slaughterhouses, retail establishments, and processing facilities. The link and coordination between the members of the chain at the last stage before the poultry reaches the consumer's table is less binding. As mentioned above, consumers have the habit of buying fresh poultry and poultry products. This leads Hanoi people to buy poultry mainly from small retailers in traditional markets and poultry retail business households buy poultry from wholesalers for slaughter, preliminary processing, and sale. for consumers. Due to the small daily consumption, retailers do not usually rely on long-term, secure supply contracts.

A general assessment of the limitations in the linkage relationship between members of the traditional poultry supply chains for the Hanoi market can be seen:

First, the lack of a leading link in the chain. Except for the chains of large companies and traditional supply chains, the cooperation is mostly spontaneous and usually occurs in only a few stages of the chain. There has been no cooperation from the stage of business planning of each chain member, only stopping at the stage of direct purchase and sale of poultry products.

Second, the degree of linkage between the stages in the chain is often loose, the level of commitment is very low, the cooperation and consistent implementation of commitments *among the chain members are not high, resulting in commitment terminating*. The act of mixing poultry products of unknown origin into the supply of goods delivered to buyers is relatively common. Trust among chain members on the stability of long-term business relationships is low, so they often conduct business according to short-term benefit calculations.

Third, in the chain, there are many intermediary stages that do not significantly contribute to the real value of the chain (5%) but account for a large share of economic benefits, accounting for 19-21% of the chain's profits, compared to 4.5 – 8.5 % of the farmers (according to the survey results of the Department of Livestock Production).

Fourth, it is not possible to create a system of organizations supporting the poultry trading activities of the chain members effectively, for example, to coordinate in transportation, to share information on the consumption market, to buy input materials of the livestock industry, and to coordinate to increase the economic value of by-products, etc.

Fifth, business transactions are often not planned in advance. The majority of enterprises and organizations participating in the poultry supply chain admit that they make business transaction decisions mainly based on habit rather than on scientific research, and that the transaction process is an iterative one. Iterative, in which later decisions are based on discoveries and experience drawn from previous (possibly erroneous) decisions and of other firms.

Sixth, the lack of respect for legal contracts in the course of business transactions is quite common in poultry supply chains for Hanoi, showing the low level of effectiveness of Vietnam's legal system. In addition, the business culture of entrepreneurs is oriented towards free transactions without regard to legal issues. Confidence in the protection of the law for the rights and responsibilities of each party in business transactions is still low.

Seventh, the chain members are not interested in cooperation links in the chain, making them unable to ensure food hygiene and safety througout the whole chain. Loss of food safety and hygiene can occur in every stage of the poultry supply chain. The participating members do not see their responsibility to ensure food hygiene and safety for the final product. The organization of business transactions is fragmented in a random fashion, and management is based on experience, not knowledge. Additionally, poultry supply chain participation is very low. Safe food traders in general and safe poultry in particular are very vulnerable to changes in the macro environment, bankruptcy or downsizing of their businesses.

3.2. Situation of safe vegetable supply chain for inner city of Hanoi

Through the survey, the farmer households all reflected the reality of consuming safe vegetables mainly through retail stores and supermarkets in Hanoi. These retailers buy according to their consumption capacity and market prices at the time, with no long-term commitments. This relationship is relatively loose based on the commitment of each deal. In traditional supply chains, there is no link between farmers, wholesalers and retailers. Business relations are direct transactions for profit, the parties are not interested in the operation of the entire chain. The lack of system-wide management has led chain members to pursue short-term profits and their own goals, which has also generated negative effects in ensuring food hygiene and safety. The analysis shows that safe rations cannot be supplied to the market through the current free market mechanism supply system. Safe vegetable must be supplied to customers along proactively organized and managed supply chains that link from farmer to retailer.

A relatively typical model of a safe vegetable supply chain for the Hanoi market is the *Dominant model of Supply Chain Management*. Dominant supply chain management occurs when smallholder farmers are dominated by large distributors/buyers who have the power to control all stages of the supply chain. Organizing and operating these chains is a large retailer with a chain of safe food stores that actively places orders, commits to purchasing and consuming safe agricultural products for smallholder farmers in production areas. For example, Hon Dat State Company Limited, with a chain of 22 food stores under the brand name Bac Tom in the inner city of Hanoi, has established the supply of agricultural products from hundreds of small farmers in safe production areas. with certain commitments. The company has staffs to supervise the agricultural production of farmers to ensure the correct safe production process and that the agricultural products meet the standards set by the company.

A number of large retailers have been implementing supply chains that are managed in the style of enterprises signing contracts to ensure the supply of seeds and agricultural materials to farmers, and at the same time cover all safe agricultural products. . For example, Vietnam Joint Stock Company has invested quite successfully with the 3F business model from feed production to livestock farms and retail stores. Some other supply chains are organized by large supermarkets such as Vinmart and Big C import safe vegetables regularly from a number of large contracted purchasing centers.

However, the reality is that many safe vegetable supply chains operate inefficiently, and some chains even fail. The relationship between agricultural farmers and consumer enterprises is still loose. The fact that the retail company organizing the chain has not been able to manage the entire operation of the chain, leading to the failure to ensure the quality standards of safe vegetables and not to create the trust of customers. Many chains have not yet been able to sign contracts between retailers and farmers. If there is a contract, contract enforcement is not serious. Some contracts between purchasing focal points and supermarkets are not supervised to ensure compliance with the commitment to safe vegetable quality standards. In fact, even the safe food supply chains organized by large supermarkets have strict management processes but still allow contaminated food products or excessive antibiotic and banned substances residues. There are many reasons for the inefficient operation of the chains, including the inherent behavior of chain actors, which has led to difficulty in managing the supply chains of safe vegetables in the Hanoi market.

Figure 2: A typical model of a safe vegetable supply chain in Hanoi

Source: The author

4. Conclusion

To successfully develop safe food supply chains for the Hanoi market, it is necessary to have policies and solutions to accelerate the transformation and upgrade of existing supply chains and build organized supply chain models led by a large and powerful member. At the same time, it is necessary to improve the effectiveness of law enforcement in the field of ensuring food hygiene and safety, ensuring regulations and quality standards for products sold on the market.

Transforming and upgrading existing traditional supply chains with many limitations such as unsanitary products, low economic efficiency and low competitiveness is a process that requires strong and long-term efforts of many organizations and actors. Understanding the factors driving this process will help organizations participating in the safe food supply chain transform and upgrade themselves to achieve better business results and better meet consumer needs. Institutional actors such as authorities, functional agencies implementing food hygiene and safety monitoring also need to improve laws, processes, procedures and implementation methods to apply pressure to accelerate the transition process.

Therefore, there is a need for a fundamental and comprehensive change in the roles and activities of organizations and actors involved in the supply chain of safe cities for Vietnamese cities. The process of improving the strength and capacity of chain management of members will also be the process of shifting supply chain management from discrete market relationships, from unorganized to organized chains that have leadership members based on association with higher business efficiency, ensuring better food safety and hygiene. The legal system and the operation of food safety management agencies need to change in order to better supervise and create a fair business environment for all participants in the supply chain.

5. References

1. Barnes, Stuart J. (2001-12-28). "The mobile commerce value chain: analysis and future developments". *International Journal of Information Management*. 22 (2): 91–108.

2. Chopra và Meindl (2015), *Supply chain management: strategy, planning, and operation*, Pearson

3. Christopher (2005), *Logistics and supply chain management*, Financial Times Prentice Hall.

4. John T. Mentzer, William DeWitt, James S. Keebler (2001), “Defining supply chain management”, *Jounal of business logistics*, Vol.22, No. 2.

5. Jonathan Mitchell; Christopher Coles & Jodie Keane (December 2009). "Upgrading Along Value Chains: Strategies for Poverty Reduction in Latin America". *Comercio y Pobreza en Latino América (COPLA)*. Briefing Paper. London: Overseas Development Institute.

6. Kaplinsky, R., & Morris, M. (2001), “A Handbook for Value Chain Research, United Kingdom”, *Institute of Development Studies*, University of Sussex.

7. Gereffi, G., J. Humphrey, and T. Sturgeon (2005), “The Governance of Global Value Chain”, *Review of International Political Economy*, 12:1, February 2005: 78-104.

8. Harkin, T. (2004), “Economic Concentration and Structural Change in the Food and Agriculture Sector: Trends”, *Consequences and Policy Options*. Committee on Agriculture, Nutrition, and Forestry United States Senate.

9. M4P (2008). “Marking Value Chain Work Better for the Poor: A Toolbook for Practitioners of Value Chain Analysis”, *Marking Markets Work Better for the Poor project - UK Department for International Development.*

10. Martin, James (1995). *The Great Transition: Using the Seven Disciplines of Enterprise Engineering*. New York: AMACOM. ISBN 978-0-8144-0315-0., particularly the Con Edison example.

11. Reardon, T., J.M. Codron, L. Busch, J. Bingen and C. Harris (2001), “Global Change in Agrifood Grades and Standards: Agribusiness Strategic Responses in Developing Countries”, *International Food and Agribusiness Management Review*, Vol. 2, Number 3.

12. Pacific Food System Outlook 2005-06, A Revolution in Food Retailing, Pacific Economic Cooperation Council, November 2005

CULTURE WITH QUALITIES AND BEHAVIORS OF BUSINESS LEADERS – THE FOUNDATION OF SUSTAINABLE LEADERSHIP

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Abstract

Leaders are often envisioned as powerful and influential individuals in all fields from politics, society, and business. The leaders are always charismatic; hence, they can gather and inspire a large number of people. They can build powerful empires; assemble huge armies; build - operate - pass on sustainable businesses over the centuries... It is undoubtedly that sustainable leadership results are the desire achievements of all leaders.

This study was carried out with the aim to determine a theoretical model of the relationship between culture and leadership qualities – behavior. The authors believe this relationship is sustainable because culture is permanent. It is also the foundation for leaders to influence their employees to create a stable, engaged, and devoted workforce, thereby helping leaders attain sustainable leadership results.

Keywords: *leadership qualities, leadership behaviors, relationships, regional culture*

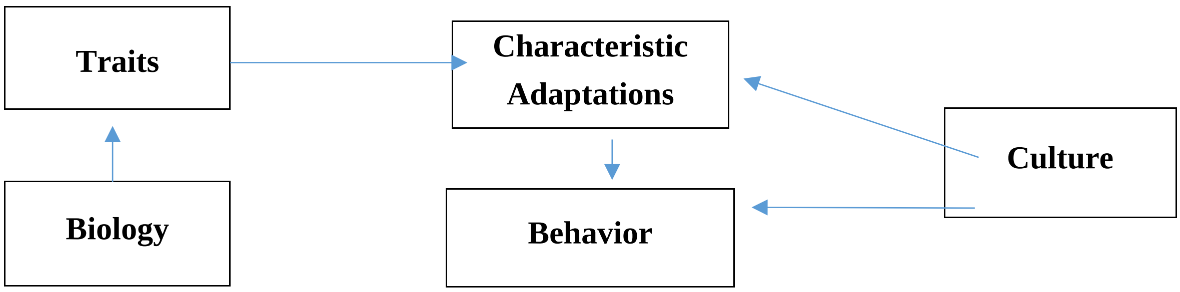
1. Introduction

The North Central region includes 6 provinces: Thanh Hoa, Nghe An, Ha Tinh, Quang Binh, Quang Tri, and Thua Thien Hue. According to Ngo Duc Thinh (2004), this cultural region can be divided into 3 sub-regions: Thanh Hoa, Nghe Tinh (including Nghe An and Ha Tinh), and Binh Tri Thien (including Quang Binh, Quang Tri, and Thua Thien Hue) cultural sub-regions. During the analyzing process, the author believed that Thanh Hoa's cultural sub-region is intermediate and transitional between the Northern and North Central cultural regions. Similarly, the culture of Thua Thien Hue in the Binh Tri Thien sub-region also bears the transition of the North Central Coast culture and the South Central as well as Southern culture. Hence, the Nghe Tinh sub-region can be considered a typical representative of the culture of the North Central region. Moreover, further research regarding the culture of the Nghe Tinh cultural sub-region will contribute to clarifying that of the North Central. Therefore, in order to build a theoretical model between cultural factors, leadership qualities, and behaviors as well as sustainable leadership results, this paper's authors will focus on enterprises in the Nghe Tinh cultural sub-region.

2. Theoretical Background

According to C. Marx, the social side is the nature of the human being and the biological side of the socialized person. The process of formation and development of human society also shows that human personality is influenced by social relations, such as relations of production, community relations, and social groups. It is the interaction between individuals with the natural and social environment that their personality and qualities are formed and adjusted (Tuyen Tran Nguyen, 2005).

Figure 1: *The original model of the factors that shape individual qualities and behaviors*



Sources: McCrae & Costa (1999), McCrae (2004)

Research by McCrae & Costa (1999) and McCrae (2004) showed that the qualities and behaviors of people are influenced by many factors, including external factors like culture (Figure 1). Thus, each person's personal qualities are influenced by natural and innate factors and by socio-cultural factors. From the original model, the study focuses on examining the impact of the culture of the North Central region of Viet Nam (a case study of Nghe Tinh culture) on the qualities of the people here, thereby affecting their behavior.

3. Results

3.1. The effect of regionally cultural concept on the quality and behavior of the North Central people

3.1.1. Quality of "Studiousness" – Behavior of "Inquisitiveness – Aspiration for growth"

Nghe Tinh has an extremely harsh and extreme climate with frequent droughts, storms, and floods. In other words, to make a living there by farming, breeding and fishing are very difficult, strenuous, and high-risk. Therefore, Nghe Tinh people have been struggled to survive, even in their daily life. Consequently, these hardships have created in them the character of endurance, providence, and especially their will to advance, to master their fate, and to act proactively with nature.

Furthermore, Nghe Tinh people accept to live in adversity so that their children and grandchildren can escape destitution, establish great fortune and break free from hardship. As a result, they have constantly transformed themselves to adapt and develop, and this is one of the reasons why Nghe Tinh's students can overcome all difficulties and distresses to forge their character, wisdom and advance the working positions based on their education.

The studious qualities and the inquisitive behavior, the aspiration for growth of Nghe Tinh people are shown in detail in Table 1.

Table 1: Quality of "Studiousness" – Behavior of "Inquisitiveness – Aspiration for growth" of Nghe Tinh people

<table>
<tr><th>No.</th><th>Source</th><th>Comment</th><th>Manifestation</th><th>Quality - Behavior</th></tr>
<tr><td>1</td><td>Duong Lich Bui (1993)</td><td>Kindly generous, Harmonious, Studious</td><td>Studious</td><td rowspan="4">Quality: Studiousness</td></tr>
<tr><td>2</td><td>Ngoc Khanh Vu (1997)</td><td>Have ideals in their souls</td><td>Have ideals</td></tr>
<tr><td>3</td><td>Viet Giao Ninh (1996)</td><td>Nghe An has 38/ 293 doctoral candidates, accounting for nearly 1/10 of our country</td><td>Rank high in competition</td></tr>
<tr><td>4</td><td>The Comprehensive Encyclopedia of Dai Nam</td><td>Thrifty, hardworking (at both study and work)</td><td>Studious</td></tr>
<tr><td>5</td><td>Duc Thinh Ngo (2004)</td><td>Passionate, diligent in learning, learn to "change their life"</td><td>Passionate with learning, Learn to "change life"</td><td rowspan="3">Behavior: Inquisitiveness – Aspiration for growth</td></tr>
<tr><td>6</td><td>Phong Le (2015)</td><td>Studious</td><td>Studious</td></tr>
<tr><td>7</td><td>Gia Khanh Dinh (1997)</td><td>Tireless learning and growing aspiration</td><td>Aspiration for growth</td></tr>
</table>

Source: Compiled by the authors

3.1.2. Quality of "Overprotectiveness" – Behavior of "Factionalism, Localism"

Due to its nature as a far-away region, regularly being attempted to invade by foreigners, along with special natural and social conditions like a barren land, harsh climate, terrain with many rivers and passes, mountains cut into the sea, the Nghe people must rely on each other and unite to build a close community relationship so as to survive on a daily basis. To illustrate, Dinh Gia Khanh (1997) documented the personality of Nghe Tinh people: “While having a strong sense of community and passionately loving the motherland are some of the positive traits of Vietnamese citizens in general, Nghe Tinh people are the most exact embodiment of these traits in specific”.

Table 2: Quality of “Overprotectiveness” and Behavior of “Factionalism, Localism” of Nghe Tinh people

No.	Source	Comment	Manifestation	Quality - Behavior
1	Ngoc Them Tran (1999)	Protecting, shielding too much to the point of sectarian localism, family relations, relatives, compatriots, villages, communes, group interests	Over-protectiveness, Factionalism, Localism	Quality: **Over-protectiveness** Behavior: **Factionalism, Localism**
2	Si Dung Nguyen (2019)	Cohesion	Cohesion	
3	Dong Chi Nguyen (1995)	They are local to the point where "the Nghe people must be the best", so they usually trigger factionalism	Localism, Factionalism	
4	Bat Khuat Ho (2019)	Cohesion, for example, country-manship. It is solidarity, mutual assistance, and mutual help if it is at a moderate level, but if pushing it too far, it becomes factionalism and localism.	Localism	

Source: Compiled by the authors

It can be indicated that the communal activities in Nghe An, for many generations, have been very close and friendly. They are also tightly associated with festivals, as well as daily activities. And it is worth noting that the closeness and friendliness in such community activities is also a mechanism to control and encourage as well as emulate each other.

No matter where, in the South or the North, in the country or abroad, just hearing the voice of their local jargon will immediately catch the Nghe people’s sympathy. In other words, they will make friends, side with each other and support each other openly and publicly. When living away from home, it is this type of cohesion that creates strength for Nghe Tinh people. Thanks to such interrelation, Nghe people are willing to help each other, facilitate all problems for each other to forge ahead and strive for success.

However, in Nghe Tinh, the care, protection, and cohesion have been pushed too far, leading to the idea of making sectarianism, localism, family relations, relatives, compatriots, villages, communes, group interests (Ngoc Them Tran, 1999). In addition, excessive cohesion is shown in the way that when a Nghe Tinh person being disciplined, the whole Nghe Tinh community will stand up for that person, causing many difficulties for businesses and the local authority (Si Dung Nguyen, 2019). As a result, this is one reason why some southern provinces are afraid to recruit Nghe Tinh workers.

To conclude, the authors associate these qualities with the factional and local behavior of Nghe Tinh people, which are shown in Table 2.

3.1.3. Quality of "Thrifty - Comfort is better than pride" – Behavior of "Frugality, Simplicity"

Table 3: Quality of "Thrifty – Comfort is better than pride" and Behavior "Frugality, Simplicity"

No.	Source	Comment	Manifestation	Quality - Behavior
1	The Comprehensive Encyclopedia of Dai Nam	Thrifty, hardworking, laborious	Thrifty	Quality: **Thrifty, Comfort is better than pride** Behavior: **Frugality, Simplicity**
2	Gia Khanh Dinh (1997)	Saving in everyday life	Frugality	
3	Ngoc Khanh Vu (1977)	Austerity in daily life	Austerity	
4	Duc Thinh Ngo (2004)	Thrifty, poor but not mean	Providently	
5	Dinh Thanh Ha (2014)	Diligence, patience, simplicity, Many a little makes a mickle	Simplicity Frugality	
6	Thai Mai Dang (1960)	Saving at "wooden fish" level	Providently	

Source: Compiled by the authors

Living in difficulties, residents of Nghe Tinh understand the value of labor. Nature does not favor them, but they themselves are industrious, enthusiastic about working with a sense of respecting their labor, not wasting their wealth, thrift, and work diligently to create a better life. Therefore, they possess beautiful qualities such as hard-working, not afraid of asceticism, always persisting in accumulating small amounts to make a large amount, always thinking to overcome life's obstacles. Accordingly, when assessing the general characteristics of the Nghe people, scholar Thai Mai Dang (1960) said: "Courage to negligence, industrious to reckless, resolute to stiff and saving at "wooden fish" level". The authors summarize the relationship between the quality of "Thrifty - Comfort is better than pride" and the behavior of "Frugality, Simplicity" in Table 3.

3.1.4. Quality of "Integrity, Toughness, Courage" – Behavior of "Righteousness, Allegiance, Bravery"

Based on the topography, Duong Lich Bui (1993) commented on the people of Nghe Tinh: "The area has a flow from Quy Chau, majestic mountains, stagnant rivers, so people here are more heroic and braver", and "In Dong Thanh and Nam Duong districts, there are many martial artists, and their auras are also inclined to magnanimity and bravery".

Because of the harsh nature, the Nghe people's personality is straightforward; they speak out what they think and respect love. The elites of Nghe Tinh said that "Nghe Tinh people always put their qualities above all", so they are dignified, polite, and not demeaning. The residents are industrious, hard-working, loyal, and righteous (Duong Lich Bui, 1993).

In terms of code of conduct, Nghe Tinh people are often sincere, straightforward to the noble level, which Vu Ngoc Khanh (1997) called "tough in communication". Therefore, in relationships, they are not always easy to be understood and accepted by people from other regions. When first contacting Nghe Tinh people, people from other regions are not always comfortable, but after being in contact for a long time, it is easy to get close because Nghe Tinh people are generally very sincere and enthusiastic with friends.

Along with this, Nghe people also have the spirit of fighting for the right. They will not be afraid to act when they see what they do is right. What they think is right, even if it is difficult or they might lose, they still do it. From here, another personality trait is also formed, which is integrity. Nghe people regard that the person is worthy, then they support. If they are supporters, they will be completely loyal. This is also the reason why since ancient times, the closest bodyguards of kings and lords were often Nghe Tinh people (Si Dung Nguyen, 2019).

All in all, through the process of analyzing and compiling studies on Nghe Tinh culture - representing the culture of the North Central region, the authors determined the influence of cultural factors on human qualities and thereby shaping their behavior.

Table 4: Quality of "Integrity, Toughness, Courage" – Behavior of "Righteousness, Allegiance, Bravery"

No.	Source	Comment	Manifestation	Quality - Behaviors
1	Dong Chi Nguyen (1995)	Simple temperament, honest	Honest	
2	Gia Khanh Dinh (1997)	Aggressive, ingenious In gritty, there is stubbornness	Grit Honest Ingenious	

No.	Source	Comment	Manifestation	Quality - Behaviors
		In honesty, there is roughness In ingenuity, there is recklessness	Straightforward	Quality: "**Integrity, Toughness, Courage**" Behavior: "**Righteousness, Allegiance, Bravery**"
3	Phong Le (2015)	Take the lead Frankly, affirmatively Loyal Brave	Pave the way Brave Loyal	
4	Dinh Thanh Ha (2014)	Straightforward, outspoken, not afraid to fight the bad	Straightforward Stand for what is right	
5	Ngoc Khanh Vu (1997)	Simple temperament Tough	Tough	
6	Duong Lich Bui (1993)	Put qualities above all Be dignified, polite, not demeaning Commoner: industrious, hard-working Loyal, honorable	Kind Loyal Honorable	
7	Si Dung Nguyen (2019)	Loyal Straightforward (frank, outspoken) Fight for the rights	Loyal Frank	

Source: Compiled by the authors

3.2. The effect of the leadership quality – behavior on business leadership results

3.2.1. Leadership results and leadership performance measurement

Many researchers have approached and measured corporate leadership results in general under the influence of many factors. In which, the indicators for assessing leadership results are divided into two groups, financial and non-financial indicators. Financial indicators are often used less often than non-financial indicators because leadership is quite challenging to quantify as it is directly related to people and usually lagged. On the other hand, plethoral studies have documented that leadership results are derived from non-financial indicators such as employees' perceptions of the leader's prestige and leadership results; the compliance of subordinates; work motivation and commitment to the organization; job satisfaction, and some other issues related to the working environment.

In this paper, the authors will focus on the results of employee leadership through employee satisfaction and employee commitment to the organization.

Job satisfaction: Employees are satisfied with their job when they feel satisfied with their current job, when they work passionately and enthusiastically, or when they feel that the job is exciting and seemingly never-ending, always opening up new opportunities (Thunn, 2009). Pierro et al. (2005) also indicated that satisfied employees always feel satisfied with their jobs.

Table 5: Criteria for measuring business leadership results

No.	The authors	Criteria for measuring leadership results
1	Piero, Cicero, Bonaiuto, Knippenberg & Kruglanski (2005)	Perception of leadership results Job satisfaction Personal self-assessment Desire to change job
2	Knippenberg & Hogg (2003)	Work results and motivation Readiness for innovation Obedience, compliance Leadership results and prestige
3	Koene, Vogelaar & Soeters (2002)	Leaders' reputation Operational results + Net profit + Controllable costs Enterprise environment + Ability to organize activities + Readiness for innovation + Communication in enterprises

Source: Compiled by the authors

Commitment to the organization: According to Thunn (2009), good leadership results are when employees have the intention or peace of mind to stick with the group, department, organization, or enterprise until the end of their working time; they are excited, ready to share with their relatives and friends about where they are working. The employees also choose to commit when they feel that the business is a crucial part of their family, and they are willing to share difficulties and challenges with their organizations. Contrary to these criteria, Pierro et al. (2005) measure the employee's level of commitment to the organization through the desire to change jobs. The stronger this desire is, the lower is the level of commitment to the organization, and thus the leadership results are also limited.

3.2.2. The relationship between leadership qualities – behavior and employee satisfaction and commitment

A plethora of studies have supported the existence of a relationship between employee satisfaction, commitment, and leadership behavior (Halpin, 1954; Patchen, 1962; Nealy & Blood, 1968; Greene & Schriesheim, 1977; Katerberg & Horn, 1981; Wycoff & Skogan, 1994). However, within these studies is a debate about the nature of this relationship, whether positive or negative.

Nealy & Blood (1968); House & Filley (1971); Greene & Schriesheim (1977) also focused on studying the relationship between leadership behavior and employee satisfaction and commitment by giving a group of specific leadership behaviors – Consideration leadership behavior and Initiating structure leadership behavior. They concluded that the former behavior bears a positive impact on satisfaction, while the latter negatively affects job satisfaction and employee commitment. Nevertheless, a number of researchers found a negative correlation between the Consideration leadership behavior and job satisfaction as well as employee commitment (Halpin, 1954; Patchen, 1962; Hodge, 1976). Not confusing enough, other studies documented that both of these leadership behaviors have a positive influence on employee job satisfaction and employee commitment (Katerberg & Horne, 1981).

With a more comprehensive approach, Jon Aarum Andersen (2006) examined the relationship between the leader's personal qualities and the leader's superiority, the perception of leadership results, the leader's behavior, and the organization's effectiveness. In which, the research focused on four areas includes:

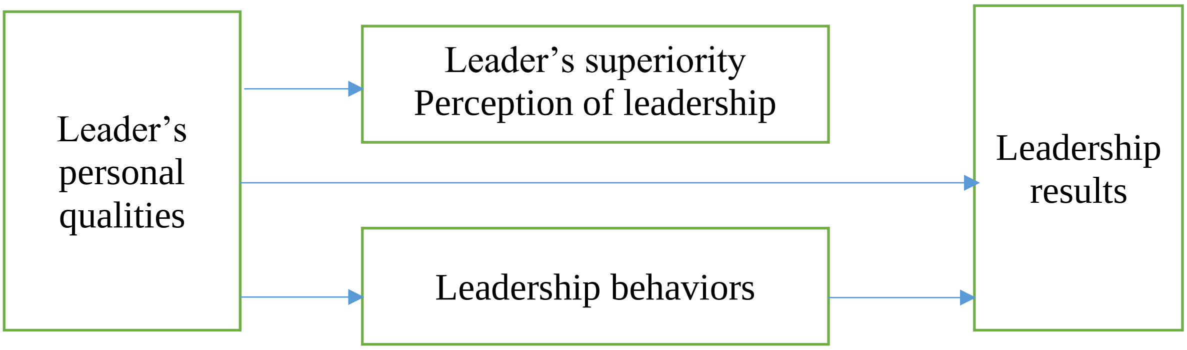
- The relationship between the leader's qualities and the leader's superiority and the perception of leadership results.

- The relationship between leadership qualities and leadership results (measured through employee satisfaction and employee commitment).

- The relationship between the leader's personal qualities and the leader's behavior.

- The relationship between leader's behavior and organizational leadership results (measured through employee satisfaction and employee commitment).

Figure 2: The relationship between personal qualities, behavior, and leadership result



Source: Jon Aarum Andersen, 2006

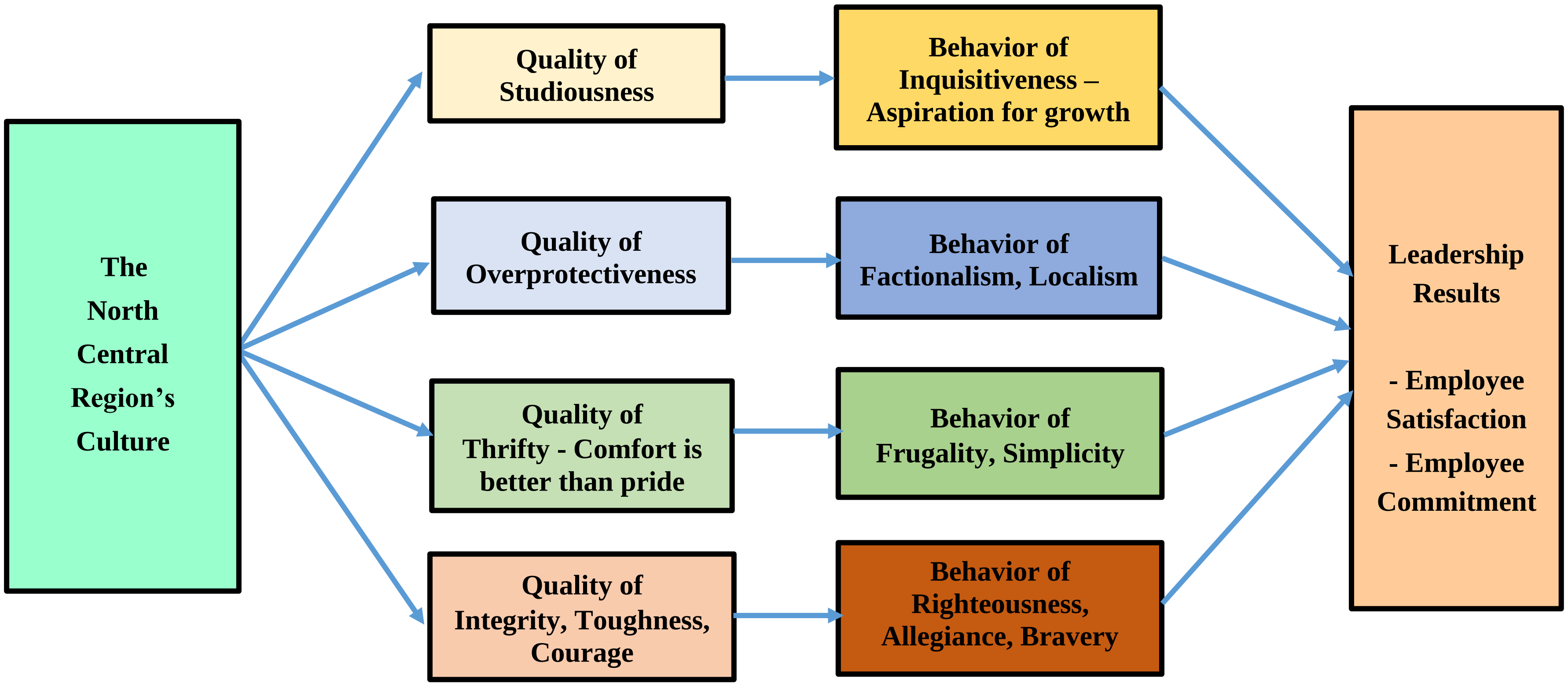
4. Disscusion and Conclusion

Based on the research of McCrae and Costa (1999), McCrae (2004), Jon Aarum Andersen (2006), along with the study of documents, the authors have shown that the culture of the North Central region affects qualities, thereby shaping the behavior of people here. The authors qualitatively researched these behaviors to determine how leaders in the North Central region exhibit these behaviors in organizational management and administration activities.

In particular, through interviews with 06 experts, 04 researchers, and 05 leaders in the North Central region in 2020, the authors found that in the management and administration of organizations, leaders in the North Central region show inquisitive behaviors - the aspiration for growth through the following manifestations: always learning and looking for opportunities to learn, attaching importance to learning and the educated; encouraging organizational members to learn and collaborate in groups within the organization. In addition, there is a factional and local behavior with the following manifestations: prioritizing relatives and acquaintances who have village relationships; forming local cliques in the organization; protecting relatives and acquaintances. Furthermore, the North Central region leaders also display thrifty - simple, straightforward - loyal - courageous behaviors.

Therefore, the authors build a research model: the effect of cultural factors with qualities and behaviors on measuring leadership outcomes in enterprises in the North Central region, shown in Figure 3.

Figure 3: Proposed research model



Source: Suggested by the authors

Based on the research of McCrae & Costa (1999), McCrae (2004), Jon Aarum Andersen (2006), along with the study of other documents, it can be confirmed that leadership qualities and behaviors do influence leadership outcomes. The research team also expects that among the 4 groups of leadership behaviors of leaders in the North Central region, the group of Behavior of Factionalism, Localism will have a negative impact, while the remaining 3 groups of behaviors will positively affect employee satisfaction and commitment.

However, within the framework of this article, it only proposes research models and hypotheses. In the coming time, the authors will continue to have quantitative studies with the expected number of samples selected according to the non-probability sampling with the technique of questionnaires (5-level Likert scale). The questionnaire would be sent to about 250-300 employees working in small and medium enterprises in the North Central region to assess the impact of leadership qualities and behaviors on leadership results, employee satisfaction, and commitment to the organization to create sustainable leadership outcomes. As a result, measures to increase the efficiency of management and administration of business leaders in the North Central region can be proposed to generate sustainable business development in a volatile business environment.

5. References

1. Nguyễn Đổng Chi (1995). *Địa chí văn hóa dân gian Nghệ Tĩnh*, Nxb Nghệ An

2. Ninh Viết Giao (1996). *Kho tàng ca dao xứ Nghệ*, Nxb Nghệ An

3. Đinh Gia Khánh (1997). *Thử tìm hiểu cơ sở xã hội của văn hóa dân gian Nghệ Tĩnh*, Nxb Khoa học xã hội

4. Vũ Ngọc Khánh (1997). *Văn hóa truyền thống xứ Nghệ và hướng phát triển trong thời đại mới*, Nxb Khoa học xã hội

5. Bùi Dương Lịch (1993). *Nghệ An ký*, Bản dịch của Nguyễn Thị Thảo, Nxb Khoa học xã hội

6. Đặng Thai Mai (1960). *Văn thơ Phan Bội Châu*, Nxb Văn học

7. Phan Ngọc (1999). *Bản sắc văn hóa Việt Nam*, Nxb Văn hóa Thông tin

8. Lê Phong (2015). *Việt Nam danh tác*, Nxb Nhã Nam

9. Hà Đình Thành (2014). *Phát triển bền vững văn hóa vùng Trung Bộ, thực trạng và giải pháp*, Nxb Từ điển bách khoa

10. Trần Ngọc Thêm (1999). *Cơ sở Văn hóa Việt Nam*, Nxb Giáo dục

11. Ngô Đức Thịnh (2004). *Văn hóa vùng và phân vùng văn hóa ở Việt Nam*, Nxb Khoa học xã hội

12. Trần Nguyễn Tuyên (2005). Kinh tế Việt nam trong xu thế phát triển của kinh tế khu vực và thế giới, Tạp chí Kinh tế và Phát triển, số 94, 3-4

13. Nguyễn Sĩ Dũng (2019). Người Nghệ thấy đúng mới phò, truy cập từ http://kinhtedothi.vn/nguoi-nghe-thay-dung-moi-pho-336166.html

14. Hồ Bất Khuất (2019). Tính cách người Nghệ: Hay, dở và mong muốn của chúng ta, truy cập: http://www.vanhoanghean.com.vn/chuyen-muc-goc-nhin-van-hoa/dien-dan/35-dien-dan/12843-tinh-cach-nguoi-nghe-hay-do-va-mong-muon-cua-chung-ta

English References

1. Antonio Piero, Lavinia Cicero, Mario Bonaiuto, Daan Van Knippenberg, Arie W. Kruglanski, Leader group prototypicality and leadership effectiveness: *The moderating role of need for cognitive closure*, The Leadership Quarterly 16 (2005), 503-516

2. Andersen J.A. (2005), "Leader, Personality and Effectiveness", *The Journal of Socio-Economics 35* (2006), 1078-1091

3. Bass A.S. Koene, Ad L.W. Vogelaar, Joseph L. Soeters, Leadership effects on organizational climate and financial performance: Local leadership effect in chain organization, *The Leadership Quarterly 13* (2002), 193-215

4. Daan Van Knippenberg, Michael A. Hogg (2003), A social identity model of leadership effectiveness in the organization, *Research in Organizational Behaviour 25* (2003), 243-295.

5. Noel Balliett Thunn (Thesis, 2009), Character Strengths in Leadership, Doctor of Philosophy in Business Administration, *The Departement of Management*, Saint Mary's University, Halifax, Nova Scotia, Canada.

6. Nealy, S.M and Blood, M.R. (1968), "Leadership performance of nursing supervisors at two organizational levels", Journal of Applied Psychology, Vol.66, pp 218-23

7. McCrae, R. R. (2004). Human nature and culture: A trait perspective, *Journal of Research in Personality*, 38, 3-14

8. McCrae, R. R., Costa, P. T., Jr. (1999). A Five-Factor theory of personality, In L. A. Pervin & O. P. John (Eds.), Handbook of personality: Theory and research (p. 139–153), Guilford Press

9. Halpin, A.W. (1954), "The leadership behavior and combat performance of airplane commanders", *Journal of Abnormal Psychology and Abnormal Social Psychology*, Vol. 49, pp.19-22

10. Patchen, M. (1962) "Supervisory methods and group performance norms", *Administrative Science Quarterly*, Vol. 7, pp 275-94

CLOSING THE INTENTION-BEHAVIOUR GAP IN ENTREPRENEURIAL BEHAVIOUR RESEARCH OF YOUNG WORKERS IN VIETNAM, LAOS AND CAMBODIA

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Abstract

Entrepreneurial research has grown tremendously in the last few years in developing countries but most research focused on factors that impact entrepreneurial intention only. This paper aims to identify some factors that impact entrepreneurial behavior of individual in Vietnam, Laos, and Cambodia. Based on an extensive review of literature, this paper proposes 3 factors that were found to have impact on entrepreneurial behavior in some countries but not the others for empirical test in the Indochina context. These are university entrepreneurial support, entrepreneurial intention, and external institution support. The survey was conducted with 845 respondents from November 2020 to Apr 2021. Research results showed that entrepreneurial intention and external institution support have a positive direct impact with entrepreneurial behavior in the research context of Indochina. There is no evidence to conclude an impact of university entrepreneurial support to entrepreneurial behavior. Furthermore, the combination impact of these variables explains more than 52% the changes of entrepreneurial behavior of the underlying survey population.

Keywords: *Entrepreneurial Behaviour, Entrepreneurial Intention, University Entrepreneurial Support, External Institution Support.*

1. Introduction

The importance of entrepreneurship to economic growth and technological change was under debate for years both at national, regional and international scale. After World War II, scientists around the world believed that large-scale enterprises must be developed to benefit a nation economy. The reason is that large firms have an advantage over small ones because of their economy of scales, international competitiveness and a better chance to survive in this ever-changing environment. But in recent years, studies and facts have shown that small businesses play an important role in economic development and start-up activities motivate socio-economic development in many countries around the world. Entrepreneurship is considered as the fourth variable, named entrepreneurship capital in the "New growth theory" next to the 3 traditional variables of physical capital, human capital and knowledge capital.

Nowadays, it is a widely accepted fact that SMEs and start-ups play an important role in building, developing and maintaining prosperity for every economy (Schramm, 2006; Giagtzi, 2013). Since the early 1990s, researcher had found that in a modern economy SMEs create jobs for the majority of workers in the private sector (Acs & Audretsch, 1993). Recently, in the large economic blocs i.e. European Union…, SME sector still accounts for more than 99% of all businesses of the underlying region (Giagtzi, 2013). Many scholars mention the irreplaceable role of entrepreneurship in sustaining the dynamics of the modern market economy and the emergence of new businesses that help create competition and economic growth (Wong et al, 2005; van Praag & Versloot, 2007, Altinay et al, 2012; Sorensen và Fassiotto, 2011). Entrepreneurship hence becomes the motivation for economic development thanks to its ability in creating new jobs, promote creativity, enhance competition, and improve production. Along with the increasing importance of entrepreneurship globally, there is an urgent need to understand the factors affecting entrepreneurship, especially entrepreneurship behaviour. In recent years, policy makers in many countries such as Israel, USA, EU, China, Japan... have focused their attention to the creation of a friendly environment for businesses and start-ups.

Entrepreneurship is perceived widely as the driving force of competition and innovations (Luthje & Franke, 2003; Kokobe & Kebede, 2015). There are numerous theories and approaches related to the study of entrepreneurship that have been proposed by scholars over the years. Amongst those, many confirm the role of entrepreneurial intention as an accurate predictor for future entrepreneurial behaviours (Covin & Slevin, 1991; Krueger & Carsrud, 1993; Lumkin & Dess, 1996; Elenurm et al., 2007). According to Ajzen (2011), previous studies often focused on explaining intention, while research on entrepreneurial behaviour is still limited and the literature may have paid less attention to behaviour than we should have. Since then, there were more studies attempted to close the intention-behaviour gap, in many different field including entrepreneurship, but the number is still modest in comparison to that of intention and results are still mixed. In addition, entrepreneurial research, while under development in Vietnam, still mostly focused on intention, and at starting point in Laos and Cambodia. Recognizing the above gap, this study will focus to investigate the factors that impact entrepreneurial behaviour of individuals in the three Indochina countries.

Entrepreneurship, according to the Vietnamese dictionary, is starting a new business. In the field of academic research, it is a multidimensional concept. Entrepreneurship can be: i) starting a new business, a new venture creation or ii) self-employment. Human behavior has long been studied and explained by psychological researchers based on mental states of intention, desire, and belief. According to psychology, belief helps people identify their goals, from which desire to achieve these goals will lead to individual behavior. Depending on the research context, the definition of behavior may varied. While some defined behavior as “an obvious, observable response in a given situation to a certain goal” (Ajzen, 2006), others have viewed behavior as “an action performed in the subconscious of an individual or otherwise called an action performed by someone" (Sukaris et al., 2021). Entrepreneurial behavior is the activities that lead to the formation of a business (Aldrich and Martinez, 2001) which would require development as well as a concentration of different resources (including knowledge) that can be combined into an organization (Garner et al., 2010). This study inherited the definition of entrepreneurial behavior by Gartner et al. (1992) where it was viewed “as the various behaviors and activities that individuals engage in when creating new organizations – and contrast them to the behaviors and activities of individuals involved in established organizations”.

One of the most well-known behavioral intention research early works is Theory of Reasoned Action (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980; Ajzen, 1985) which later was further developed into the popular Theory of Planned Behavior. After the primary studies, other Intention - Behavior models were introduced such as those of Bird (1988), Ajzen (1991) etc. that further explain the relationship between individuals and their behavior. Researchers have concluded that intention is an effective indicator for predicting an individual's next behavior (Ajzen and Fishbein, 1980; Ajzen, 1991) such as job-seeking (Van Ryn and Vinokur, 1990) or career choice (Kolvereid, 1996). These models become the basic to investigate intention and behavior of entrepreneurship nowadays. The relationship between intention and behavior, more specifically entrepreneurship intention and entrepreneurial behavior, is widely demonstrated in previous studies (Ajzen, 1991; Krueger et al, 2000; Elfving et al., 2009; Gielnik et al, 2015; Linán and Fayolle, 2015). Although the accompanying independent variables may differ between different research, they generally confirm the existence of a positive direct influence from entrepreneurial intention to behavior (Frese and Gielnik, 2014; Gielnik et al., 2015; Kautonen et al., 2015; Obschonka, 2015; Rauch and Hulsink 2015; Kautonen et al., 2015; Reuel và cộng sự, 2016). More recently, studies have begun to investigate the intention – behavior gap and the non-intentional factors that help to explain behavior including entrepreneurship behavior. Most studies agree that intention alone is often not sufficient to explain why behavior is conducted because many highly intended persons did not end up in acting up to their intention (Kautonen et al., 2015, Gaofeng Yi, 2020). Recent research found out other non-intentional factor that might impact behavior such as external institutional support (Li and Atuahene-Gami, 2001; Turker and Selcuk, 2009; Hunt, 2015) or university entrepreneurial support (Rothaermel et al., 2007; Fichter et al., 2013; Gaofeng Yi, 2020) etc. The relationships are also more complex than simple direct influence. However, the number of behavioral empirical studies is still far more modest than that of intent studies, thus more research is needed to fill this gap.

Hypothesis 1: Entrepreneurial intention has a direct impact on entrepreneurial behavior.

Previous studies by Baumol (1990, 1993, 2005) and North (1990, 1994, 1997, 2005) have provided important background about entrepreneurship in different institutional environments. Institutional support varies from country to country. It might include policies, regulations, and programs that the country has implemented to support start-ups (Turker and Selcuk, 2009) or can be Operational Support, Emotional Support, and Financial Support (Sithabile, 2011) or others (Volchek et al, 2013; Laxmi and Hyderabad, 2014). Previous studies have shown that external institutional support is a general reflection of support, such as policies, programs implemented, financial assistance, technical assistance, and other support from the government and government agencies (Li and Atuahene – Gima, 2001). A good business environment will help promote the economic development of an entire country. Therefore, external institutional support plays an important role in the market economy, supporting the functioning of the market mechanism. They facilitate the efficient operation of market transactions without incurring undue costs and risks (North, 1990). A number of other studies such as Deephouse and Carter (2005) also acknowledge that external institutional support can promote the behavior of entrepreneurs in accordance with dominant social norms and values, such as socially responsible for environmental and green protection, increase the legitimacy of their operations and enhance their reputation. Mainly external institutional support is believed to encourage entrepreneurial behavior through two methods of persuasion and commitment (Radu and Redien-Collot, 2010). Therefore, this study proposes to test the following hypothesis:

Hypothesis 2: External institution support has a direct impact on entrepreneurial behavior.

Research results both domestic and abroad so far have confirmed there is a connection between university entrepreneurial support and entrepreneurship. In a research by McIntyre and Roche (1999), university entrepreneurial support is defined as the process of providing individuals with the concepts and skills to recognize opportunities that others have missed, and to gain insight and the self-esteem to act where others have hesitated. It includes guidance on identifying opportunities, aligning resources in the face of risks, and starting a business venture. Universities are often seen as engines of growth in the knowledge economy and commercialize university research has been studied for long (Laursen and Salter, 2006). In addition to research and teaching, universities have a third role to play in promoting technology transfer, patenting, and commercial output in an increasingly knowledge-based world. In addition to individual factors that influence students' entrepreneurial behavior, many other studies have shown that entrepreneurial behavior can be stimulated through education. Vanevenhoven and Ligouri (2013), through global research, have shown that entrepreneurship education promotes the entrepreneurial intentions of students. Souitaris et al. (2007) argue that entrepreneurship programs improve entrepreneurial attitudes and intentions, and increase the chances of students trying entrepreneurship at some point in their lives. Essentially, the support system helps turn college students' entrepreneurial intentions into actual business behavior. Therefore, the study of (Gaofeng Yi, 2020) considers university entrepreneurial support as having both direct and moderate impact on entrepreneurial behavior. Nevertheless, Gaofeng Yi's moderate impact is not supported in any other similar studies of the same field, therefore, this study proposes the following hypothesis:

Hypothesis 3: University entrepreneurial support has direct impact on entrepreneurial behavior.

The research model, therefore, includes 3 independent variables - Entrepreneurial Intention, External Institutional Support, and University Entrepreneurial Support and a dependent variable - Entrepreneurial Behavior.

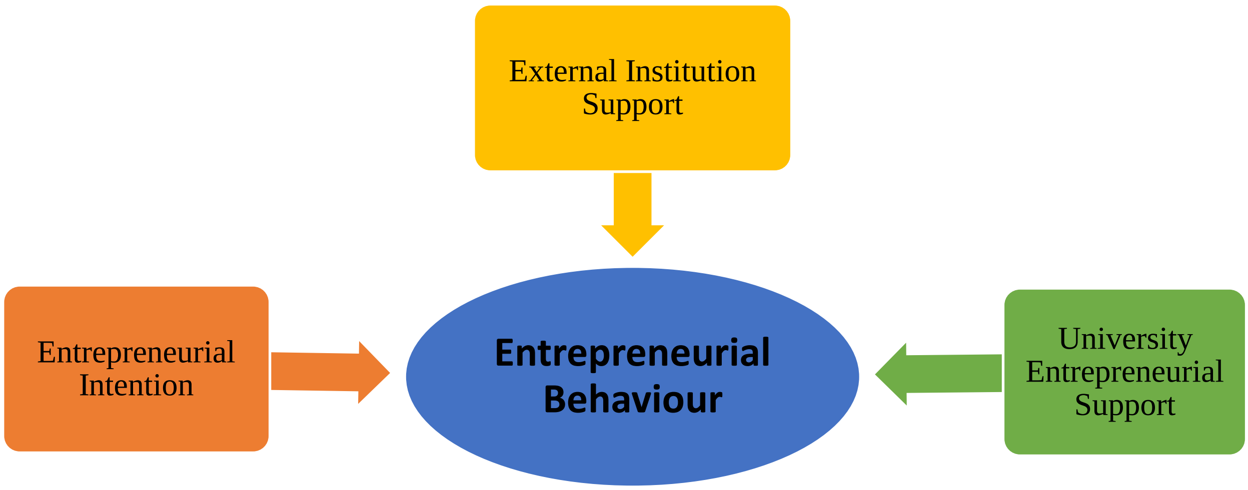

Diagram 1: Research model

2. Method

The research sample was gathered from individuals living in the Indochina countries of Vietnam, Laos and Cambodia. Most respondents are within working age with smaller proportions of the other age groups as well to investigate entrepreneurial behavior in different age groups. Because this study aims to focus on behavior, participants are required to at least conducted certain entrepreneurial behavior(s) in the past for example set up a company, soft open a new business, registered the company, during funding process etc. There is a question about whether the respondents participated in entrepreneurial behaviour before at the first section of the questionnaire to help eliminate unqualified answers. The survey was conducted both online (via Google Survey) and offline (via support from lecturers in National University of Laos and Phnompenh Economics University in Cambodia) in 4 languages (Vietnamese, English, Laos and Cambodian). The original questionnaire in English was translated into 3 other languages using authorized paid translation service in Notary offices at each country. Translated versions were sent to a lecturer with background in entrepreneurship and the respective language to correct terminologies, if necessary, before sending out. Due to the impact of the pandemic, limited time and budget, small scope of research (respondent must conducted entrepreneurial behaviour before to be qualified), convenient sampling method is chosen with best effort to ensure representativeness in different dimensions (age groups, education levels, gender …) in all three countries.

The questionnaire consists of 3 parts: i) Opening letter and General information; ii) Research model variables' questions; iii) Extra multiple choices questions to get more facts and figures regarding entrepreneurial behavior and related issues in the Indochina. With 4 variables in the research model, this study chooses to inherit the measurement scales from the following studies (Listed in Table 1): i) External Institutional Support from Li and Atuahene-Gima (2001) with 4 questions; ii) Entrepreneurial Intention from Syed et al. (2019) with 3 questions; iii) University Entrepreneurial Support from Gaofeng Yi (2020) with 4 questions and iv) Entrepreneurial Behaviour from Wan và cộng sự (2012) with 3 questions. The scales were adapted to entrepreneurial context.

Table 1. Research model's variables and inherited scales

No	Variables	Inherited scales
1	External institution support	Li và Atuahene-Gima (2001)
2	University entrepreneurial support	Gaofeng Yi (2020)
3	Entrepreneurial intention	Syed và cộng sự (2019)
4	Entrepreneurial behaviour	Wan và cộng sự (2012)

Sources: Authors' summary

The total survey invitations sent out was 1000 in which 882 answers returned (88.2%). After elimination of unqualified answers, 845 answers were used for data analysis (84.5%). Data analyses consist of 4 steps: scale reliability test using Cronbach's Alpha, discriminant and convergence test using EFA, Pearson's correlation test and multiple regression to test the hypotheses.

3. Results

The sample

Table 2. Sample descriptive characteristics

Sample characteristic	Frequency	Weighted (%)
Gender	**845**	**100 %**
Male	449	53,1
Female	396	46,9
Age group	**845**	**100 %**
Less than 18	129	15,3
From 18 to 22	470	55,6
From 23 to 40	242	28,6
From 41 and higher	4	0,5
Education level	**845**	**100,0**
High school	53	6,3
Intermediate/Vocational schools	233	27,6
Colleague/Undergraduate	510	60,4
Post graduate	41	4,9
Other	8	0.9
Living area	**845**	**100,0**
North of Vietnam	409	48,4
Central of Vietnam	35	4,1
South of Vietnam	39	4,6
Laos	207	24,5
Cambodia	155	18,3
Entrepreneurial course participation	**845**	**100,0**
Yes	210	24,9
No	635	75,1

Source: Authors' work

The respondents in this study are relatively evenly distributed between men (53.1%) and women (46.9%). Although the number of men participating in the survey was higher, there was not much difference between the two genders. The study has also a relatively wide age spectrum given the large scope (3 countries) and the stricter qualifying condition (respondent must conducted a type of entrepreneurial behaviour before) however the number of respondents in the age group of 41 and older is relatively small (4 out of 845 people) so it is safe to conclude that this study focused on subjects under 40 years old. In terms of education level, the sample has 99% of respondents with high school education or higher, only about 0.9% (8 people) have other qualifications thus the quality and correctness of respondents' answers are better safeguarded. The number of survey participants with college and university degrees is the largest, accounted for 60.4%. The qualification group with the second large number of respondents is Intermediate and Vocational School with 27.6%. The survey team obtained 483 valid responses from Vietnam (57.1%), 207 valid responses from Laos (24.5%) and 155 valid responses from Cambodia (18.3%). Although Vietnam accounted for a large part, the number of valid samples from Laos and Cambodia was significant enough to conduct comparative analysis. In the Vietnamese sample, there is a majority from the North and relatively fewer in the Central and Southern regions. This is a limitation that future research should attempt to improve. Out of 845 valid responses, about 25% have ever attended courses and training courses on entrepreneurship and the remaining 75% have never attended any.

Reliability tests

Scales' reliability is tested using Cronbach's Alpha. All variables in the model show a satisfactory reliability with lowest Cronbach's Alpha of entrepreneurial intention (0.775) and highest of external institution support (0.857) and no Corrected Item – Total Correlation less than 0.3 (Hair et al., 2009). Thus all variables are qualified for convergence and discriminant test using EFA. Analysis results showed that the KMO value of this sample is $0.5<0.840<1$ with Bartlett's test sig. <0.05 thus the change of factors explained by observed variables with Eigen greater than 1 is therefore satisfactory. The factor rotation matrix gives good results in terms of convergence and discriminant test between the variables in the model with minimum factor loading of 0.69 (>0.5 as required by Hair et al., 2009). Therefore, all variables are kept for Pearson and regression steps.

Hypotheses test

Pearson correlation between dependent variable (entrepreneurial behavior) and 3 independent variables are statistically significant at 5% level (sig < 0. 05). In the analysis, the strength of correlation between variables is at average level ($r <0.5$) thus there is no signal of multicollinearity phenomenon. Hierarchical regression was conducted for all variables in the model with 1st step including all control variables. Results show that control variables can explain roughly 4.9% of the changes in entrepreneurial behavior. When research model's independent variables were added to the 2nd regression step, they add a further 47. 6% explanation of the changes in entrepreneurial behavior, a significant improvement which show the importance of these independent variables. In total, this research model can explain roughly 52. 6% of the changes in entrepreneurial behavior which is significant.

Other model fit's indicators such as ANOVA F figure improved significantly after 3 independent variables is added to the regression and in both case F's sig <0.05 indicate statistical meaning at 5% level. Regression coefficients show that only 1 control variable is statistically significant with sig <0.05. That is entrepreneurial course participation. However, standardized beta shows that the more people get trained in entrepreneurship the less entrepreneurial behavior they will conduct (-0.069). The results of 3 independent variables proves some variation in comparison to previous studies. Entrepreneurial intention still the most powerful factor that impact entrepreneurial behaviour with highest standardized beta of 0. 406 and sig <0. 05, followed up by External institution support with standardized beta of 0. 0.074 and sig <0. 05. However, contradiction to previous studies' results, this study found no statistical evidence to conclude an impact of university entrepreneurial support on Entrepreneurial behaviour in the research context of the Indochina countries. VIFs are all <2 thus there is no multicollinearity phenomenon. Hence, regression results support hypothesis 1 and 2, and reject hypothesis 3.

Table 3. Regression results for hypotheses testing

Variables	Adjusted R square	ANOVA F	Standardized Coefficient (β)	Sig.	VIF
Living area	.049	6.603	.076	.088	1.141
Entrepreneurial course participation			-.175	.000	1.098
Age group			.038	.427	1.329
Education level			.047	.300	1.190
Gender			.031	.468	1.078
Living area	.526	68.385	.032	.315	1.159
Entrepreneurial course participation			-.069	.030	1.155
Age group			.047	.166	1.347
Education level			-.003	.915	1.198
Gender			.011	.731	1.085
Entrepreneurial intention			.406	.000	1.473
University entrepreneurial support			.060	.103	1.543
External institution support			.074	.038	1.477

4. Discussion and Conclusion

Research results show that entrepreneurial behavior of individuals in Vietnam, Laos and Cambodia is positively affected by Entrepreneurial Intention and External Institutional support, in which:

i) Entrepreneurial Intention is the strongest impact factor with a positive influence on Entrepreneurship Behavior of individuals in Vietnam, Laos and Cambodia ($\beta = 0.406$). This result is similar to a number of previous studies (Ajzen, 1991; Altaf and Norashida, 2016; Nguyen Anh Tuan, 2020; Duong Cong Doanh, 2019...) and it implies that the higher the entrepreneurial intention, the more likely such person is going to perform the intended behavior.

ii) External institutional support is the second factor that impact entrepreneurship behavior. This result is in line with results from previous studies published in Vietnam and internationally (Turker and Selcuk, 2009; Sithabile, 2011; Volchek et al, 2013; Laxmi and Hyderabad, 2014). It shows that government and external institutions play a positive role in encouraging more entrepreneurial behaviors in Vietnam, Laos and Cambodia. This comes to no surprise as the more supportive a potential entrepreneur gets, the easier the work to set up a new business venture thus the higher the chance he/she will engage in entrepreneurial behavior.

iii) Contrary to many previous studies, this study cannot find sufficient statistical evidence to support the impact that University entrepreneurial support has on entrepreneurial behaviours. This result is different in the context of the Indochina countries in comparison with the others (Wu and Wu, 2008; Aşkun and Yildirim, 2011; Hong et al, 2012; Nguyen Anh Tuan, 2020). The reason for this might rooted from the ineffective program itself but also from cognitive recognition of participated individuals. In terms of university support program, most Vietnamese universities stopped at providing courses, competitions, talk shows, networking events and the like while 27% respondents claim their difficulty in setting up new business is calling for investment fund (survey multiple choice question result), the area Vietnamese universities do not support yet. In addition, university entrepreneurial support is not established yet in most Laos and Cambodian schools. This may have impacted the respondents' judgement about the influence of this factor.

With the above results, governments of Vietnam, Laos and Cambodia should pay more attention in creating a flexible and supportive start-up ecosystem for entrepreneurs in Indochina. Policies and national level programs should be promptly reviewed to ensure the update and fitness with changes in the business environment in order to create favourable condition for start-ups. Supporting centres and free consultant services might be very helpful for early-stage start-ups and entrepreneurs. Schools at all levels should pay attention into revamping their curricular to enhance pupils' and students' entrepreneurship spirit with aim to create positive attitude about starting a business right from high school time. Higher education institutions in Indochina should further promote entrepreneurial support in response to the changing needs of their students. Apart from courses, competitions and the like on the academic side, the higher education section should promote more connection activities in terms of commercialization, funding, incubating, and accelerating start-ups.

This study has a few limitations that future research in this field can pay more attention to improve. First, future study can pay more effort to further improve the representativeness of the survey sample. While this sample has representative of all the groups, the weight of certain group is significantly higher than other which may impact the result. Second, the combination impact of this model independent variables can only explain roughly 5.6% the changes of entrepreneurial behaviour. This means that there are other impact factors that were not included in this research. Future research should extend the independent variable list to further explore such area.

5. References

1. Acs, Z., & Audretsch, D. (1993). *Small Firms and Entrepreneurship*. Cambridge University Press

2. Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In *Action control* (pp. 11-39). Springer, Berlin, Heidelberg.

3. Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, *50*(2), 179-211.

4. Ajzen, I. (2006). Behavioral interventions based on the theory of planned behavior, link: https://people.umass.edu/aizen/pdf/tpb.intervention.pdf

5. Ajzen, I. (2011). *The theory of planned behaviour: Reactions and reflections. Psychology & Health, 26(9), 1113–1127*

6. Ajzen and Fishbein, 1980, Understanding attitudes and predicting social behavior Prentice Hall, Englewood Cliffs, NJ

7. Aldrich and Martinez, 2001, Many are called but few are chosen: An evolutionary perspective of the study of entrepreneurship, Entrepreneurship: Theory & Practice, 25(4), 41-57

8. Altaf Hussain Samo, Norashidah Hashim. (2016). The Impact of Entrepreneurial Alertness on Entrepreneurial Intentions. Journal of International Business Research and Marketing, 1(6).

9. Altinay, L., Madanoglu, M., Daniele, R., & Lashley, C. (2012). The influence of family tradition and psychological traits on entrepreneurial intention. *International Journal of hospitality management*, *31*(2), 489-499.

10. Aşkun, B. and Yildirim, N., 2011, Insights on entrepreneurship education in public universities in Turkey: Creating entrepreneurs or not?, Procedia - Social and Behavioral Sciences, 24, 663-676

11. Baumol, W. J. (1990). Entrepreneurship: Productive, unproductive, and destructive. Journal of Political Economy, 98, 893-92 I

12. Baumol, W. J. (1993). Formal entrepreneurship theory in economics: Existence and bounds. *Journal of business venturing*, *8*(3), 197-210.

13. Baumol, W. J. (2005). Entrepreneurship and invention: toward their microeconomic value theory. *AEI-Brookings Joint Center for Regulatory Studies, related publication*, (05-38).

14. Bird, B. (1988). Implementing entrepreneurial ideas: The case for intention. Academy of Management Review, 13(3), 442-453.

15. Covin, J. G., & Slevin, D. P. (1991). A conceptual model of entrepreneurship as firm behavior. *Entrepreneurship theory and practice*, *16*(1), 7-26.

16. Deephouse, D. L., & Carter, S. M. (2005). An examination of differences between organizational legitimacy and organizational reputation. *Journal of management Studies*, *42*(2), 329-360.

17. Duong Cong Doanh, 2019

18. Elenurm, T., Ennulo, J., & Laar, J. (2007). Structures of motivation and entrepreneurial orientation in students as the basis for differentiated approaches in developing human resources for future business initiatives. *EBS Review*, (23), 50-61

19. Elfving, J., Brännback, M., & Carsrud, A. (2009). Toward a contextual model of entrepreneurial intentions. In *Understanding the entrepreneurial mind* (pp. 23-33). Springer, New York, NY.

20. Fichter, K., Fuad-Luke, A., Klofsten, M., Bergset, L., Bienkowska, D., Clausen, J., ... & Cabrera Viancha, P. (2013). Support systems for sustainable entrepreneurship and transformation (SHIFT). *Work package*, *1*.

21. Fishbein, M., and I. Ajzen. 1975. Belief, attitude, intention and behavior: An introduction to theory and research. Reading, MA: Addison-Wesley

22. Frese, M., & Gielnik, M. M. (2014). The psychology of entrepreneurship. *Annu. Rev. Organ. Psychol. Organ. Behav.*, *1*(1), 413-438.

23. Gaofeng Yi (2020). From green entrepreneurial intentions to green entrepreneurial behaviors: the role of university entrepreneurial support and external institutional support. *International Entrepreneurship and Management Journal*, 1-17.

24. Gartner, W. B., Bird, B. J., & Starr, J. A. (1992). Acting as if: Differentiating entrepreneurial from organizational behavior. *Entrepreneurship theory and practice*, *16*(3), 13-32.

25. Gartner, W. B., Carter, N. M., & Reynolds, P. D. (2010). Entrepreneurial behavior: Firm organizing processes. In *Handbook of entrepreneurship research* (pp. 99-127). Springer, New York, NY.

26. Giagtzi, Z. (2013). How perceived feasibility and desirability of entrepreneurship influence entrepreneurial intentions: A comparison between southern and northern European countries. Master thesis, Rotterdam

27. Gielnik, M. M., Frese, M., Kahara-Kawuki, A., Wasswa Katono, I., Kyejjusa, S., Ngoma, M., ... & Dlugosch, T. J. (2015). Action and action-regulation in entrepreneurship: Evaluating a student training for promoting entrepreneurship. *Academy of Management Learning & Education*, *14*(1), 69-94.

28. Hair et al., 2009, Multivariate Data Analysis (7th Edition), Prentice Hall

29. Hong, Z., Hong, T., Cui, Z., & Luzhuang, W. (2012). Entrepreneurship quality of college students related to entrepreneurial education: Empirical study on psychological and behavioral characteristics. *Energy Procedia*, *17*, 1907-1913.

30. Hunt, R. A. (2015). Contagion entrepreneurship: Institutional support, strategic incoherence, and the social costs of over-entry. Journal of Small Business Management, 53, 5-29.

31. Kautonen, T., Van Gelderen, M., & Fink, M. (2015). Robustness of the theory of planned behavior in predicting entrepreneurial intentions and actions. *Entrepreneurship theory and practice*, *39*(3), 655-674.

32. Kokobe, A.S., & Kebede, A.T. (2015). Journal of Asian and African Social Science and Humanities, Vol. 1, No. 3, 2015, Pages 117-131.Kolvereid, 1996

33. Krueger, N. F., & Carsrud, A. L. (1993). Entrepreneurial intentions: Applying the theory of planned behaviour. *Entrepreneurship & Regional Development, 5(4), 315 - 330.* doi:10.1080/08985629300000020

34. Krueger Jr, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of business venturing*, *15*(5-6), 411-432.

35. Laxmi, P. B., & Hyderabad, R. (2014). State and Institutional Support for Women Entrepreneurship Development: A study of Dharwad District in Karnataka State. *Pacific Business Review International*, *7*(2), 56-64.

36. Laursen, K., Salter, A., 2006. Open for Innovation: The Role of Openness in Explaining Innovation Performance among UK Manufacturing Firms. Strategic Management Journal 27, p. 131 150.

37. Li, H., & Atuahene-Gima, K. (2001). Product innovation strategy and the performance of new technology ventures in China. Academy of management Journal, 44(6), 1123-1134.

38. Liñán, F., & Fayolle, A. (2015). A systematic literature review on entrepreneurial intentions: citation, thematic analyses, and research agenda. *International Entrepreneurship and Management Journal*, *11*(4), 907-933.

39. Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of management Review*, *21*(1), 135-172.

40. Lüthje, C., & Franke, N. (2003). The 'making'of an entrepreneur: testing a model of entrepreneurial intent among engineering students at MIT. *R&d Management*, *33*(2), 135-147.

41. McIntyre, JR, & Roche, M. (1999). University education for entrepreneurs in the United States: A critical and retrospective analysis of trends in the 1990s (Working Paper Series 99/00-021)

42. Nguyen Anh Tuan, 2020. Các yếu tố tác động đến dự định khởi sự kinh doanh của thanh niên Việt Nam (Luận án Tiến sỹ). Trường ĐH Kinh tế quốc dân

43. North, D. C. (1990). *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press

44. Obschonka, M., Stuetzer, M., Audretsch, D. B., Wyrwich, M., Rentfrow, P. J., Coombes, M., ... & Satchell, M. (2016). Industry structure, entrepreneurship, and culture: An empirical analysis using historical coalfields. European Economic Review, 86, 52-72.

45. Radu Lefebvre, M., & Redien-Collot, R. (2013). "How to do things with words": The discursive dimension of experiential learning in entrepreneurial mentoring dyads. *Journal of Small Business Management* , *51* (3), 370-393.

46. Rauch, A., & Hulsink, W. (2015). Putting entrepreneurship education where the intention to act lies: An investigation into the impact of entrepreneurship education on entrepreneurial behavior. *Academy of management learning & education*, *14*(2), 187-204.

47. Reuel Johnmark, D., Munene, J. C., & Balunywa, W. (2016). Robustness of personal initiative in moderating entrepreneurial intentions and actions of disabled students. *Cogent Business & Management*, *3*(1), 1169575.

48. Rothaermel, F. T., Agung, S. D., & Jiang, L. (2007). University entrepreneurship: a taxonomy of the literature. *Industrial and corporate change*, *16*(4), 691-791.

49. Schramm, C. J. (2006). The high price of low ethics: how corruption imperils American entrepreneurship and democracy. *Journal of Markets & Morality*, *9*(2).

50. Mari, S. G. (2012). *The effectiveness of institutional support for women entrepreneurs* (Doctoral dissertation, University of Pretoria).

51. Sørensen, J. B., & Fassiotto, M. A. (2011). Organizations as fonts of entrepreneurship. *Organization Science*, *22*(5), 1322-1331.

52. Souitaris, V., Zerbinati, S., & Al-Laham, A. (2007). Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources. *Journal of Business venturing*, *22*(4), 566-591.

53. Sukaris, Wiki Renedi, Maulidyah Amalina Rizqi & Budiyono Pristyadi. (2021). *Usage Behavior on Digital Wallet: Perspective of the Theory of Unification of Acceptance and Use of Technology Models*. IOP Publishing Ltd

54. Syed, A. M., Alaraifi, A., & Ahmad, S. (2019). Entrepreneurs in Saudi Arabia: risk attitude and predisposition towards risk management. *Journal of Entrepreneurship Education*, *22*(4), 1-18.

55. Turker, D., & Selcuk, S. S. (2009). Which factors affect entrepreneurial intention of university students?. *Journal of European industrial training*.

56. Vanevenhoven, J., & Liguori, E. (2013). The impact of entrepreneurship education: Introducing the entrepreneurship education project. *Journal of small business management*, *51*(3), 315-328.

57. Van Praag, C. M., & Versloot, P. H. (2007). What is the value of entrepreneurship? A review of recent research. *Small business economics*, *29*(4), 351-382.

58. Vinokur, A. D., & Van Ryn, M. (1993). Social support and undermining in close relationships: their independent effects on the mental health of unemployed persons. *Journal of personality and social psychology*, *65*(2), 350.

59. Volchek, D., Jantunen, A., & Saarenketo, S. (2013). The institutional environment for international entrepreneurship in Russia: Reflections on growth decisions and performance in SMEs. *Journal of International Entrepreneurship*, *11*(4), 320-350.

60. Wan, C., Cheung, R., Shen, G.Q (2012). Recycling attitude and behaviour in university campus: a case study in Hong Kong. *Facilities*, Vol. 30 Iss 13/14 pp. 630 - 646

61. Wong, P. K., Ho, Y. P., & Autio, E. (2005). Entrepreneurship, innovation and economic growth: Evidence from GEM data. *Small business economics*, *24*(3), 335-350.

62. Wu, S & Wu,L.,(2008),” The impact of higher education on entrepreneurial intentions of university students in China”, Journal of Small Business and Enterprise Development ,Vol. 15 No. 4, 2008 pp. 752-774 retrieved from www.emeraldinsight.com/1462-6004.htm

THE EFFECTS OF INTERACTIVE MARKETING ON CUSTOMER ENGAGEMENT BEHAVIOR: CASE STUDY OF NATIONAL ECONOMICS UNIVERSITY

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Abstract

This study aims to examine the relationship between interactive marketing and customer engagement behavior in education and training service in digital age. A survey of 480 students of National Economics Univeristy was conducted in March 2021 to collect the data. Regression model is used to test the hypothesis on the relationship between four dimensions of customer engagement behavior - augmentting behavior (AG), co-development (CO), influencing behavior (INF), mobilizing behavior (MB) and interactive marketing activities. Research results confirm that interactive marketing has a positive impact on engagement behavior of students with the university. Some managerial implications are also discussed in the paper.

Keywords: *Interactive marketing, Customer engagement, customer engagement behavior*

1. Introduction

Recent years, the fact that a lot of new universities are continuously established or upgraded from collegge has led to intense competion among universities in recruiting students. Frequent topics in articles published every year is about enrollment activities and how much obtacle numbers of universities have to face in recruiting enough annual student quota. Universities need students to survive and develop like any business needs customers. Hence, whether the relationship between the university and students is the relationship between businesses and customers? This is such an interesting topic that if you scroll through the forums or search on the topic on Google, you can easily see the controversial opinions.

The arguing topics are often around the issue of how to balance between attracting students, ensuring enrollment targets for the school and the quality of student input, between ensuring training quality, the role of the teacher and the role of students and their satisfaction. These controversies may never come to an end because of different approaches. However the answer to the question whether universities need to understand market needs, understand student needs, and find ways to improve the quality of teaching and learning is always Yes, especially under the marketing approach.

The digital era leads to great changes in all human activities thanks to the internet of things (IOTs), artificial intelligence (AI) and other modern digital technologies. The public not only receives information about brands, also known as one-way marketing messages, but they also actively interact and express their personal views on the brand. This is the foundation for the birth of interactive marketing. Websites, peer-to-peer tools like Facebook, YouTube, Twitter, eBay, Tiktok or information search sites like Google are growing like never before. Besides, mobile platforms give people the opportunity to connect widely with more people anywhere any time. Accordingly, brands increasingly utilize these tools in the implementation of interactive marketing activities. In this rapidly developing digital technology context, universities as the education and training service providers are not out of the race in updating 4.0 technologies in managing and operating of all school activities to achieve their goals in recruitment, training quality improvement as well as brand development.

One of the benefits that interactive marketing can bring is to create a connection between the students and the university, therefore helping the universty improve their position and brand image as well as improve the service quality in the most accurate way. The fact is that alot of universities have been updating digital technology and exploiting the digital platforms as online channels to interact with their students. Accordingly, student satisfaction and engagement with the school are of great importance besides training results.

All of the above transformation require investment in facilities, adjustment in the organization structure and efforts of each staff and lecturer to create effective interaction with students. So in fact, how the students perceive and evaluate the factors that make up the service quality from the perspective of interactive marketing and how these factors affect their engagement to the university? This study was conducted to measure the influence of interactive marketing activities on student engagement behavior. In which, interactive marketing activities are measured through students’ assessment on interactive marketing activities that NEU has implemented.

2. Literature review

Interactive digital marketing

The term interactive marketing have been used in a lot of research papers in the US before, but it is often understood in the form of relationship marketing, internet marketing or data-based marketing. According to Blattberg and Deighton (1991), interactive marketing is the exchange of information between each other. During the interaction, needs, interests, and abilities are gradually identified. Such relationships are established over a period of time which helps the company accumulate a database that brings benefits to the company. Ch. Gronroos (1995) defines interactive marketing as managing the relationship between buyers and sellers. Later on, interactive marketing is a defined as the combination of conventional marketing planning with methods of resolving relationships between consumers, including technology to allow the establishment of common interactive relationships. and attract new consumers (T. Kendrick and K. Fletcher, 1999).

It can be concluded that interactive marketing is a form of marketing in which customers and businesses exchange and discuss information with each other through a digital environment to establish a relationship. close relationship between the parties.

Characteristics of interactive marketing

By its very nature, interactive marketing plays an important role in the development and success of businesses. Interactive marketing is different from other previously defined terms such as online marketing or relationship marketing because it shows through the following aspects:

- A two-way dialogue between businesses and customers. Unlike traditional marketing, interactive marketing is about creating a two-way dialogue between businesses and customers. Based on customers feedback and preferences, marketers can come up with more appropriate marketing messages so that they can easily lead customers.
- Lower cost than traditional marketing. It can be said that doing online advertising is significantly less expensive than television, print or radio advertising and often generates a higher rate of return.
- Enterprises can implement interactive marketing programs through digital communication channels. Instead of just watching ads on TV within 20 seconds, nowadays, customers can learn about the product and brand by a predefined route that the business provides, which are the website, email, Mobile / SMS, Game, etc. Forum,…
- The measuring indicators and tools. Some authors emphasize that measureability is an important aspect of interactive marketing as companies can quantify the feedback from communication efforts (Morwitz and Schmittlein, 1998). Or because of its measureability, accuracy, customizability, personalization, and easy targeting (Trappey III & Woodside 2005) that interactive digital marketing is arguably one of the most effective tools for marketers (Radzeviciute & Sliburyte 2005).

- Search engines are the most popular form of interactive marketing. When customers enter keywords into the search window of a search engine, ads will be displayed based on their search terms.

- The source of information through the interaction that customers leave is large. It is also called digital footprints. Their demographics and personal preferences are all revealed through their online behavior. This allows companies to track and store this data for future use in marketing campaigns. The more relevant marketing is to the immediate wants and needs of customers, the more likely it is to make a sale.

The role and importance of interactive marketing

Although interactive marketing is classified as a form of direct marketing, its widespread use makes it a stand-alone form of marketing. Interactive marketing plays an important role in spreading brand image information on the online space, besides it saves costs as well as a number of other benefits as follows:

Firstly, the sales conversion rate becomes higher. A successful interactive marketing strategy is one that helps convert consumers from receivers to buyers. Unlike traditional TV and radio advertising, interactive marketing tools give audiences the opportunity to buy on the spot, which in turn also makes it easier for potential customers to reach your business.

Secondly, interactive marketing will help businesses save costs. Costs including hiring, payroll, shipping and printing will be reduced when the technical tools of interactive marketing are leveraged on e-commerce sites or online stores, The cost for warehouses, showrooms, sales reps and cashiers also reduces because transactions are done online. In addition, printed publications will also be replaced by electronic publications and this information can easily be updated more frequently.

Thirdly is the ability to engage with customers. Many interactive marketing tools allow merchants to engage with their target audience and provide a novel shopping experience that also allows them to learn more about their customers. Experiences such as letting customers express their own personality and preferences for the company's products will also make customers feel more connected to the business, thereby increasing their loyalty.

Fourthly is the ability to attract new interactions. When there is a connecting of existing customers, they will share their information and interests in the business with friends or others. This helps businesses attract new interactions, thereby increasing the number of potential customers in the future.

Finally, through interactive marketing, businesses can receive feedback that will be an important factor in the growth of the company. This is explained by the fact that if the customer has direct feedback, the business will receive different multi-dimensional information about the business. It can also help businesses to change more positively or have good suggestion in the next marketing campaigns. Even without direct feedback, businesses can measure the effectiveness of their interactive marketing activities by analyzing other metrics such as how many times an ads has been read and shared, the period of time spent on reading a PR articles or website, etc.

Elements of interactive marketing

Most of the research papers on interactive marketing often consider the elements of interactive marketing like those in service marketing or relationship marketing. Baron and Harris (2003) presented seven key elements of relationship marketing as: level of trust between two parties, level of commitment to the relationship, long-term relationship, communication channel, service personalization, service quality, customer satisfaction and quality commitment. Ndubisi (2006) in the study of the influence of gender on loyalty under the relationship marketing approach also proposed four main factors underpinning relationship marketing such as trust, commitment, communication, handling complaints. Dushyenthan et al. (2012) in the study on the influence of interactive marketing on customer satisfaction, provided 7 main factors showing the influence of interactive marketing: Trust, Relationship Commitment, Quality. Staff, Atmosphere quality, Familiarity, Service personalization, Complaint handling.

In this study with the context of the digital interactive environment in the university education services, the authors selected and evaluated 6 main elements of the university's interactive marketing: Facilities, Service Quality, Trust, Responsibility, Relationship Commitment, Complain Handling. All these factors are built on scales associated with the digital technology environment: the facilities are online technology infrastructure such as wifi, software, online interactive channels; interactive services and activities are provided and implemented through online channels such as websites, social networks, online learning systems, email…

Customer engagement (CE) and customer engagement behavior (CEB)

Customer engagement has been attracting considerable attention among practitioners as well as academicians in recent years. Customer engagement is a concept that is being explored as a tool to facilitate predictive power of customer behaviour including loyalty and referrals (Brodie et al., 2011; Calder et al., 2009; Pham and Avnet, 2009). Scholars have conceptualized engagement in varied forms including consumer and customer engagement (Bolton, 2011; Van Doorn et al., 2010), customer-brand engagement (Brodie et al., 2013; Hollebeek et al., 2014), community engagement (Brodie et al., 2013), customer-medium engagement (Calder et al, 2009; Kim et al., 2013), engagement for co-creation (Jaakkola and Alexander, 2014; Sawhney et al., 2005) etc. Such varied conceptualizations reflect the evolving state of the construct. It also reflects on the growing interest among scholars from different viewpoints.

The latest common cited definition is from Hollebeek, Srivastava và Chen (2019). They defined customer engagement as a customer's motivationally driven, volitional investment of focal operant resources (including cognitive, emotional, behavioral, and social knowledge and skills), and operand resources (e.g., equipment) into brand in- teractions in service systems. Accordingly, customer engagement has the following characteristics:

– more than just buying behavior

– showing the customer's long-term and intimate relationship in cognitive, behavioral and emotional aspects

– presenting the customer's willingness to share physical and operand resources in interaction with the business

– a multi-stage process that is monitored and measured

– ease of access thanks to digital technology

Up to this time, customer engagement has primarily been examined from four broad perspectives: (i) as a behavioural manifestation, originating from work conducted by van Doorn et al. (2010); (ii) as a psychological state as per Brodie et al. (2011); (iii) as a disposition to act (e.g. Storbacka et al. 2016); and (iv) as a process including several steps or stages of the customer decision making process (e.g. Maslowska et al. 2016). Literature focusing on behavioural manifestations commonly refers to customer engagement behaviours (CEB). Van Doorn et al. (2010, p. 254) specify CEB as behaviours that "go beyond transactions and may be specifically defined as a customer's behavioural manifestations that have a brand or firm focus, beyond purchase, resulting from motivational drivers". While Kumar et al. (2010) argue that CE should include transactional behaviours, most scholars (Van Doorn et al. 2010; Bijmolt et al. 2018, Jaakkola and Alexander 2014; Verleye et al. 2014) concur with van Doorn et al. (2010) that customer engagement only involves behaviour that extends beyond transactions, and thus beyond purchase. Since behaviours can be easily observed and measured, this study also focuses on the behavioral manifestations of CE.

Jaakkohla and Alexander (2014) identified four types of CEB as follows:

– Augmenting behavior: Customer uses resources to expand/add value to product/business (for example, discovering new ways to create a product/service)

– Co-developing behavior: Customer contributes resources to the development of the product/business (e.g. supporting the development of an idea such as testing a new product)

– Influencing behavior: Customer influences other people's perceptions, preferences and perceptions of the business (e.g. blogging about experiences, introducing hotels)

– Mobilizing behavior: Customer uses one's own resources to entice and mobilize others to participate in business-oriented activities (e.g. product boycott)

This study used this classification to establish scales for customer engagement behavior factor in the research model.

3. Method

Study site

The field study was conducted in National Economics University (NEU) and the research population chosen was that of NEU students. NEU has enthusiastically taken to online activities and moved into the digital age aggressively to keep up with that of Vietnam in general.

According to the report on "Mobile Application Market 2021" released by Appota, Vietnam has about 70% of the population using mobile phones, of which 64% of subscribers have 3G and 4G connections. The percentage of the population using the Internet accounts for 70% in which the number of users using the Internet via mobile devices accounts for about 95% and they spend 3 hours and 18 minutes on average. This is quite an impressive number proving that smartphones are being prioritized as the main connected devices thanks to their convenience and popularity. Thanks to the low cost, the internet is easy to access with just about 260,000 VND/month, along with the increasingly improved Internet quality which has now reached 60.88 Mbps increasing about 40.7% compared to 2019. These facts make the Internet widely covered and put Vietnam in the TOP 12 countries with the cheapest Internet prices globally and ranked 2nd in Southeast Asia in terms of mobile Internet speed.

Moreover, in NEU, students get free access to the internet, including free emailing and web surfing. They are also frequently required to search online for information related to their coursework. Every student has account to access NEU e.library, Learning management Systems (LMS) and Turnitin so they can search for needed materials and submit assignments on system as per lecturers' request. Notices related to the students are published on NEU website and some facebook groups of NEU studens like "Goc hoc tap Neu" and "Goc thong tin Neu". Besides, they can access to their record like personal information, payments, practicing and studying gradings on online system "daihocchinhquy.neu". All departments and institutions in NEU have their own webpage and fanpage to interact with their students as well.

Research design and hypothesis

A systematic sampling technique targeting all students was employed in distributing the questionnaires on fanpage “Goc thong tin NEU” in March 2021. The 6 elements underpinning interactive marketing activities mentioned in the questionaire are: Facilities, Service Quality, Trust, Responsibility, Relationship Commitment, Complain Handling, and 4 dimensions in Customer Engagement Behavior adapted from the classification of Jaakkohla and Alexander (2014) including: Augmentting behavior (AG), Co-development (CO), Influencing behavior (INF), Mobilizing behavior (MB).

The scales of student’s engagement behavior to the university in the context of interactive marketing are explained as follows:

- Augmenting behavior (AG) is understood as active preparation for lessons such as reading online course materials and lectures before class; interacting with lecturers on online learning system, email or Facebook; writing blogs, posts or post pictures about your experiences at school.
- Co-developing behaviour (CO) means providing feedback at term ends on curriculum and teaching methods; participating in seminars (on topics of their interest) and contributing ideas to improve school services such as dormitory services, parking services, etc. through online surveys, or Online feedback channel of the university and faculty…
- Influencing behavior (INF) is demonstrated by actions such as posting or forwarding information about the faculty and university to classmates, juniors; providing feedback/guidance to other students about the information and announcements of the faculty and the university; providing information to high school students/ their parents about the university majors.
- Mobilizing behavior (MB) is reflected in the student’s involvement in convincing friends and other students to participate in the activities of the union, student clubs in the university; mobilizing and persuading high school seniors (or their parents) to consider the university after high school graduation.

4. Results

The research obtained 480 valid answer sheets, the data of which was processed and analyzed by tools to test the reliability of the scale, exploratory factor analysis and regression analysis.

The results of testing the reliability of the scale

Cronbach's alpha coefficient and total variable correlation coefficient were used to test the reliability of the scale. The results of factor analysis explore the scales of the following factors:

Sub-factor	Cronbach Alpha	Correlation coefficient
Facilities	0.767	0.554-0.668
Service Quality	0.925	0.694-0.875
Trust	0.761	0.508-0.629
Responsibility	0.721	0.514-0.699
Complain Handling	0.769	0.510-0.711
Relationship Commitment	0.851	0.651-0.746
Co-development (CO)	0.737	0.484-0.676
Influencing behavior (IN)	0.737	0.513-0.652
Augmentting behavior (AG)	0.804	0.563-0.663
Mobilizing behavior (MB)	0.808	0.472-0.744

According to Peterson (1994), Slater (1995), the value of Cronbach Alpha > 0.8 is a good scale; from 0.7 to 0.8 is usable. According to Nunally & Burnstein (1994), the correlation coefficient of the total variable must be > 0.3. Thus, all scales are reliable and qualified to perform exploratory factor analysis.

The results of exploratory factor analysis (EFA)

According to Hair et al (1998), the exploratory factor analysis test results are satisfactory when the KMO coefficient is between 0.5 and 1; factor loading factor greater than 0.3; Barrtlet's test reached statistical significance (Sig < 0.05); extracted variance is over 50%. Result of factor analysis of independent variables for coefficient KMO = 0.751; Barrlet test has Sig = 0.000 (< 0.05); The total variance extracted is 69.164% and Rotated Component Matrix[a] is as follows:

	Component				
	1	2	3	4	5
CLDV1 National Economics University always provides me with good quality online services	.883				
CLDV2 NEU always fully equips me with online materials related to my majors	.883				
CLDV3 NEU always fully provides me with updated information and trends related to my major	.829				
CLDV4 The online services of NEU make my study more efficient	.663				

	Component				
	1	2	3	4	5
TN1 I believe that NEU always provides online services quickly		.784			
TN2 People working at NEU are always willing to help students		.708			
TN3 People working at NEU are always ready to meet students' requirements		.652			
NT1 NEU always shows professionalism in its online services		.625			
NT2 I believe that NEU solves my problems quickly		.550			
NT3 I believe that NEU always treats students fairly		.495			
NT4 I believe that NEU has resolved my complaints satisfactorily		.478			
CKMQH1 The relationship between me and NEU is clearly committed			.833		
CKMQH2 The relationship between me and the NEU deserves to be maintained by the university with maximum effort			.778		
CKMQH3 The most important thing for NEU is to maintain relationships with students like us.			.736		
CKMQH4 I realize that NEU always commits to solve students' problems honestly			.643		
GQPN1 I am satisfied with the way the NEU solves my problems				.862	
GQPN2 I had a good experience solving my problem with NEU				.703	
GQPN3 I am very satisfied with the complaint handling by NEU				.655	
GQPN4 NEU has provided me with a satisfactory solution to my specific problem				.550	

	Component				
	1	2	3	4	5
CSVC1 National Economics University has attractive online interactive channels					.850
CSVC2 NEU has well managed online interactive channels					.807
CSVC3 I feel very convenient when I study under the IT infrastructure of NEU					.788

The results of exploratory factor analysis show that all scales have factor loading coefficients that meet statistical standards (the smallest coefficient is 0.478). All the independent variables load on the right factor except for the responsibility and trust scales which are loaded in the same factor. This can be explained that for students, their trust in the university and their assessment on the university responsibility towards students is closely related. Thus, if the university improves students' perception about the responsibility that they perform, it would lead to higher students' trust in the university. The results of the EFA analysis of the independent variables forming the representative variables for the factors are renamed as follows: Service quality; Trust and responsibility; Relationship commitment; Complaint handling and Facilities.

The results of factor analysis of independent variables give the coefficient KMO = 0.709; Barrlet test has Sig = 0.000 (> 0.05); total variance extracted reached 66.529%. The results of exploratory factor analysis showed that all scales had factor loading coefficients that met statistical standards and reached values > 0.5. All the independent variables are loaded with the correct theoretical kernel. The results of EFA analysis, the dependent variables form the variables representing the factors named as follows: Augmentting behavior (AG), Co-development (CO), Influencing behavior (INF), Mobilizing behavior (MB).

Results of regression analysis

The influence of interactive marketing activities on student engagement behavior was examined through regression analysis with independent variables presenting students' assessment on 5 new sub-factors of interactive marketing (*CLDV: Service Quality; NT_TN: Trust and Responsibility CKMQH: Relationship Commitment; GQPN: Complain Handling; CSVC: Facilities)* and Dependent variables including Augmentting behavior (AG), Co-development (CO), Influencing behavior (INF), Mobilizing behavior (MB)., respectively.

The results of the regression analysis on the influence of interactive marketing activities on Augmentting behavior (AG) for R2 = 0.639 (independent variables explain 63.9% of the change in Augmentting behavior), F= 168.222 with Sig of F test equal to 0.000

(< 0.05). Thus, the regression model is eligible to generalize and apply to the population. The results of the normalized regression function are as follows:

AG = 0.333*CLDV + 0.314*NT_TN + 0.175*CKMQH + 0.251*GQPN + 0.259*CSVC

Students' perception of all interactive marketing activities positively affects augmenting behavior, in which the perception of service quality has the strongest influence. In fact, the convenient and 24/7 online channels help students be more active in the learning process. They interact more easily with faculty and administrative departments related to all of their activities in the university

The results of the regression analysis on the influence of interactive marketing activities on co-developing behavior gave the results R2 = 0.624 (the independent variables explain 62.4% of the change in co-developing behavior), F= 157.219 with Sig of F test equal to 0.000 (<0.05). Thus, the regression model is eligible to generalize and apply to the population. The normalized regression function is as follows:

CO = 0.298*CLDV + 0.464*NT_TN + 0.172*CKMQH + 0.243*GQPN + 0.199*CSVC

It can be concluded that students' perceptions of all interactive marketing activities positively affect their co-developing behavior, in which feelings of trust and responsibility have the strongest influence. In fact, behaviors such as providing opinions and feedback at the term-end about teaching methods and curriculum, facilities and other support services of the university through online survey and possibly in the anonymous way really works. Students feel better about the responsibility and willingness of the university to understand the needs and aspirations of students. It enhances more trust in the university, thereby promoting the participation of students in the learning process and contribution to the development of the university.

Regression analysis results on the influence of interactive marketing activities on influencing behavior for the results R2 = 0.628 (independent variables explain 63.9% of the change in the influencing behavior), F= 159.718 with the Sig of the F-test equal to 0.000 (< 0.05). Thus, the regression model is eligible to generalize and apply to the population. The results of the normalized regression function are as follows:

INF = 0.346*CLDV + 0.389*NT_TN + 0.197*CKMQH + 0.249*GQPN + 0.246*CSVC

It shows that students' perceptions of all interactive marketing activities have a positive influence on students' influencing behavior, in which the perception of Trust and responsibility and Service quality have the strongest impact. Once students appreciate the responsibility and quality of service and have trust in the university, they are more likely to share their experiences with others. They actively share useful information related to their learning experience and skills in online groups that built and managed by the university and the faculty, alongside with their own personal space on social networking sites like Facebook, Tiktok, Instagram...

The results of the regression analysis on the influence of interactive marketing activities on the *mobilizing behavior* gave the results R2 = 0.545 (independent variables explain 54.5% of the change in *mobilizing behavior*). development), F= 113,619 with Sig of F test equal to 0.000 (< 0.05). Thus, the regression model is eligible to generalize and apply to the population. The results of the normalized regression function are as follows:

MB = 0.329*CLDV + 0.253*NT_TN + 0.219*CKMQH + 0.222*GQPN + 0.337*CSVC

Students' perception of all interactive marketing activities positively affects mobilizing behavior, in which the perception of facilities and service quality has the strongest influence. These positive feelings and evaluations are the basis for students to not only share but also entice and convince other people such as high school seniors and their relatives to choose the university they are studying. It is the students of the university that can be seen as an important link connecting and attracting potential customers for that university.

5. Conclusion

In general, the results of this study support the positive effects of interactive marketing activities on students' engagement behavior. Interactive marketing activities have exploited the advantages of interaction in the digital platforms such as the immediacy and continuity, as well as the ability to systematically and clearly measure and capture learners' feedback. Good service quality and facilities, strong responsibility and commitment of the university are good basis for students to share and spread positive information to other community. These behavior would contribute significantly in building and developing the university brand.

The limitation of this study is that it has not been able to clarify the evaluation of interactive marketing of each interaction channel, separated departments and faculties in the university. As the results, it can not suggest specific implications or solutions for the university. For example, survey results show that there is a high level of satisfaction with facilities or service quality, but this evaluation may not be the same across different channels of interaction or among different departments. Further studies in the future shall be designed to fix this limitation.

6. Refferences

1. Baron, S., Harris, K., Elliott, D., Reynolds, K. L., & Harris, L. C. (2005). When service failure is not service failure: an exploration of the forms and motives of “illegitimate” customer complaining. Journal of services marketing.

2. Bijmolt, T. H., Krafft, M., Sese, F. J., & Viswanathan, V. (2018). Multi-tier loyalty programs to stimulate customer engagement. In Customer engagement marketing (pp. 119-139). Palgrave Macmillan, Cham.

3. Blattberg, R. C., & Deighton, J. (1991). Interactive marketing: Exploiting the age of addressability. Sloan management review, 33(1), 5-15.

4. Bolton, R. N. (2011). Comment: Customer engagement: Opportunities and challenges for organizations. Journal of Service Research, 14(3), 272-274.

5. Brodie, R. J., Hollebeek, L. D., Jurić, B., & Ilić, A. (2011). Customer engagement: Conceptual domain, fundamental propositions, and implications for research. Journal of service research, 14(3), 252-271.

6. Brodie, R. J., Ilic, A., Juric, B., & Hollebeek, L. (2013). Consumer engagement in a virtual brand community: An exploratory analysis. Journal of business research, 66(1), 105-114.

7. Calder, B. J., Malthouse, E. C., & Schaedel, U. (2009). An experimental study of the relationship between online engagement and advertising effectiveness. Journal of Interactive Marketing, 23(4), 321–331. doi:10.1016/j.intmar.2009.07.002

8. Dushyenthan, T. (2012). Interactive Marketing and Its Impact on Customer Satisfaction-The Study of Mobile Communication Service Providers in Jaffna Sri Lanka (A Comparative Study of Dialog and Mobitel). Global Journal of Management and Business Research, 12(14), 57-66.

9. Gronroos, C. (1995), ``Relationship marketing: the strategy continuum", Journal of the Academy of Marketing Science, Vol. 23 No. 4, pp. 252-4.

10. Hollebeek, L. D., Srivastava, R. K., & Chen, T. (2019). SD logic–informed customer engagement: integrative framework, revised fundamental propositions, and application to CRM. Journal of the Academy of Marketing Science, 47(1), 161-185.

11. Hollebeek, L.D., Chen, T. (2014). Exploring positively- versus negatively-valenced brand engagement: a conceptual model. J. Prod. Brand Manag. 23 (1), 62–74.

12. Hollebeek, L.D., Glynn, M.S., Brodie, R. (2014). Consumer brand engagement in social media: conceptualization, scale development and validation. J. Interact. Market. 28, 149–165.

13. Jaakkola, E., & Alexander, M. (2014). The role of customer engagement behavior in value co-creation: a service system perspective. Journal of service research, 17(3), 247-261.

14. Jaakkola, E., & Alexander, M. (2014). The role of customer engagement behavior in value co-creation: a service system perspective. Journal of service research, 17(3), 247-261.

15. Kim, Y.H., Kim, D.J. and Wachter, K. (2013), "A study of mobile user engagement (MoEN): engagement motivations, perceived value, satisfaction, and continued engagement intention", Decision Support Systems, Vol. 56, December, pp. 361-370.

16. Maslowska, E., Malthouse, E. C., & Collinger, T. (2016). The customer engagement ecosystem. Journal of Marketing Management, 32(5-6), 469-501.

17. Morwitz, V. G., & Schmittlein, D. C. (1998). Testing new direct marketing offerings: the interplay of management judgment and statistical models. Management Science, 44(5), 610-628.

18. Ndubisi, N. O. (2006). Effect of gender on customer loyalty: a relationship marketing approach. Marketing intelligence & planning.

19. Ng SC, Sweeney JC, Plewa C. Customer Engagement: A Systematic Review and Future Research Priorities. Australasian Marketing Journal. 2020;28(4):235-252. doi:10.1016/j.ausmj.2020.05.004

20. Nunnally J, Bernstein I 1994 Psychometric theory. McGraw Hill, New York

21. Peterson, R. A. (1994). A meta-analysis of Cronbach's coefficient alpha. Journal of consumer research, 21(2), 381-391.

22. Pham, M. T., & Avnet, T. (2009). Rethinking regulatory engagement theory. Journal of Consumer Psychology, 19(2), 115-123.

23. Radzeviciute, R., & Sliburyte, L. (2005). Elektroninio rinkodaros issukiai planuojant integruota rinkodaros komunikacija.

24. Sawhney, M., Verona, G., & Prandelli, E. (2005). Collaborating to create: The Internet as a platform for customer engagement in product innovation. Journal of interactive marketing, 19(4), 4-17.

25. Sir, T. D. (2012). Interactive Marketing and Its Impact on Customer Satisfaction-The Study of Mobile Communication Service Providers in Jaffna Sri Lanka (A Comparative Study of Dialog and Mobitel). Global Journal of Management and Business Research, 12(14).

26. Slater, S. F. (1995). Issues in conducting marketing strategy research. Journal of strategic Marketing, 3(4), 257-270.

27. Storbacka, K., Brodie, R. J., Böhmann, T., Maglio, P. P., & Nenonen, S. (2016). Actor engagement as a microfoundation for value co-creation. Journal of Business Research, 69(8), 3008-3017.

28. Trappey III, R. J., & Woodside, A. G. (2005). Consumer responses to interactive advertising campaigns coupling short-message-service direct marketing and TV commercials. Journal of Advertising Research, 45(4), 382-401.

29. Van Doorn, J., Lemon, K. N., Mittal, V., Nass, S., Pick, D., Pirner, P., & Verhoef, P. C. (2010). Customer engagement behavior: Theoretical foundations and research directions. Journal of service research, 13(3), 253-266.

30. Verleye, K., Gemmel, P., & Rangarajan, D. (2014). Managing engagement behaviors in a network of customers and stakeholders: Evidence from the nursing home sector. Journal of service research, 17(1), 68-84.

CREDIT RATING AGENCY: INTERNATIONAL EXPERIENCES AND SUGGESTIONS TO DEVELOP IN VIETNAM

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Abstract

The activities of Credit rating agency (CRA) were created since 1909 by John Moody. After hundred years, CRAs gradually showing their special role in capital market of many countries. During the past decade, CRAs also draw a lot of attention from investors, policy makers, especially during the financial crisis in 2008. This report will illustrate some specific issue around these agencies, include: the overview of CRAs, the role of CRAs on financial crisis, positive and negative effect of "Credit Ratings Mistrust" during crisis, and the chance to run a CRA in Vietnam, as well as some suggestion to improve their performance in risk assessments.

Keywords: *Credit rating agency, Financial crisis, credit ratings mistrust, financial market, bond market*

1. Introduction

Although Credit Rating Agency is a specific type of companies who does not directly invest in financial market, their role to the financial system is undeniable. CRAs not only reduce the asymmetric information but also take part in risk management of investors. Theoretically view, CRAs also helps to predict the financial crisis. However, CRAs have potential problem in their business model. Global Financial Crisis 2007-8 exposed these shortcomings. Despite the misleading credit rating of CRAs during the Global Financial Crisis, the role of CRAs in enhance the efficient of financial market is worth to considered. A Vietnamese credit rating agency is an interesting business for financial market and policy makers to setup.

2. Overview of credit rating agencies

2.1. Who are Credit Rating Agencies?

There are 2 main problems in the capital market, which make this market less attractive: transaction cost and asymmetric information. When a lender gives money to a borrower, the first and most important matter they care about is whether they can get their money back. In order to solve this problem, the lender require more and more information about their counter parties. However, it is not easy to collect all information about partners, especially when they have too many borrowers. In this case, the existence of a third party who can record and analyze companies' information became necessary.

CRAs aim to provide their opinions about the securities' debt risk, including private corporations and all levels of government. On the other words, based on the information about firms' framework, sovereign, capital… and specific instruments of CRAs, such as: financial analysis, statistical modelling, risk volatility assumptions… CRAs give their subjective judgments about the firms' securities, whether the issuers can keep their promises of interest and principal payment on due date (Bilson & Delacour, 2011)

It is clear that the operation of CRAs reduce the asymmetric information in the capital market. By dint of these analyses, the investors can nurture their knowledge about the firms and their securities, hence, they can make the right decisions in relationship with their risk taste. (Elkhoury, 2007)

2.2. How to run Credit Rating Agencies?

All of the very first and biggest CRAs in the world are U.S companies. The first CRA is Moody, which was found by John Moody in 1909, followed by the Poor's Publishing Company in 1916, Standard Statistics in 1922 and the Fitch Publishing Company in 1924 (White, 2010). Although they have the same objective, CRAs is different in several sectors, the important are: Business model and methodology.

- *Business model*

- <u>"Investor-pays" model</u>

From the beginning, 4 major CRAs worked as the model "investor-pays". To specific, these CRAs released their judgment about several securities of a company or portfolios, and then sold their assessments of credit worthiness to investors.

This model was used in half of the century until the early 1970s, when several issues occurred, which made the model of these CRAs changed. (White, 2010)

- First, free-riding or information leak problem, which reduce the revenue of CRAs.
- Second, regulation changes which made the issuers had to pay for CRAs to rate their securities in order to put their securities in portfolios.
- Third, as CRAs working in the information market, they could be paid by both issuers and investors.

Consequently, the new model for CRAs business was held, called "issuer-pays".

- <u>"Issuer-pays" model</u>

In the "issuer-pays" model the bond issuers had to pay for the rating while these grade was public to the investors with no charge. "Issuer-pays" model is the most common model to be used in CRAs.

Despite its popularity, the "issuer-pays" model raises the conflict of interest, this lies on the potential relation between CRAs and their clients. Theoretically speaking, CRAs should rate the issuers' securities based on its risk, or more particular, the abilities of paying back their loan. However, although there are only few rating agencies which are recognised in the world, the competition is still exist. Consequently, to keep their market-share and revenue, CRAs may distort ratings or provide ancillary services to enhance the relation with their customers. Moreover, they may gain some further business from clients. For example, CRAs can give their clients pre-rating assessments, so that the issuers can modified to obtain the rating they want, this is called “ratting-shopping”. (Pagano & Volpin, 2010)

- *Methodology*

Each CRA has their own methodology to rate securities. In forming their opinions of credit risk, rating agencies typically use analysts or mathematical models, or a combination of the two. (S&P Global Ratings, 2019)

- Model driven ratings.

A small number of credit rating agencies focus almost exclusively on quantitative data, which they incorporate into a mathematical model. For example, an agency using this approach to assess the creditworthiness of a bank or other financial institution might evaluate that entity’s asset quality, funding, and profitability based primarily on data from the institution’s public financial statements and regulatory filings.

- Analyst driven ratings.

In rating a corporation or municipality, agencies using the analyst driven approach generally assign an analyst, often in conjunction with a team of specialists, to take the lead in evaluating the entity’s creditworthiness. Typically, analysts obtain information from published reports, as well as from interviews and discussions with the issuer’s management. They use that information and apply their analytical judgment to assess the entity’s financial condition, operating performance, policies, and risk management strategies.

2.3. The roles of Credit Rating Agencies

- *Role of Credit Rating Agencies in financial system*

- Reduce asymmetric information

Providing risk rating scales of securities is the main target of CRAs. In order to fulfill their goal, CRAs need to collect not only public but also nonpublic information from the clients, such as industry report, price trends, acquisition agreements, business forecasts, firm’s future project,…With high experience employees and professional methods, the rating of CRAs contain superior information. The investors can base on CRAs opinions to evaluate their own investment’s value and risks. Hence, CRAs is useful to minimize information asymmetries. (Mullard, 2012)

- Tool to maintain regulation

In the early 1930s, when the regulation of investment became more tighten, the role of CRAs became more important. For example, in order to issue a new security to the market, the rating of CRAs become a regulatory license and requirement. Hence, issuers need to pay for CRAs to rate their new securities. Moreover, the law restrictions also require some types of investors, such as commercial bank, pension fund…to follow the minimum credit rating policies, which make the role of CRAs become higher. In a sense, CRAs became a tool of regulation, used for regulatory purpose in the world to reduce risk in the market.

- Source for risk management

The higher risk, the higher return the investors require. CRAs provide an indication about clients' risk, therefore, became a source on risk management of investors. The assessments of CRAs can affect the interest rate of payment in a contract, or even can break a deal of clients. In addition, for some buy-side companies (for instance: insurance companies, pension funds…) or sell-side companies (such as broker dealers), the result of credit rating process is an important input to their investment analyses

- *Credit Rating Agencies in anticipating future financial turmoil*

Theoretically, CRAs could satisfy their role, even in anticipating future crisis. With independent working and high reputation, the result of credit rating process will be the main source for investors to make decision. CRAs will reduce the asymmetric of information by provide the issuers risk level. In addition, with the reliable report, investors can evaluate their risk and have suitable reserve for their investment. The result of credit rating should remain valuable in a long period of time. Therefore, the downgrade of many issuers also indicate that the crisis may happened.

However, in CRAs' business model, their work is not independent. It is clearly that "issuers pay" model exist the conflict of interest. This conflict raises the question of the credit rating accuracy. In this case, instead of disclosing information, CRAs make the market less transparent. Moreover, overrating securities leads to the mistake in risk management, and become worthless in regulation. The incorrect risk appreciation cannot be the source to predict financial crisis. Hence, the business model of CRAs make them fail their roles.

3. Credit rating agencies and financial crisis

3.1. Financial crisis in 2007 - 2008

The recent financial crisis in 2007-8 can be recorded as the biggest global crisis after World War II, which led to bankrupt of large financial institutions. Down Jones Industrial Average was stood at more than 14.000 in September 2007, however, 1 year later, this figure was only 8.000, 40% was lost in 1 year (Reavis, 2012). Not only was stock market suffer from the crisis but credit market also were nearly paralysis. Unemployment rate in U.S raise dramatically, loans could not be made, and other countries beside U.S also suffer with the crisis.

The very first source of the crisis was US housing market. It was blamed that the significant rising in the house price from 1990s in relation with several contributing factors, such as low interest rate, was key points to let the market down.

In 2006, the houses' price in U.S was about 4 times of average family income, which illustrated the high demand of this asset. In spite of flat incomes, household was able to buy their own house by the easy access to capital of bank, which created the subprime loan in the market.

The securitization process transformed these subprime loans into subprime Mortgage Backed Securities (MBSs) and Collateralized Debt Obligations (CDOs) and was held by many investors in the market.

The crisis occurred when the balloon of houses blew up. Housing price dropped dramatically. Households could not pay back their loans to their lender. The subprime loans became bad debt. The securities based on these type of loans became worthless. And the revenue of investors became negative.

The explosion of the house' balloon also pull down the stock index. Hence, the crisis happened and many firms, especially financial institutions was involved.

3.2. Role of Credit Rating Agencies in Global Financial Crisis

In order to have clear evaluation of CRAs' role in the financial crisis, the report will discuss the securitization process, therefore, summary the huge effect of their misleading credit ratings.

- *Securitization process and affections of misleading credit rating*

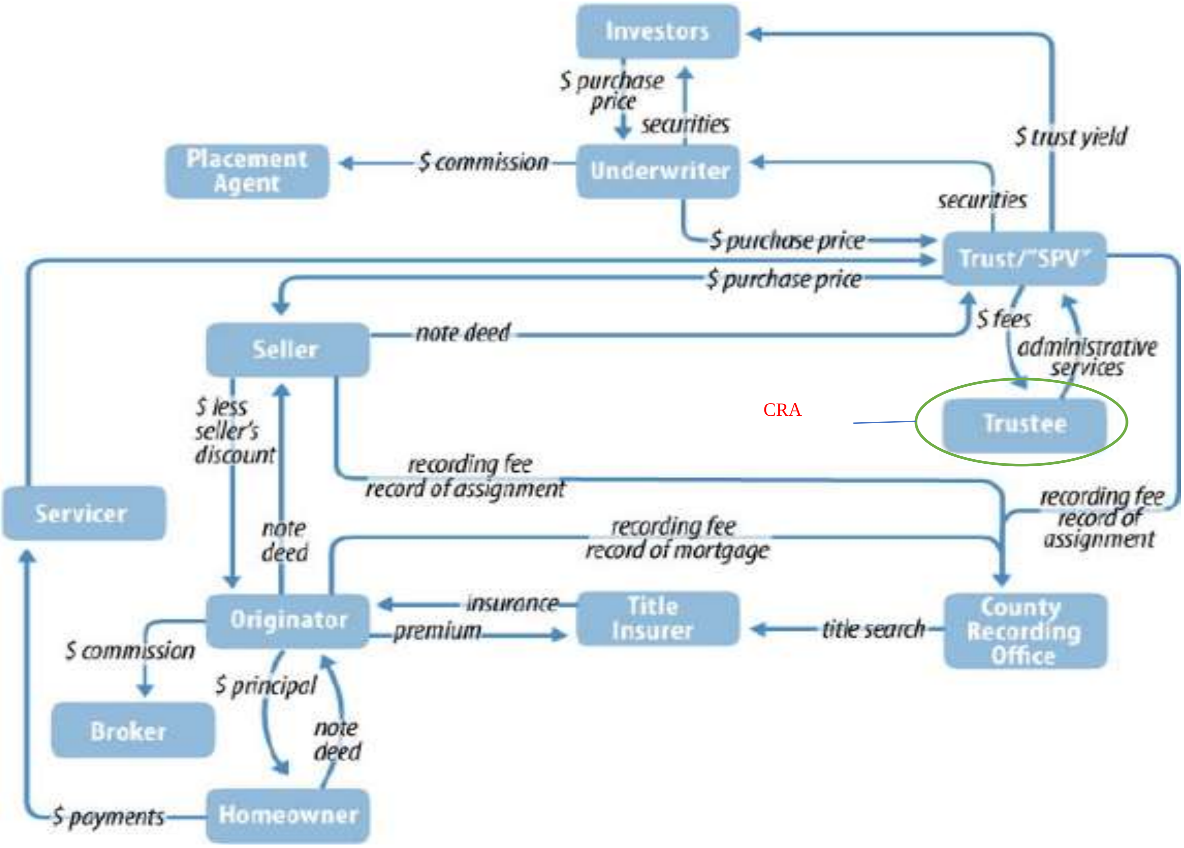

Diagram 1: Securitization process (Peterson, 2009)

It can be said that the misleading credit rating of CRAs exacerbate the Global Financial Crisis. (Mullard, 2012)

First, the misleading of CRAs provided favourable condition for SPV to sell the subprime MBSs and CDOs in the market. The mix and match of the securities in the portfolios made it complicated and then the information became coarse. CRAs, in that case, became more important on deducting information asymmetry. However, their misleading only raise the gap between the subprime securities and its source, subprime loans.

Consequently, when the housing price dropped, its negative effect not only affected the originators, but also put the investors in the secondary mortgage market in danger. The domino effect made many big financial institution suffer, and with the limit power, FED could not rescue them all.

Second, the high rate of securities increased the liquidity in the market. The originator, instead of waiting for their borrowers pay back their debt, could sell the loans to other institutions, and continued lending money for the subprime homeowners. This situation, in some case, made the originator suffer more from the broken of housing balloon. The same problem also was recorded in other investors in the market. Moreover, the securitization process also reduced the responsibility of the lender in the loan contract.

Third, the misleading credit rating also meant that the risk of the portfolios was low. In this situation, the holder of the portfolios did not require large provision for the investment. Therefore, they became passive when crisis happened.

- *Causes of the misleading credit rating*

From the beginning, secondary mortgage market working normally for decade. But after the Dot com crisis, U.S government decided to reduce the interest rate, which given favourable condition for homeowner to make a loan. However, these loans did not conform the standard, so that it was called subprime loan. After securitization process, these loans became subprime MBSs and CDOs. From 2001, subprime MBSs increased significantly as shown in table 3. The misleading in credit rating of CRAs played the main role on this trend. (Pagano & Volpin, 2010)

Firstly, the conflict in the business model of CRAs made them give the portfolios which included subprime MBSs highest rating. In addition, the untighten regulation in CRAs' operation made their conflict of interest became more serious. There were no regulation restrict CRAs provide their rating requirement to the clients. Hence, the issuers can modified their financial situation to meet the certain rating, or on other words, shopping the rating. Furthermore, CRAs was concerned as "journalists", so they did not have responsibility for their rating result. The only thing that made them giving the right rating was reputation and tradition. Hence, when they wanted to keep the market-share and revenue, they may misleading their rating result. The relation between their rating and revenue was significant. From 2001 to 2006, three biggest rating agencies recorded dramatically rise in revenue, from $3 billion to $6 billion. They also charged for the triple-A rating securities, as Moody's received 4.75% for triple-A rated and 3.5% for AA rate.

Secondly, it is undeniable that the securities in the secondary mortgage market were very complex. Hence, it was not easy to evaluate the creditworthiness of these instruments. However, CRAs, instead of warning investors about the different between bonds and asset-backed securities, was very confident to assert that the risk level between triple-A bonds and triple-A securities was similar. This reassurance encouraged investors to purchase riskier AAA securities, and expand the market. "The FCIC estimated that Moody's and S&P rated some 10,000 securities as triple-A between 2005 and 2007 and that Moody's had rated US$4.7 trillion in RMBS and over US$400 billion in CDOs".

Table 1: Issuance of mortgage backed securities and CDOs over time

	Total mortgage origination ($bn)	Subprime origination		Subprime MBS		CDO issuance ($bn)
		($bn)	(% of total mortgages)	($bn)	(% of subprime mortgages)	
2001	2,215	190	8.6	95	50.0	6
2002	2,885	231	8.0	121	52.4	36
2003	3,945	335	8.5	202	60.3	30
2004	2,920	540	18.5	401	74.3	157
2005	3,120	625	20.0	507	81.1	272
2006	2,980	600	20.1	483	80.5	552
2007Q1	680	93	13.7	52	55.9	186
2007Q2	730	56	7.7	30	53.6	176
2007Q3	570	28	4.9	16	57.1	93

Source: Gorton (2008)

Thirdly, CRAs also had problem with their methodologies and experience employers. It seems that they were lack of historical data of subprime market, as well as the correlation in the default that may affect the securities. The demand for CRAs rating also increased, which could be describe by $4 trillion mortgage-back securities during 6 years from 2000 to 2006 that needed ratings. The rating process, which should be run in 1 months, reduced to 2 weeks. Therefore, the employers in CRAs always had to handle the stress time. These are some reasons which made the rating result become mistrust.

4. Suggestions for credit rating agencies

Theoretically speaking, CRAs should reduce the asymmetric information and provide sufficient reports for investors. However, in the past decade, especially during crisis time, CRAs did not satisfy their role in risk assessments.

Some suggestion in term of regulation, which should be bring forward to improve CRAs' performance will be discuss below:

First, the potential problem of CRAs is the business model. In long-term, CRA should change the "issuer-pays" model into "subscriber-pays" model to solve the conflict of interest. The new model should have the participation of a third party to fund the CRA on behalf of investors.

Second, in short-term, while changing the model is difficult to implement, a regulation restrains the relation between issuers and CRAs in the old model must be released. For example, prohibit issuers from shopping rating, restrict CRAs sell ancillary services, which has strong relation with the result of rating.

Third, the penalty of giving mistrust rating should be considered. Although CRAs are working as a "journal", the impact of their credit rating is enormous. Raising their responsible in credit rating is necessary, and also improve their trust.

Fourth, in order to enhance transparency, the issuers should public the portfolios data. Furthermore, CRAs also should be asked to disclose more complete and detailed data about the credit rating process.

5. Vietnamese credit rating agency

Although CRAs has some potential problem in the business model and methodology, which exacerbates the Global Financial Crisis, CRA is developed in many countries. Credit rating can be applied in the following areas/instruments:

- ✓ Equity shares
- ✓ Rating for banking sector
- ✓ Individual credit rating
- ✓ Rating for insurance sector
- ✓ New instruments, floating rate notes, index based bonds, long-term deep discount bonds, etc.
- ✓ Rating of intermediaries in financial services
- ✓ Securitization
- ✓ Rating of companies raising funds overseas.

However, in Vietnam, CRAs normally do their rating on bonds and show important role to boost bond market.

5.1. Vietnamese financial market

The role of CRAs is significant with the development of bond market. The Vietnam corporate bond market has grown rapidly since 2017 and issuances of $12.8 billion in 2019 were larger than those for Indonesia and the Philippines. Private placements accounted for 94% of corporate bond issuances in 2018 and 2019 following easing of disclosure requirements and issuance conditions. However, the lack of a credit culture poses significant risks to the bond market and the financial sector, particularly as individual investors currently own almost a fourth of all bond issues. (Kathpalia, et al., September 2020)

Table 2: Vietnam Bonds issuance

Year	Government	Guaranteed	Municipal	Corporate	Total
2012	141.3	52.6	4.8	28.7	227.5
2013	181.1	47.4	8.5	34.4	271.3
2014	248.0	27.7	7.1	48.0	330.9
2015	256.2	47.9	7.5	42.8	354.4
2016	312.2	34.5	3.5	97.4	447.6
2017	244.2	34.4	2.2	115.4	396.2
2018	221.0	26.2	0.8	238.4	486.3
2019	229.8	17.5	1.0	296.7	544.9

Source: Techcombank securities and Vietnam Bond market association

There are 4 types of bonds in Vietnamese bond market:

Government bond, which normally issued by the Ministry of Finance, accounted for the largest amount of bond in the market from 2012-2017.

Government guaranteed bonds is issued by state-own policy banks or state-own firms.

Municipal bonds issued by provinces to fund their own budget.

Corporate bonds saw a dramatic increase from 2012 to 2019, with the issued amount excess the government bonds in 2018 and 2019, accounted for the biggest type of bond that is established in the market.

5.2. Domestic credit rating agencies in Vietnam

The potential of bond market and financial market in Vietnam is huge. With the successful in controlling COVID-19, financial market in Vietnam grows stronger than ever. The urgent need for a domestic rating agency in Viet Nam is clear based on feedback from investors, intermediaries, issuers, and government officials. A credible domestic rating agency is a critical missing jigsaw piece in the orderly development of a healthy sustainable bond market in Viet Nam. (Kathpalia, et al., September 2020)

The first CRA in Vietnam is VietnamNet Credit ratings central, which is launched in 2005 but the demand for rating is poor, which led to it closed in a year. It is clear that in 2005, the financial market in Vietnam was run for 5 years, litter instruments was traded, therefore, the need for CRA was not existed.

In 2017, Phattinh Rating was the fist Vietnamese credit rating agency to be licensed under regulations. It has rated 30 enterprises, financial institutions and debt instruments. Later, in 2020, FiinGroup (formerly known as StoxPlus) became the second credit rating agency to be licensed by the Ministry of Finance. In 2019, it provide over 7000 reports on SMEs in Vietnam and created a scoring model to rate this type of firm. Fiin Rating is worked under an “investor pay” model.

5.3. Develop credit rating agencies in Vietnam

In Vietnam, The Ministry of Finance can grant up to 5 CRAs, therefore, the chances for this business is exist. Running a CRA in Vietnam bring both positive and negative effect on solving the mistrust of credit rating.

- *Positive effect*

First of all, setting up Vietnamese CRA is a good idea. To begin with, Vietnamese CRA works in Vietnam, therefore, they acquainted with the regional economic fundamental, hence, they may create better model to evaluate the risky of sovereign debt of their members, in case of FiinGroup.

Secondly, the asymmetric information in Vietnam financial market is high. Investors hardly access the real financial situation of the firms in the market, especially with the bond market, this makes it become inefficient. CRAs will provide more information for investors, therefore, bring the Vietnamese financial market into higher level and attract more local and foreign investors.

Last but not least, the more CRA, the higher information is provided. Each CRA has their own business model, so there will be the conflict between interest of the owners. This lead to the mistrust of CRA. FiinGroup is an "investor-pay" company, so they may face the problem of this model and may change into an "issuer-pay" firm. But "issuer-pay" model gave some wrong rating during the financial crisis, which exacerbated the recession. There is one more type of CRA that can be considered, which is "state-own" company. So different types of CRA will decrease the mistrust of the rating, and make the information more transparent.

- *Negative effect*

However, contrary policymakers claimed that this agency will put the reputation of credit rating in danger. Vietnamese CRA is a new agent, therefore, it is convincing that investors may consider about their rating scale and standard. The different of the standard on credit rating may help the bonds or stocks gain high level. More or less, Vietnamese CRA works under the funding of someone, and they have their own interest, so the risk of the wrong rating is existed. The mistrust on the result of credit rating result also raises the adverse effect on the growth of Vietnamese financial market.

6. References

1. Bilson, R. G., & Delacour, A. M. (2011). *Credit Rating Agencies: Regulation and Reform Act Review (Economic Issues, Problems and Perspectives)* (UK edition ed.). Nova Science Pub Inc.
2. Elkhoury, M. (2007). Credit Rating Agencies And Their Potential Impact On Developing Countries. United Nations Conference on Trade and Development.
3. Gorton, G. B. (2008). *The subprime Panic.* Cambridge: National Bureau of Economic Research.
4. Kathpalia, S. D., Chu, H. M., Do, T. H., & Lamber, D. J. (September 2020). *The Potential for foreign investment in a domestic credit rating agency in Vietnam.* ADB Southeast Asia Working paper series.
5. Mullard, M. (2012). The Credit Rating Agencies and Their Contribution to the Financial Crisis. *The Political Quarterly, 83*(1), 77-95.
6. Pagano, M., & Volpin, P. (2010). Credit ratings failures and policy options. *Economic Policy, 25*(62), 401-431.
7. Peterson, C. L. (2009). Foreclosure, Subprime Mortgage Lending, and the Mortgage Electronic Registration System. *University of Cincinnati Law Review, 78*(No. 04).
8. Reavis, C. (2012). *The Global Financial Crisis of 2008: The Role of Greed, Fear, and Oligarchs.* Massachusetts Institute of Technology Management Sloan School.
9. S&P Global Ratings. (2019). *Guide to Credit Rating Essentials. What are credit ratings and how do they work?* Standard & Poor's Financial Services LLC.
10. White, L. J. (2010). Markets: The Credit Rating Agencies. *Journal of Economic Perspectives , 2*(Spring), 211-226.

SESSION 3:

INFORMATION TECHNOLOGY AND DIGITAL ECONOMY

VIETNAMESE CUSTOMERS' AWARENESS TOWARD DIGITAL TRANSFORMATION IN F&B SERVICES INDUSTRY IN DIGITAL ECONOMY ERA

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Abstract

Being referred to as a "dragon being unleashed" in terms of digital economy within Southeast Asia, Vietnam's industries are seeing numerous changes in their nature, especially the F&B services sector. Moreover, when the Covid-19 pandemic has hit hard on the performance of this sector, with 95.5% of F&B services businesses in Vietnam being affected, the application of digital technology has been emerging as an opportunity for traditional F&B services businesses to transform and find way to survive in this natural selection. Within the current context of digital economy in Vietnam, this study identified Vietnamese customers' view toward digitalization in F&B services industry.

Through a survey done with 430 respondents, it has been observed that Vietnamese customers are having a friendly view toward digitalization in F&B services industry, being reflected in the increasing trend to use online ordering, digital payment, digital marketing channels and the overall preference toward using digital technologies in F&B services outlets. However, we cannot ignore the socio-cultural aspect, including the habit of using cash and eating at home, the lacking of digital skills or even the unequal development of digital infrastructures which can bring about challenges to F&B services enterprises in promoting digitalization.

Keywords: *Covid – 19's impacts, customers' digitalization awareness, digital economy, F&B services industry*

1. Introduction

Reality has shown that the third wave evolution and the Industrial Revolution 4.0 has greatly impacted almost all aspects of our lives, creating many profound shifts in the society, among which is the emergence of digital economy. Digital economy was first mentioned in Japan by a Japanese professor and research economist during Japan's economic recession in the early 1990s. The term, later, spread to the West and was coined in Don Tapscott's book "The Digital Economy: Promise and Peril in the Age of Networked Intelligence" published in 1995. As believed by Don Tapscott, by combining knowledge and creativity, a new concept of an economy that focuses on the networking of humans through technology so as “to create new social norms on wealth creation and social development” was inevitably formed (Tapscott, 1995). Since then, there have been many different interpretations as well as definitions of digital economy. For us, we would define digital economy as a branch of economic studies that encompasses economics activities based on the combination of knowledge and digital technologies. Such activities are not only limited to the ICT sectors and industries in which their business models based primarily on digital technology but also cover even traditional industries that use digital technology to support their business practices. With the spread of digitalization into the real economy, we can firmly say that the digital economy is undoubtedly turning into just the economy nowadays.

Digital Economy Report 2019 shows that the global digital economy was worth $11.5 trillion USD in 2016, accounting for 15.5% of global GDP. Taking the regional factor into account, with its current rate of development, ASEAN is believed to have a full potential to enter the top 5 digital economies in the world by 2025 (Leopairote 2017). Within this region, Vietnam can be referred to as a “dragon being unleashed”. While the average growth rate of the whole Southeast Asia region had reached 33% since 2015, Vietnam's digital economy growth rate in the same period increased by 38%. The value of Vietnam’s digital economy in 2019 was $12 billion USD (4 times higher than in 2015), contributed 5% to the national GDP. It is true that Vietnam is now one of the most popular digital investment destinations in Southeast Asia, just behind Indonesia and Singapore.

Digital economy started its “invasion” into Vietnamese economy along with the advent of computers, especially, laptops in the end of the 1980s. By the end of the 1990s, when Internet first came into Vietnamese people’s lives, digital economy entered a blooming period within the whole country. Later, when smart phone usage densities reached 50% in 2000, the digital economy gradually became a popular term. The beginning of the 21st century is believed to be the milestone for the development of digital economy in Vietnam with the emergence of the Industrial Revolution 4.0 along with smart phones, AI, blockchain and cloud computing etc. … Nevertheless, despite the fact that the growing speed of digital economy has been quite high in Vietnam, it has been observed that Vietnamese digital economy has basically been in a spontaneous development stage for the previous years without official management from the Government. In fact, not only until 2020 did digital economy receive much attention and become a significant development concern of Vietnamese government, implied through the introduction of the National Digital Transformation Programme. One of the reasons for such concern being raised comes directly from the Covid-19 pandemic, which is believed to be one of the most recent change agents of the digital economy in the world in general and in Vietnam in specific. Besides its negative impacts, we cannot deny the fact that this pandemic can be considered as a natural selection, bringing about an opportunity for the economy to regenerate. For Vietnamese businesses, Covid-19 is a push that led them to be forced into a situation of change. In other words, Covid-19 for Vietnam's digital economy is a significant boost, especially for businesses to engage in digital transformation ranging from corporate governance to online sales etc.

F&B services industry can be said to be an indispensable part of any economy, playing a vital role in many countries' economic growth, including Vietnam, by not only contributing significant value to the economy, but also creating employment opportunities. However, this Covid-19 pandemic has hit hard on this sector. According to a survey done by Vietnam General Statistics Office in April 2020, a large number of economic sectors have a high proportion of businesses being affected by the negative impacts of Covid 19, typically: aviation 100%; accommodation services 97.1%; travel agency activities 95.7%; F&B services 95.5%; education and training 93.9% etc. Most notably, among the businesses negatively affected by the Covid-19 pandemic, the rate of businesses in the F&B services industry having to temporarily close down is 54.0%; the revenue decline rate over the same period is 59.7% (only behind the aviation industry with 76.5%). Besides, one fact that cannot be denied is that along with the development of the economy, Vietnamese customer's demand for F&B services is also increasing and reshaping significantly, followed by the appearance of diverse business models as well as competitiveness in the industry. Therefore, the application of digital technology has been emerging as an opportunity for traditional F&B services businesses in Vietnam to transform, especially when agility has now become the competitive advantage almost all businesses seek to develop in this digitalized world.

After Directive 16 / CT-TTg of the Prime Minister on nationwide social distancing, many F&B enterprises from famous brand like Starbucks, Golden Gate, The Coffee House etc. ... to many other small and medium F&B outlets all simultaneously promoted online sales and delivery model to proactively cope with the situation. In fact, by the end of March 2020, before the government officially requested to close unnecessary business services including coffee chains, Starbucks Vietnam's delivery revenue increased by 50% compared to average sales in February. Like Starbucks, The Golden Gate Group also switched to using online technology by launching G-Delivery and I-Cook service home delivery. At The Coffee House chain, revenue from the delivery segment as of March 29, 2020 increased 20% comparing to the previous weeks. Online sale and delivery have really become the saviors of the F&B services industry, especially at the present time, when the "ghost" of Covid-19 is still lingering. Also, in 2020, the food delivery market in Vietnam was estimated to have a capacity of $195 million and is expected to reach $330 million by 2023. It is worth mentioning that the segment of food delivery through applications is growing to more than 30% per year. This is an indispensable trend in the F&B services industry in Vietnam. However, whether this trend will continue to grow or not is a real question posed for the F&B services industry in specific and the whole economy in general.

Thanks to digital technologies, the role of consumers has become more important. It's even not exxagerate to say that within digital economy, the consumers have become more empowered than in the traditional economy, being in charge of deciding the rules of the games. Thus, the final target of digital transformation is to put customers at the center of the business and here comes the need to understand customers' expectations and preferences toward digitalization so as to reach the highest possible level of growth. For such reason, the main purpose of this paper is to identify how Vietnamese customers are perceiving the usage of digital technologies in F&B services industry.

2. Method

Since the main aim of the research is to identify the digital awareness of Vietnamese customers in F&B services industry, it was determined that a quantitative methodology would be appropriate. In more detail, this research consisted of an empirical, quantitative survey and used a self-developed questionnaire. At first, we planned to have the survey done in person, however, due to the Covid-19 situation at the time the surveys were conducted, the online-survey method was chosen. This fact, to some extent, is a reflection of digitalization in our everyday life, which interestingly coincide with the focus of our research topic. The surveys were conducted from August 2020 to October 2020. To ensure that the sample is unbiased representation of the total population, a random sampling technique was used. In terms of questionnaire design, the questions were devised to try to capture almost all aspects of digitalization in F&B services industry, including digital payment, digital marketing, online ordering as well as customers' preference toward digital technology usage in such aspects as digital style services, outlet's own application and platform application. In addition to this, a set of questions relating to Covid – 19 and its impact on reshaping customers' behavior in F&B services industry was also developed.

The total sample size was reached by balancing the level of confidence in the results received with such issues as time and budget. In total, there were 430 valid responses. Among 430 participants in the surveys, 135 respondents were male and 295 respondents were female. The majority of participants were Millennials (Generation Y) from 25 to 40 years old, accounting for 57.21%. This is completely consistent with the fact that the Millennials generation in Vietnam is the largest group, having the most purchasing power in the society and is the segment by age that many brands are targeting. In addition, the pattern of respondents by age group is similar to the standard distribution of the population. 85.35% of participants hold at least bachelor degree, which is higher than the average education levels. In terms of income levels, the respondents' answers represented the standard distribution of level of incomes in Vietnam, with the average ranging from 5 million VND to 10 million VND per month. Over half of the respondents were office workers. The survey sample was constructed to be representative of Vietnamese population in terms of geographical area, with 55.81% of respondents from the North, 26.51% from the Central area, and 17.68% from the South. Respondents coming from 3 major cities including Hanoi, Danang and Ho Chi Minh City accounted for 69.77%.

Table 1. Demographic characteristics of sample

Question	***Answers***	***Percentage***	***Answers***	***Percentage***
Gender	*Female*	68.60%	*Male*	31.40%
Age group	*< 25*	23.02%	*41 – 55*	14.88%
	25 – 40	57.21%	*> 55*	4.88%
Educational level	*High school*	10.93%	*Bachelor*	50.47%
	College	3.72%	*Higher degree*	34.88%
Income level	*< 5 million VND*	18.37%	*10 million VND – 15 million VND*	20.00%
	5 million VND – 10 million VND	31.63%	*15 million VND – 20 million VND*	11.63%
	> 20 million VND	18.37%		
Jobs	*Office worker*	55.81%	*Students*	14.88%
	Lecturers / Teachers	16.28%	*Unskilled labor*	3.26%
	Others	9.77%		
Geographic area	*Hanoi*	42.79%	*Other Central cities / provinces*	10.00%
	Other Norther cities / provinces	13.02%	*Ho Chi Minh City*	10.47%
	Danang	16.51%	*Other Southern cities / provinces*	7.21%

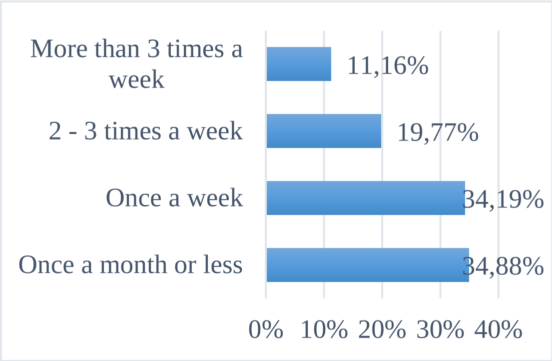
3. Results

3.1. Frequency of eating out and ordering online

In terms of eating out habit, 34.88% of the participants being asked went to restaurants or coffee shops once a month or less, while 34.19% ate out about once a week. The remaining 30.93% goes for participants who frequently ate out (at least 2 times a week). Counting the generations factor, it can be seen that eventhough in general, traditionally a Vietnamese would prefer to eat at home, the increasing number of Generation Y and Generation Z in Vietnam along with their exposure to global culture has raised the tendency of using food services anytime, anywhere among Vietnamese, especially when compared with the previous generations. This indicates the potential growth of F&B services industry in Vietnam. In fact, the F&B services industry in Vietnam is developing more and more thanks to the increasing eating out habits of young people.

Figure 1. Frequency of eating out *Figure 2. Frequency of eating out by*

generation



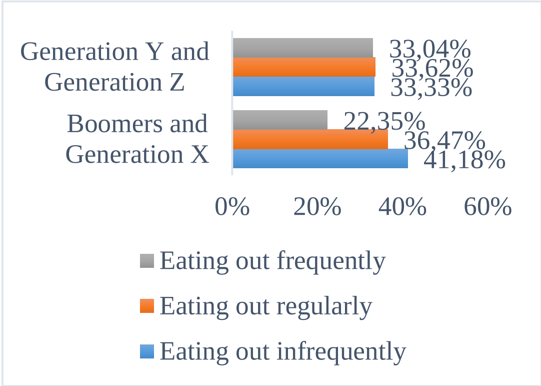
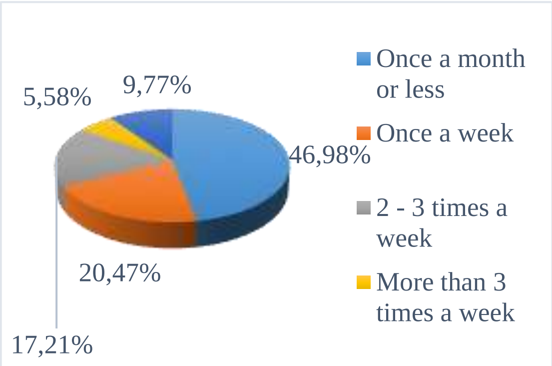
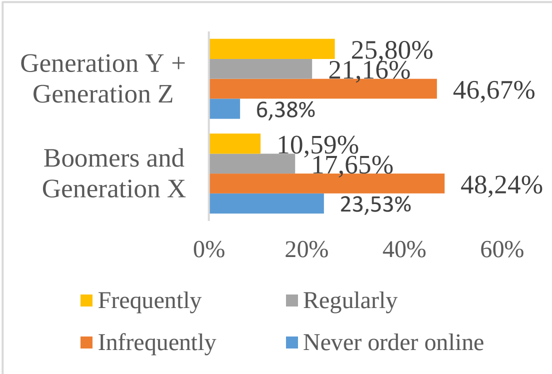


Figure 3. Frequency of ordering food and beverages online

Figure 4. Frequency of ordering food and beverages online by generation



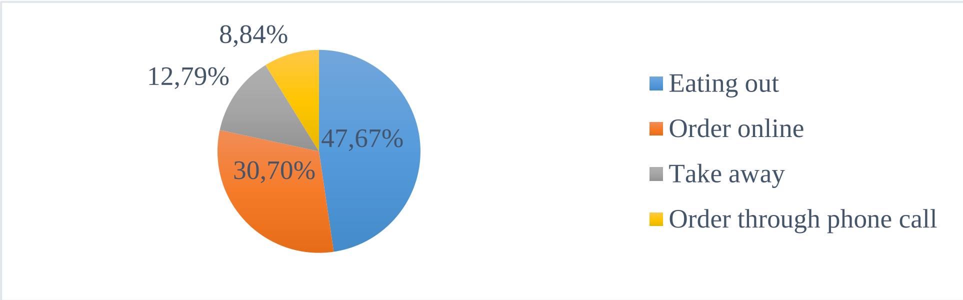


When mentioning the frequency of ordering food and beverages online, almost half of the participants (46.98%) engaged in such activity on an infrequent basis, while 20.47% ordered online regularly. The other 22.79% ordered food and beverages online frequently. One interesting fact is that 9.77% of participants asked never order food and beverages online. Taking the generation factor into account, the differences can be seen rather obviously. While the majority of both groups ordered food and beverages online infrequently, the trend is that Generation Y and Z seemed to use the online ordering function more often than the previous generations. Only 6.38% of the participants in Generation Y and Z had never ordered food and beverages online, comparing to 23.53% of the participants in Boomers and Generation X. Also, the number of the youth ordering cuisine products online on a regular or frequent basis was higher than the old (21.16% and 25.80% in comparison with 17.65% and 10.59% respectively). This is a promising foundation for the utilization of online ordering function for the F&B services sector, emphasizing the increasing number of Generation Y and Z in Vietnamese society.

3.2. Expenses on F&B services

When being asked about the type of F&B services activity that participants spent more on, 47.67% chose eating out, while placing order online stays at the second position with 30.70%. This is a true reflection of Vietnamese's customers' view toward F&B services outlet as a socializing hub. However, ordering food and beverages online has also become an indispensable trend within Vietnamese society. Only 12.79% of participants spent more on take away form. The remaining 8.84% was on calling the outlets directly to place order.

Figure 5. Expenses on F&B services

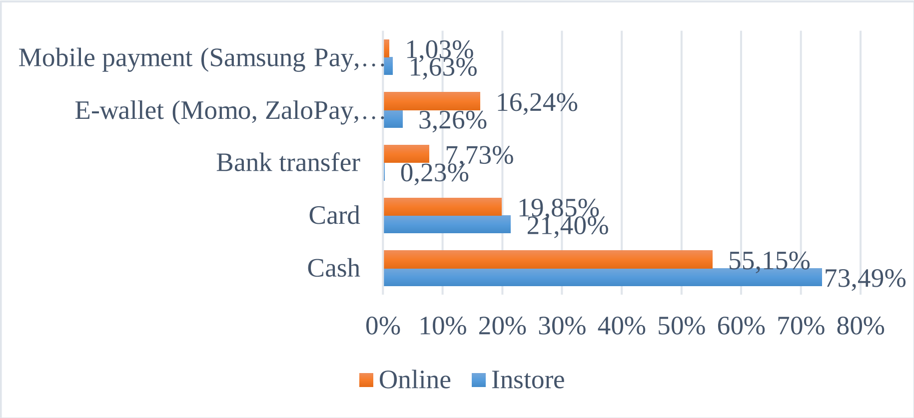


3.3. Digital payment

Talking about payment methods when eating out, the majority of participants mainly used cash (73.49%), showing a true reflection of Vietnamese's image of a cash society. Despite the government's effort in promoting cashless payments along with the increasing number of Vietnamese having bank accounts, only 21.40% of the participants used card as their payment method. Other digital payment methods including e-wallet, Samsung Pay, QR Code etc. … accounted for only 4.88%. Counting the generation effect, the payment methods the Boomers and Generation X used were either cash or card only. On the other hand, Generation Y and Z tend to try various other forms of payment.

Regarding online payment for food and beverages, again, the majority of respondents preferred to use cash-on-delivery, accounting for 55.15%. Card was still the second most preferred method of online payment with 19.85%. E-wallet and bank transfer's usage as online payment method increased significantly with 16.24% and 7.73% respectively in comparison with instore usage. Participants who chose these online payment methods mainly were Generation Y and Z.

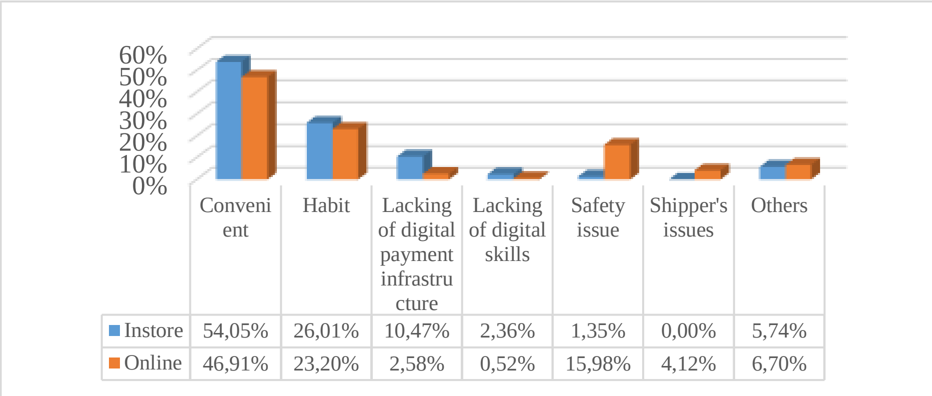
Figure 6. Preferred payment method instore vs. online



The most commonly stated reason for cash being chosen as the main method of payment both when eating out and ordering online is that cash was considered to be the most convenient payment method for its simplicity, being fast as a direct result of its popularity in Vietnam when making payment. The other not less important reason is the person's habit of using cash and having cash with them all the time. For instore payment, the lacking of digital payment infrastructures in most of the small F&B services outlet or in the rural area is the third most concern factor. Whereas, for online payment, safety issue is the third major rationale for cash-on-delivery to be chosen. To be more precise, secure online payment as well as secure delivery service were what customers concerned about. Besides these reasons, some others factor was also noted including the person's lacking of digital skills to use digital payment methods (mainly for the old generation), the ability to manage income and expenses easily when using cash etc. One significant factor affecting Vietnamese online payment context in F&B services industry came from the shippers, most of whom would require to receive cash when products were delivered.

For other payment methods, the most popular reasons mentioned was the ability to get discount through cashback programs of card issuing banks or earning points which can be redeemed for vouchers, along with the convenience of not having to bring cash or change. Especially with e-wallet or mobile payment, all you need to bring is just a smartphone.

Figure 7. Reasons for using cash when eating out vs. online



	Convenient	Habit	Lacking of digital payment infrastructure	Lacking of digital skills	Safety issue	Shipper's issues	Others
Instore	54,05%	26,01%	10,47%	2,36%	1,35%	0,00%	5,74%
Online	46,91%	23,20%	2,58%	0,52%	15,98%	4,12%	6,70%

3.4. Digital marketing

Figure 8. Usage of online marketing channels to find information about F&B services outlets

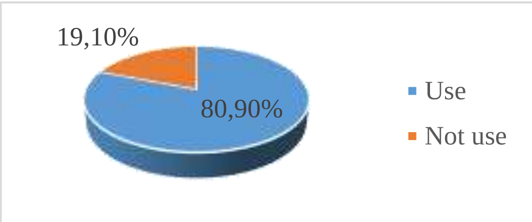
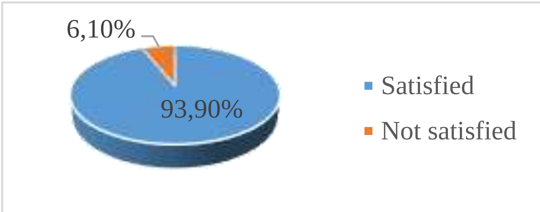
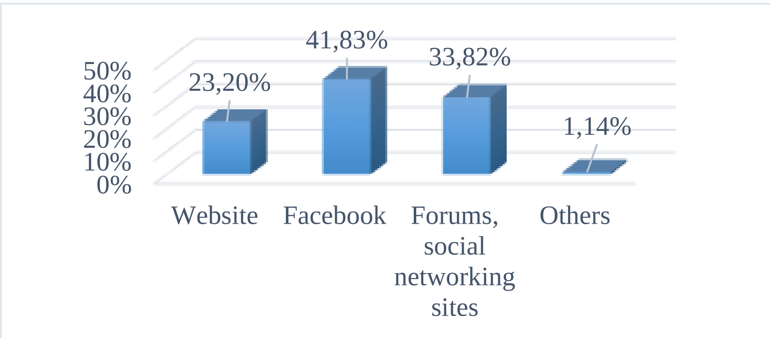


Figure 9. Satisfaction of online marketing channels when finding information about F&B services outlets



80.90% of the participants usually used online channels to find out information about restaurants or coffee shops, reflecting the development of online marketing channels in Vietnam in these recent years. Among them, 93.90% were satisfied with the information from these online channels.

Figure 10. Popularity of online marketing channels for F&B services



Among many types of online marketing channels, Facebook was the most popular one to help users find out information about F&B services outlets. The next channel that most of the participants used was forums or social networking sites, for example: Foody, Tripadvisor, Now etc. …. The main reason for these two channels' popularity is the increasing numbers of social networking sites, especially Facebook user base in Vietnam. According to Kepios (2018), Vietnam ranks 7th in terms of largest user base on Facebook, with 58 million active users. In fact, the context in Vietnam is that where there is a community, where there is a review, wherever someone talks about the product, Vietnamese customers will believe more than information given by the brand. Besides these channels, website of F&B services outlets and Google Maps were also used to support customers in finding the right restaurants or coffee shops.

3.5. Channels to order online

The most used channel to order food and beverages online was through such platform applications as Grab Food, Now or Go Food etc. … (accounting for 64.59%). 28.87% of respondents used Facebook or outlet's website as their ordering channels. Due to the limited number of restaurants or coffee shops having their own application, only 5.67% of respondents chose to use this channel.

Regarding the satisfaction when using these online ordering channels, the majority of respondents were happy with the services they received (91.24%). Only 8.76% had bad experiences when ordering food and beverages online.

Figure 11. Preferred online ordering channels

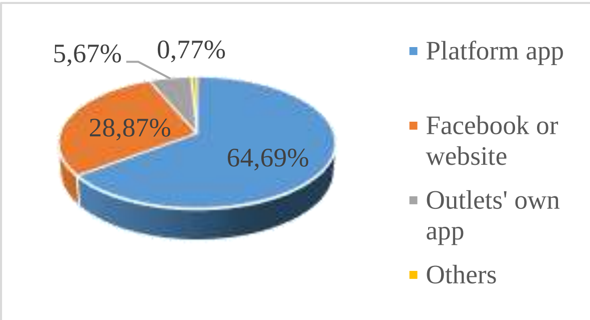
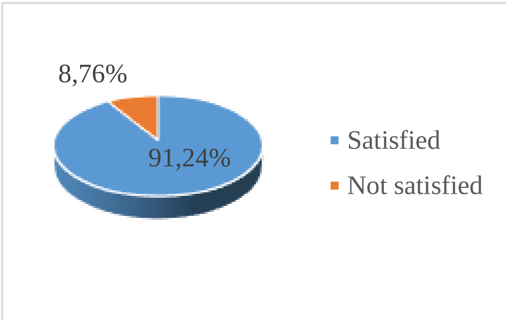


Figure 12. Satisfaction of online ordering channels



3.6. The impact of Covid–19 pandemic

Covid-19 pandemic is the most concerned issue at the moment, not only from international perspective but also from national perspective. Under the hard situation of Covid-19 with lockdowns as one of the main measures to control the pandemic, the customers' behaviors are also reshaped accordingly.

When being asked how the pandemic Covid-19 has changed their habits of going to restaurants or cafes, the majority of the answers was that participants tend to cook at home more often and reduce the frequency of eating out under the impact of Covid-19. Only 19.20% of the response was switching to ordering online instead of going out to F&B services outlets. Also, during the national lockdown period, only 46.91% of the respondents who had experienced ordering online, increased the frequency of ordering food and beverages online, while 53.09% still kept the same basis.

Figure 13. Customers' behaviors changed in the Covid-19 pandemic

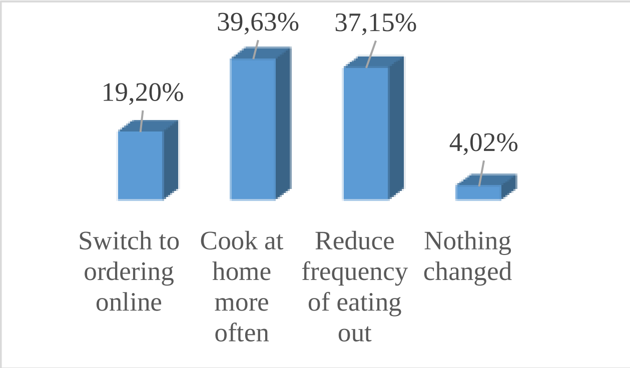
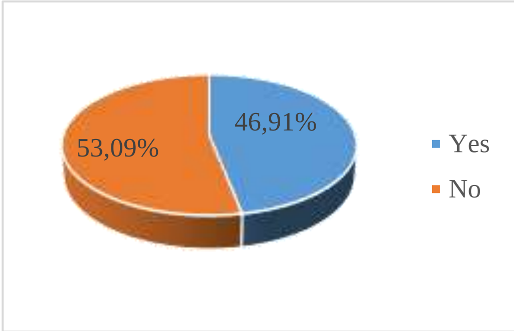


Figure 14. Frequency of ordering online changed during the national lockdown period



3.7. Customers' interest toward different types of technology being used in F&B services outlets

So as to assess customers' attitude toward different types of technology being used in restaurants or cafes, participants were asked to determine their interest level toward technology in two categories: digital style services and functions of F&B services outlets' application.

*** Digital style services:**

Looking at customers' interest toward different digital style services at F&B services outlets, a majority of participants were interested in using mobile phones to make payment, using tablet as a menu and placing orders or making payment with self-service kiosk (50%, 48.14% and 38.84% respectively). While mobile payment and tablet menu has existed in Vietnam, self-service kiosk is indeed a new style, promising room for development within Vietnamese F&B services sector.

Unlike three others digital technology, waiter robot technology seems not to receive much concern, with 42.56% of neutral interest and only 24.42% of interest (much lower than other types of technology). Only 4.65% showed great interest in seeing a waiter robot. In fact, in Vietnam there used to be coffee shops using robot as waiters both in Hanoi and Ho Chi Minh City. However, the first robot coffee shops, ROBO Café, had to close after less than 1 year of operation. The other cafes' performance was also not as good as expected.

*** F&B services outlets' application and Platform application:**

Mentioning different functions in the restaurants' or coffee shops' application, the majority of respondents showed interest in all functions, all of which accounted for more than 50% except the function of making payment through application (both online and instore). This is probably a direct result of Vietnamese people's preference of using cash rather than other payment methods, when 39.53% of participants showed interest and another 40.23% said they had only neutral concern. This is also the functions that received more "not interested" choice than any other types.

Summing up the data on this question, the two most liked technology was the function of using promotion codes when making payment, with an average value of 4.04 and the function to accumulate points and redeem offers, with an average value of 3.90. Waiter robots was the least liked technology application, with only 2.96 average value. Other technology's average value ranged between 3.33 to 3.89, showing that there was no high favor or high dislike toward these technologies. However, overall, digital technologies underlying in different functions of F&B services outlets' application are more favored than digital services style.

Figure 15. Customers' interest toward different types of technology being used in F&B services outlets (digital style services)

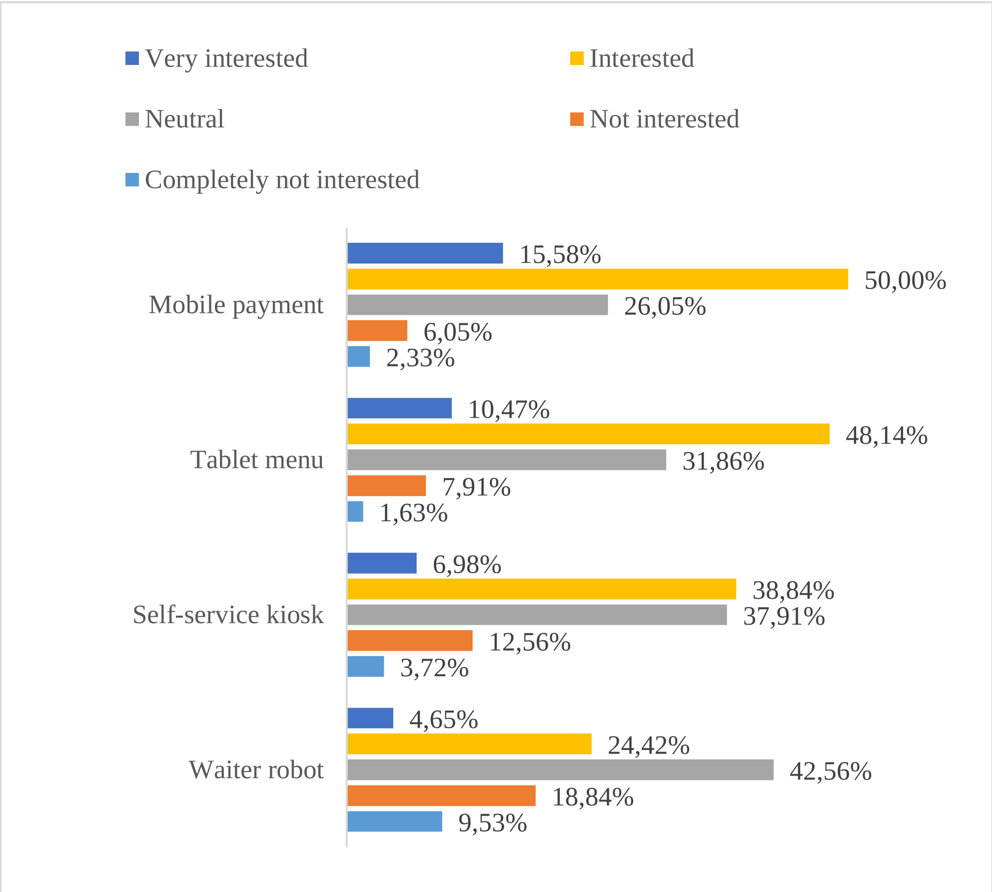


Figure 16. Customers' interest toward different types of technology being used in F&B services outlets' application and platform application

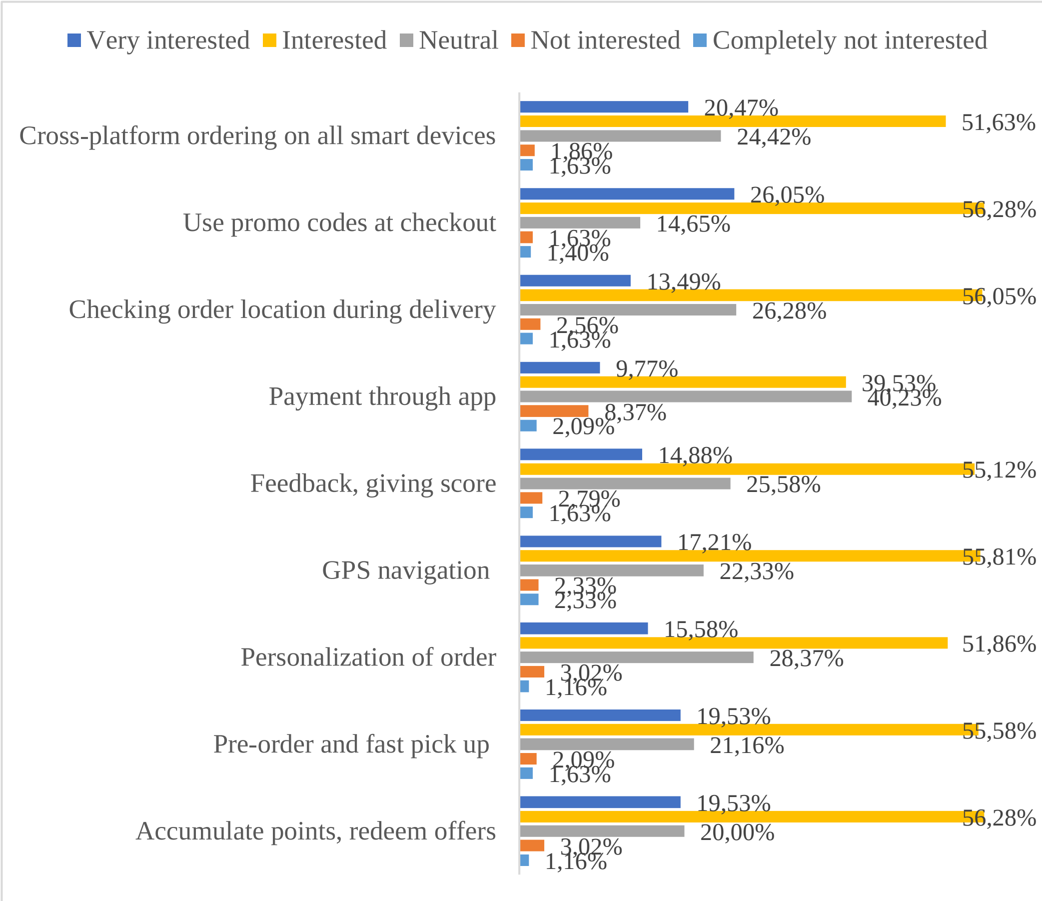


Table 2. Average value of responses on level of interest toward digital technology used in F&B services sector

	Digital technology	***Average score***	***Category***
1	Use promo codes at check out	4.04	Platform application
2	Accumulate points, redeem offers	3.90	F&B services outlets' application
3	Pre-order and fast pick up	3.89	F&B services outlets' application
4	Cross-platform ordering on all smart devices	3.87	Platform application
5	GPS navigation	3.83	F&B services outlets' application
6	Feedback, giving score	3.79	F&B services outlets' application
7	Personalization of order	3.78	F&B services outlets' application
8	Check order location during delivery	3.77	Platform application
9	Mobile payment	3.70	Digital style services
10	Tablet menu	3.58	Digital style services
11	Payment through application	3.47	F&B services outlets' application
12	Self-service kiosk	3.33	Digital style services
13	Waiter robot	2.96	Digital style services

4. Discussion and Conclusion

People often think of digital transformation as the game of those who have a lot of money. However, digital transformation does not mean applying huge, expensive digital technology but, it underlies in the rethinking of business model, turning itself into a customer-oriented organization. To put customers at the center, enterprises have to use data, use tools to capture data, build databases and start analyzing. It is not necessarily to have a big data system but a platform for creating customer data sets, analyzing their behavior, developing customer care and retention etc. … is of great importance. The essence of digital transformation is that we focus on the customer, understanding the customer and knowing how to satisfy the customers. It is true that Vietnamese customers are having a friendly view toward digitalization in general and digitalization in F&B services sector in particular. While Millennials (Generation Y) are the generation with expanding spending power, Generation Z are considered as the "connecting generation" or "the kids in the dot com age”. With the growing number of Generation Z and Y, the key generations in the global force, who will determine the consumption future of the economy, Vietnamese customers are more open to digitalization in F&B services sector. This can be proved through the increasing trend to use online ordering, digital payment, digital marketing channels as well as the overall preference toward using digital technologies in F&B services outlets. However, we cannot ignore the socio-cultural aspect of Vietnamese society, including the habit of using cash as the most secure payment method, the frequency when eating at home comparing to eating out, the lacking of digital skills among the old generations or even the unequal development of digital infrastructures between the urban and rural areas, which can bring about challenges to F&B services enterprises in promoting digitalization.

5. References

1. GSO. General Statistics Office of Vietnam. (2021, April 29). https://www.gso.gov.vn/en/homepage/.
2. Kepios (2018). *2018 Q2 global digital statshot*. Kepios: Singapore
3. Leopairote, K. (2017). [Conference presentation]. “New Normal, Integration, and Inequality”. Economic Research Institute for ASEAN and East Asia (ERIA) and The Institute of Developing Economies - Japan External Trade Organization (IDE-JETRO), Indonesia
4. Tapscott, D. (1995). *The Digital Economy: Promise and Peril in the Age of Networked Intelligence* (1st ed.). McGraw-Hill.
5. Toffler A. (1980). *The third wave*. William Morrow, USA.
6. United Nations Publications. (2019). *Digital Economy Report 2019: Value Creation and Capture - Implications for Developing Countries*. United Nations.

THE IMPACT OF INDUSTRIAL REVOLUTION 4.0 ON TRAINING AT UNIVERSITIES: A CASE STUDY AT THE NATIONAL ECONOMICS UNIVERSITY, VIETNAM

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Abstract

Along with the rapid development of the industrial revolution 4.0, information and communication technologies are increasingly being applied widely in different fields of the economy. Digital technology affects every person and organization including businesses, educational institutions, and society as a whole. Enterprises invest in high technology to make business more flexibly and will eliminate unskilled jobs and increase the need for people who are capable of researching, creating, mastering machines and performing jobs that require complex thinking that robots or artificial intelligence cannot do. Universities have the mission to provide such kind of high-quality human resources for the whole society and also apply digital technology in its training activities. Online training is an advanced, comprehensive training method, capable of connecting and sharing knowledge very effectively but at lower cost and ensuring training progress even when the environment is highly volatile. The advent of online training has marked a major turning point in the application of information and communication technology to the field of education and training. Especially, the shocking covid-19 pandemic has pushed urgently universities around the world to shift from offline to online teaching that accelerates the digitization in universities. Higher education in Vietnam is not out of that trend. With the direction of the Vietnam Government, specifically the Ministry of Education and Training, universities across the country have been developing and improving online teaching and learning to adapt to the rapidly changing environment when the need for lifelong learning meets the increasing needs of the knowledge economy and to adapt to the Covid-19 pandemic, which affects offline training. This paper is based on secondary and primary data about the impact of the IR 4.0 on digitization of university training in the world, the situation in Vietnam and the reality at the NEU – one of the pivotal universities in Vietnam, thereby propose several recommendations to stakeholders to promote the development of 4.0 technology application in university training in the coming time to meet the learning needs of students at anytime and anywhere. That helps the universities ensure accountability to outcome standards in a highly volatile environment and is more integrated with global education.

Key words: *impact, industrial revolution 4.0 (IR 4.0), offline training, online training.*

1. Introduction

Industrial revolution 4.0 - the era of integration and explosive technology, providing a huge amount of information, fast transmission speed has a strong impact on changing training methods in the world, especially education and training at universities. Instead of providing one-way knowledge, universities in Vietnam are gradually making full use of 4.0 methods in order to arouse student's spirit of proactive learning, the ability to deepen research, enhance their self-study skills and respond quickly to the changing environment. In which, e-learning is a technology solution chosen by many universities. Since the beginning of 2020, there has been a worldwide upheaval due to the widespread Covid -19 which is difficult to be controlled despite the cooperation of WHO and countries around the world, having a great impact on all sectors including education - training. In the context of a highly complicated epidemic in many countries, universities have chosen online teaching as one of the optimal solutions to maintain and continue to develop their activities. E-learning is one of the online training methods using an Internet connection to serve learning. Through the e-learning system, students can not only receive lectures but also interact with others on the online training system without face-to-face communication. When applying technology to teaching, students can experience more new forms of learning, access to technology to have a new view of learning and problems of time and distance are also solved; lecturers can share a variety of new, rich and diverse knowledge to make the online lessons much lively. However, online training comes with some limitations such as technology, control of geometry and difficulty in imparting knowledge to students due to the lack of direct interaction. This paper is based on statistical data, survey and practical experiences of authors at the NEU, will provide a general picture of the impact of IR 4.0 on training at universities around the world, as well as in Vietnam generally and at NEU particularly, then propose some recommendations for stakeholders to exploit advantages and overcome difficulties in order to improve the training quality when applying 4.0 technology in the university training process.

2. Method

The research is based on both primary and secondary data. Secondary data was taken from articles and scientific studies related to the impact of the industrial revolution 4.0 on university training around the world and in Vietnam. Primary data was collected through a survey on lifelong learning of 320 students in different universities in Hanoi during the period from February 2020 to March 2020 (through sending link of Google forms widely to social networks for students), along with observations and practical experience in training at NEU of the authors. Based on these data, the authors have synthesized, analyzed and compared quantitatively and qualitatively to point out the concerned issues about the 4th revolution impact on human resource training at universities. Then the paper draws some recommendations to boost the application of IT in training to keep up with the 4th industrial revolution, develop students' self-study capability, and respond as quickly as possible to volatile environment in order to ensure the training process in accordance with the commitment to the society on output standards through combining offline and online training via the internet, on television; strengthen the relationship between the school and family in organizing and supporting students' learning; Adjusting teaching content is considered to be important tasks and solutions**.**

3. Results

3.1. Industrial Revolution 4.0

Countries around the world are witnessing a technological revolution, commonly known as the Industrial Revolution 4.0. According to Hyoung Seok Kang et al. (2016), the concept of IR 4.0 was derived from the term "Industrie 4.0", first introduced at the Hannover Technology Fair 2011 and stated in an official report of the German government in 2013. IR 4.0 refers to a very new production model with a convergence of advanced information and communication technology (ICT) and production technologies to realize smart manufacturing, not only in some processes and factories, but to other business or supply chain. Cutting edge technologies in different fields are applied: internet of things, service internet, and virtual reality cyberspace systems must be set up to integrate existing complex systems that require various information and communication technologies, simulation technologies, modeling, big data, cloud computing, sensors, intelligent energy.

Klaus Schwab (2016) explained the difference between IR 4.0 and the previous ones as: "The First IR used water and steam power to mechanize production. The Second used electric power to create mass production. The Third used electronics and IT to automate production. The Fourth one is building on the Third, the digital revolution that has been occurring since the middle of the last century. It is characterized by a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres."

Thus, while the 3^{rd} IR is associated with the information age and a transition from an industry-based economy to an economy based on computerization, the IR 4.0 marks a distinct era - digital technology era – where there is a convergence of all advanced technologies related to cyber-physical system, internet of things, and internet of services. The digitalization of information and communication processes has led to an explosion of information “Big Data” and has driven the computerization of production, service delivery, and even the private sphere. Advances in areas such as machine learning, artificial intelligence, and mobile robotics as well as the increasing usability of big data will further facilitate a computerization of the economy.

IR 4.0 is expected to affect all industries, sectors and the entire economy. IR 4.0 is disrupting most traditional manufacturing platforms in every country and making big change in a non-linear way at an unprecedented rate. Smart manufacturing happens when innovations in digital technology are deployed in workplace as machines will be connected to interact with each other and with people on a single cyberspace. The smart factory control system gives us the ability to visualize the entire production chain, even makes decisions autonomously (*iontech.vn, 2021*). IR 4.0 also applies biotechnology to make leaps in agriculture, fisheries, medicine, food processing, environmental protection, renewable energy, chemistry and materials. It is rapidly advancing technology through increased use of mobile communication and internet connection, big data, artificial intelligence, robotics, autonomous vehicles, 3D printing, nanotechnology and biotechnology, computing technology v.v. Digital technology is strongly affecting people's lives, work, communication and learning relationships. It affects every person and organization including businesses, educational institutions, and society as a whole.

3.2. Trends of IR 4.0, digitization and their potential impact on society and labor market

From the beginning of the 21st century, IR 4.0 took place firstly in the US, in developed European countries and more recently in the Asia Pacific region. Digitization can refer to anything from IT modernization to digital optimization, such as putting services online or legacy modernization for public sector or the invention of new digital business models. IR 4.0 in general and digitization in particular are foreseen to be associated with the widespread development of technology and the internet as well as big changes in society and in the labor market in the future.

Firstly, the revolution rapidly increases the access to ICT and global connectivity while having a major impact on wages and labor productivity in labor market and in the workplace (*Human Development Report, 2015*). IR 4.0 is and will make drastic changes in the entire production, management and administration system and thus bring both opportunities and great challenges to human resources. Strong developments of digital technology greatly affect businesses. Enterprises need to be proactive and change the way of management, leadership as well as in production activities. Traditional methods need to be replaced by innovative methods in managing comprehensively the production process to gain the best benefits. Digitization will drive the progress of the technical equipment of an economy. It potentially increases productivity without using much labor services. Enterprises are actively transforming the number of operating, sales and production models to provide products and services to quickly catch up with new trends. Many business models based on new technology have been born, making full use of AI, IoT, Big Data, Blockchain,... Enterprises invest in high technology to make business more flexibly, do not depend too much on human power as well as save time and operating costs significantly. Of course, enterprises must have high quality and suitable labor force to efficiently use machines and equipment, adapt to new management methods and take full advantage of the benefits of technology. However, automation replaces manual labor in the economy means that robots could replace people in different fields. In that case, millions of workers around the world could fall into disrepair if they do not quickly adapt to the change.

Secondly, IR 4.0 will eliminate unskilled jobs and increase the need for high quality human resources, capable of researching, creating, mastering machines and performing jobs that require complex thinking that robots or artificial intelligence cannot do. That is why the requirement for high quality human resources is getting more attention.

The World Economic Forum (*WEF, 2016*) has been interested in how the workforce needed to be prepared for the IR 4.0. The Future of Jobs report 2016 showed that the most important employees' competences in 2015 were problem solving, teamwork, people management, critical thinking, negotiation, quality control, service orientation, judgment and decision-making, active and creative listening. This report predicted the 10 most important competencies that employees need in 2020: solving complex problems, critical thinking, creativity, human management, teamwork, emotional intelligence, judgment and decision-making, service-oriented, negotiating, and cognitive flexibility. According to WEF's Future of Jobs Report (2020), businesses believe that by 2025, critical thinking and complex problem solving are still the top competencies, but the ability to manage themselves as master learning, mobility, resilience, stress relief and flexibility are new requirements emerging from 2020.

According to ILO (2018), possessing the right skills to strengthen the capacity to adapt to the needs of the labor market and accelerate the process of technology improvement is extremely important. Training, skill diversification, retraining, lifelong learning play an important role both inside and outside of work. Education and training systems must be prepared to develop skills for the future human resources of the economy. In particular, there is a need for coordination between policy makers, businesses and training institutions to ensure sufficient supply and demand in the labor market.

3.3. Training at universities in the technology era: digitization and lifelong learning in emphasis

Together with businesses and the Government, universities have a very important role in providing high-quality human resources for the whole society in the context of IR 4.0.

According to Professor Maria Clavet, Aalto University, the education system can have two approaches to the IR 4.0: training “change-followers” or training “change-makers”. Change-followers are those who have the right skills to adapt to changing workplace and to learn to keep pace with technological developments. Change-makers are people who are not only knowledgeable about the world of technology, but can also make decisions regarding usability, sustainability, safety and ethics in the world of technology. Digitization, robotization, artificial intelligence and the internet are all increasing levels of immaterial labor. The economy today is built on the basis of production, distribution and use of knowledge and information, which means that economic development no longer relies heavily on natural resources but on knowledge, on science and technology. Therefore, in addition to knowledge, students need to equip and enrich soft skills, unique human abilities such as sharing ideas, critical thinking, empathy (*universitiesofthefuture.eu, 2020*).

According to Hai-woong Park (2018), the pioneering universities in the industrial revolution 4.0 are innovating its training in the following directions: (i) reforming the formal training program towards combining theory and practice, pay attention to developing new competencies for students with a focus on problem solving and lifelong learning because learning new skills and adapting to different situations are required in the technology age, (ii) conducting live and online lifelong learning activities for faculty and professionals; (iii) strengthening the cooperation with business organizations to improve training capacity and business support.

Higher education institutions in the world, especially developed countries, have been applying digital technology to research, training and administrative management activities (digital transformation) for decades, but unequally and slowly, until Covid-19 pandemic occurs.

The role of universities in the technology era is not only to provide knowledge to the elites of society but also to add a larger economic and social role, which is to enhance knowledge creation and create innovations in the knowledge economy to meet the lifelong learning needs of society. In addition to traditional training programs, universities also have diversified training methods to expand their influence, provide mass training programs to disseminate knowledge to all levels. Online training is a solution for universities to achieve these goals, helping to increase revenue and strengthen position in the field of training both at home and abroad.

In the late 20^{th} century, the development of the Internet marked the emergence of online training as a form of distance learning where the resources were mainly distributed over computer networks. Initially, only video lectures are recorded from traditional classes, later developed into downloadable resources for users. Today, through the Web, teachers can give instructions online (images, sound, presentation tools) to learners everywhere. The online training system, including a learning management system (LMS) and a learning content management system (LCMS), allows the full implementation of training activities with the advantage that learners can learn every time and everywhere, save travel costs and study time.

By the early 2000s, universities in a number countries which have developed education systems began to promote online training, exploit the MOOCs (mass open online courses) to reach many students, cut down staff and training costs as well and plan to replace conventional traditional courses. According to the statistics of the American Society for Training and Development (ASTD) by 2004, about 90% of the US universities and colleges had built online training models. According to Cyber Universities, currently nearly 90% of universities in Singapore use online training method.

Covid-19 pandemic is the shock that accelerates the digitization in universities. The pandemic has profoundly impacted every aspect of life and hindered higher education. The urgent shift from offline to online teaching has been forced by teachers and students around the world. The influx of international students and researchers is strongly blocked. The decline or rupture of family finances has made more difficult for students therefore governments of many countries have to provide emergency financial aid to students or for graduates to defer loan payments. Many higher education institutions are negatively affected by their budgets and have to cut faculty and staff. New graduates find that economic activity and employment in some economic areas have decreased (with a few areas increased), affecting career plan, forcing some to have new skills, new certificates and new qualifications. However, digitization has some “side effects”: risks in the privacy of learners' personal information, in academic evaluation; loss of important outside classroom experiences such as learning from friends, hands-on learning opportunities; increasing inequality due to differences in access to digital technologies; the difference in the capacity of faculty and students to make the most of the potential of digitalization. Policy makers increasingly recognize that realizing the potential of digitalization of university training will require further review and issuance of relevant policies, including funding for faculty and students, and ways of supporting and encouraging faculty motivation, monitoring and quality assurance, and learning accreditation and recognition. Some countries have policies to officially recognize education in national education digitization strategies.

Over time, Covid-19 pandemic would decrease or disappear. Economic activities will recover, making budgets for schools and families less tight and recruitment will be able to recover. Enrollment of international students may return to historical levels even though majors may change. However, a number of hindering influences are renewing higher education systems and could lead to a long-term change in the way they operate. One long-term impact is the deeper digitization. After the pandemic, it is possible that universities will use more digital technology to provide and manage training programs to quickly adapt to changing environments. The digitization of higher education has many better promises, including expanding access for non-traditional learners, reducing teaching costs, expanding teaching, increasing self-adaptation and personalization. This opens up opportunities for technology businesses to promote innovation.

3.4. Digitization of higher education in Vietnam and case study at the NEU

Not out of the trend, according to ILO (2018), Vietnam is also witnessing the impact of the industrial revolution 4.0 with the innovation and application of technology in the workplace at a faster speed than ever before in different professions. This process will be stronger in the coming time because on June 3, 2020, former Prime Minister Nguyen Xuan Phuc signed Decision No.749 approving the "National Digital Transformation Program to 2025, with a vision to year 2030". Under this program, Vietnam is pioneering in testing new technologies and models, fundamentally and comprehensively innovating the management and administration activities of the Government, the production and business activities of enterprises as well as the way people live and work, developing a safe, humane and widespread digital environment. The program has a dual goal of developing digital government, digital economy, digital society, and forming Vietnamese digital technology businesses with global capacity (*Vietnamnet, 2021*).

The Government prioritizes eight areas of digital transformation: health, education, finance - banking, agriculture, transportation and logistics, energy, natural resources and environment, and manufacturing. The program has determined the digitization of education as followings: "To develop the platform supporting distance training, thoroughly applying digital technology in management, teaching and learning; digitizing documents and textbooks; building a platform for sharing teaching and learning resources in both offline and online forms; to develop technology for education towards individualized training. To ensure that 100% of educational institutions implement distance teaching and learning, in which online learning accounts for 20% of program content at minimum. To apply digital technology in delivering homework and checking students' preparation before going to class... To promote social digital transformation, focusing on skill transfer, offering mass open - online courses, and cooperating with large organizations and enterprises in the world to train, improve knowledge and skills in digital technology, digital transformation, and digital culture. To prepare human resources for digital transformation to develop digital society with no one left behind." (*Prime Minister, 2020*).

Up to now, there are many universities approaching online training in Vietnam. Depending on the application of information and communication technology in training, the level of investment in e-learning materials and training purposes, the implementation of e-learning in each training institution is different. However, in 2020, when the Covid-19 happened, many universities were forced to close. This is also the reason for the popularity of teaching and learning on online platforms. Nearly 50% of universities in Vietnam have organized online teaching during the epidemic season. Online teaching applications such as Zoom, Microsoft Teams, and Google Classroom,... are also becoming more and more popular and used by many teachers and schools. Blended-learning is used even in the controlled translation phase. The development of online training models in Vietnam has even been recognized by reputable organizations around the world. According to the Organization for Economic Co-operation and Development (OECD), online training in Vietnam has more positive points than other countries and territories (*Vietnamnet, 2021*).

Foreseeing that trend, the NEU, in addition to developing traditional distance learning programs, has provided online training model NEU-EDUTOP led by Distance Training Center. This program is the cooperation of 2 units of NEU and EDUTOP 64 Investment and Training Development Joint Stock Company from 2012 to 2019; developed and sponsored by Microsoft, Qualcomm, Hewlett Packard, USAID, World Bank Infodev and Vietnam Foundation, with diverse, rich and up-to-date learning materials with practical requirements. In addition to printed books in the traditional form of learning, e-learning students are provided (free of charge) on the system of supporting materials for the following self-study process: Study plan of the subject class; course guide (text); electronic textbooks (e-book); multimedia lecture (audio, video, slides); Online multiple choice question bank (for self-practice test at least 10 times for a test, test questions and group instruction (submit member assessment file and test content file according to schedule, sample exam questions for pre-exam practice; case studies/open discussion topics on the subject discussion forum (undertaken by business lecturers) and the H2472 system for answering questions when problems arise to train specialties: Economics and Business Law, Business English, Banking, Economic Management, Tourism Administration, Business Administration. The training program is designed according to the model (Trainee - Image - Efficiency - Activity), and at the same time applying training combining online and offline coordinated by professional and business lecturers. According to the design of the program, the duration of each course (subject) lasts for 9 weeks through theoretical learning on multimedia materials, online inquiry, online homework and offline final exam; ensure the quality of the outcome and the objectivity in assessing the quality of learning.

By 2018, the NEU has designed its own NEU e-learning training software and start to apply it, enrolling from 2019, not only for students who register to distance program but also for full-time students who can choose a number of e-learning subjects if necessary. That could help full-time students study faster and save money on studying while ensuring output standards as committed. This can be realized when the information infrastructure (training content, courseware), software infrastructure (LMS and CAS) and communication and network infrastructure of the university are invested suitably in continuously upgrading and modernizing over time.

Since 2020, in response to the Covid-19, improving adaptability to environmental changes, the NEU has issued official letter No.99/TB-DHKTQD on using the LMS. Accordingly, the LMS is used as an auxiliary tool, creating an effective communication environment between lecturers and students, and among students. The LMS helps teachers increase interaction, create excitement for students; they must be able to work independently with a high sense of self-awareness. Teachers can create weekly lessons, put materials in different format on the system, put essay tests, quizzes ... for students to self-study, self-test and self-evaluate. Teachers can also use the LMS take attendance or evaluate the active participation of students in discussions and give them timely feedback. Learners get used to making a plan that is suitable for self-directed and well implemented learning plan. During the epidemic, training through LMS and other online software (MS-teams, Skype for business, zoom) could be combined to ensure that students' learning is not interrupted and follow progress with accountability to society. Despite the fact that online training is not as effective as offline one (because the control cannot be tight and it directly depends on learners' sense of self-consciousness), in general, progress and quality are ensured at the expected level in violate environment.

At NEU, the application of IT is also used for exam purposes such as performing multiple-choice tests on computers, widely applied from the academic year 2019 - 2020 for general subjects with the high number of students taking the exam at the same time. Many students can take the final exam on the pre-designed software, helping the university save a lot of time and money for exam questions, print copies and mark exams. Students' results will be known as soon as the test is submitted by the candidate according to the specified time.

Moreover, the NEU's e-library project supported by the World Bank has gradually come into operation, creating links with major publishers in the world, help students access and search information quickly, promoting students' self-study and information retrieval in both academic and scientific research.

3.5. A glance at Vietnamese students' adaptability to digitization and lifelong learning

In the context of global integration and the digital age, today's students have to live, study and work in a more complex, unpredictable and more competitive environment, so their career paths will be risky, more roaming and less continuous. Students need to have an effective way of learning to update their new knowledge, successful transition from school to the world of work, and have to adapt and mature on a par with young people in the world. They not only receive knowledge once for all, but need to learn how to continuously improve the knowledge throughout their lives to develop and assert themselves, to connect and contribute to the development of the community actively. That means they need lifelong learning skills and know how to apply digital technology in learning effectively. Survey results on lifelong learning and online learning (online or e-learning) of 320 university students in Hanoi from February 2020 to March 2020 shows some aspects of Vietnamese students' adaptability.

In terms of lifelong learning, in addition to formal learning at university, students are currently focusing the most on self-study, reading and part-time jobs; followed by club membership and taking online and offline short (extra) courses outside university (*Figure*

1). A special point is that online learning is an important learning channel for students today.

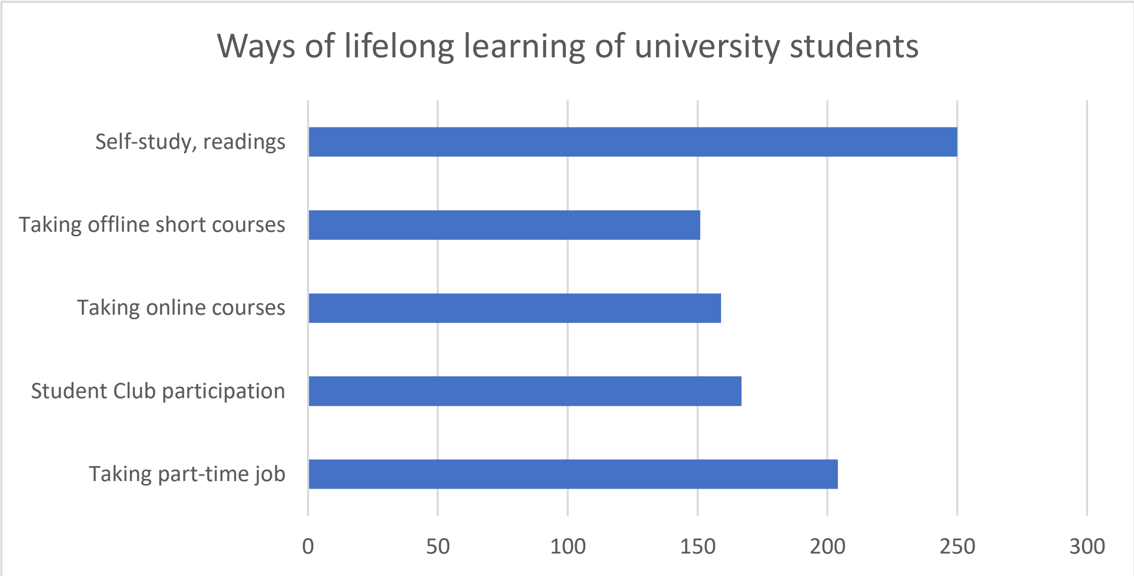

Figure 1. Ways of lifelong learning of university students

Source: survey of the authors, 2020

Out of 320 students who answered the question "Which channels are you learning (other than university)?", only 9.5% chose the face-to-face study, 8% chose to study online, and 85.9% study both face-to-face and online (so-called blended learning) (*Figure 2*).

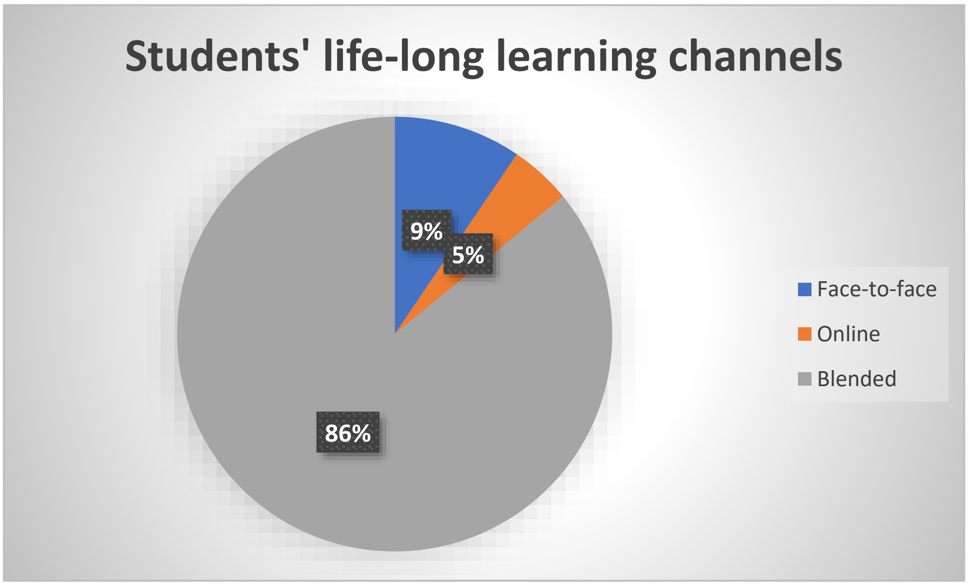

Figure 2: Students' lifelong learning channels

Source: survey of the authors, 2020

Figure 3 shows the students answers to the question "How do you evaluate the effectiveness of online learning?" Up to 164 students out of 320 say that online learning is effective, accounting for 51.3%. In addition, 16 students, accounting for 5% of the total number of respondents, found that online learning was extremely effective. Only 7 students rated it extremely ineffective and 14 students rated it ineffective. The rest give a neutral opinion, accounting for 37.2%. Thus, more than half of the students found that online learning was more or less effective. In terms of interests, more than half (52.5%) of students liked the method of online learning, 28% of students did not *(Figure 4)*.

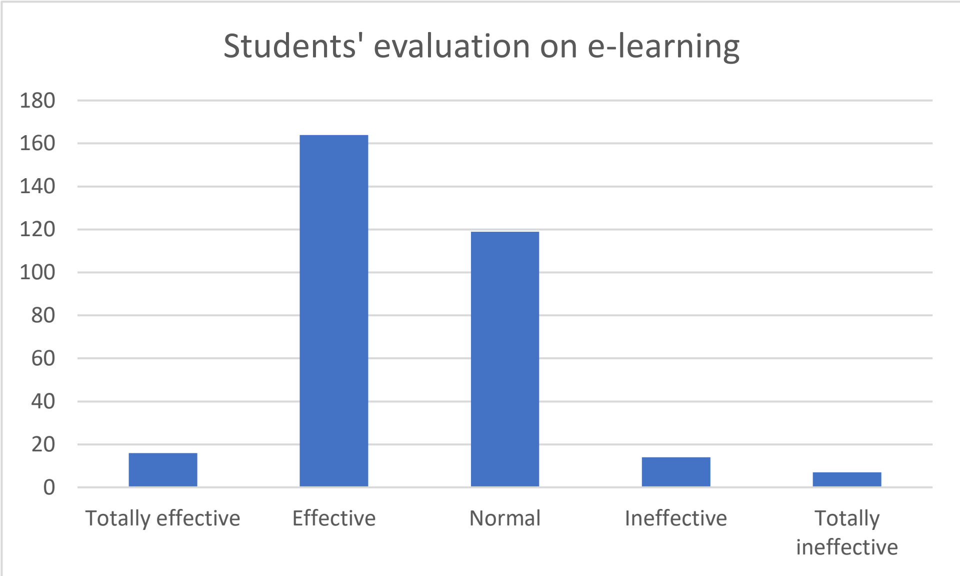

Figure 3: Students' evaluation on online learning

Source: survey of the authors, 2020

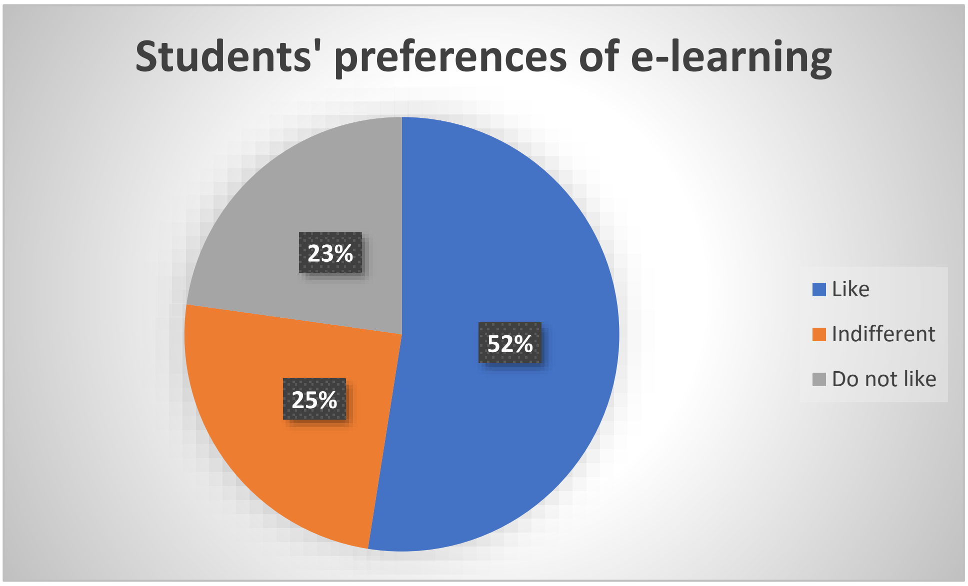

Figure 4. Students' preferences of online learning

Source: survey of the authors, 2020

Some of the benefits of online learning for lifelong learning highlighted by students in the survey are:

- In terms of time: online learning helps students to be more active, student can study anytime, anywhere, can focus on studying without being affected by the crowded environment.

- In terms of costs: students can save travel costs. Online learning supports students to review lectures, reduce the cost of re-study. Moreover, online courses also have a much lower fee than offline courses.

- In terms of learning content: students can actively register for courses with content they want to learn. Online courses are diversified. Then, students can easily exchange and impart knowledge on demand with teachers and learners without face-to-face communication.

- In terms of self-development: self-study will help students remember the lesson more easily, boost ability to self-explore and develop themselves, motivates students to self-study and to think independently.

The reasons for students who do not like online learning mentioned in the survey are only objective factors such as unstable internet quality, inappropriate characteristics of some disciplines that require a lot of practice, such as engineering, students are not given detailed answers about the problems of making projects due to the difficulty in communicating and interacting with teachers.

From the above analysis, it shows that Vietnamese students' readiness to learn online in the era of digital technology is not a challenge or an obstacle to the digitization of higher education, the problem is to what level digitization comes and communication work to change the perception of real communication habits with the support of communication devices.

4. Discussion and Conclusion

IR 4.0 is continuously grown to new heights. We may not fully understand all the necessary skills, but many businesses have applied new technologies to exploit their potentials for development. Universities need to work closely with businesses, government agencies, and student/ex-student associations to update skills and competency needs. Universities need to renew their training programs and apply ICT to training. On the other hand, universities, lecturers and students also need to be proactive. Instead of assuming that just one training program or a single specialist is enough to provide all skills needed for IR 4.0, we need lifelong learning and the collaboration of different institutions and different experts in the same field to contribute the added value to society.

In order to improve the efficiency of applying the benefits of IR 4.0 in the field of higher education, universities in general and NEU in particularly need to pay attention to the following aspects:

Firstly, it is necessary to invest in upgrading online training software with modern technology in the world in order to increase the security and authenticity of the program as well as to increase the accessibility of the program especially for students in remote areas with weak infrastructure network. Investing in infrastructure for online training requires both time and financial resources, so universities need a roadmap to ensure investment in the right direction, along with the training process, does not affect learners who are and will study the program**.**

Secondly, attention should be paid on the compilation, review and upgrade of program's materials provided via e-learning, LMS in particular, to ensure that the teaching is linked to reality and stimulates students to actively participate in discussion and forums, to enhance interactions in order to promote students' creativity and knowledge acquisition. A special attention need to be put on copyright protection measures so that lecturers are ready to share all the possible materials to help students increase their chances of multi-dimensional information access in all learning circumstances. In reality, students are still limited to participate in discussion forums, but if they participate, they are sometimes just formal to ensure attendance, so the students' discussions can be taken superficially, not highly creative yet. In order to improve the effectiveness of online forums, to assert the role of interaction in course assessment and student outcomes, program design needs to emphasize the role of interaction in assessment of study results. Furthermore, in order to bring the content of the courses closer to practical needs, cooperation with organizations/businesses should be strengthened in the following two directions: (1) Designing online training programs with the closer connection between the University and the organization/business to provide learners with the knowledge and skills that businesses need, contributing to making the labor supply closer to the demand in labor market. (2) Designing online training programs with close connection between the University and enterprises according to the orders of enterprises wishing to learn through e-learning but not yet capable enough to perform by themselves (This is a potential training market, when employees need to improve their professional knowledge but do not have enough time to participate in concentrated courses).

Thirdly, the university needs to pay more attention to periodic refresher courses for lecturers participating in the program in order to update training technology and manipulate quickly, promptly meet the needs of program learners to enhance the dynamism and rapid adaptability of trainers to training that combines online and offline training. In addition, the IT department should periodically send links to guide both students and lecturers on how to access the system and note points for learners to increase their awareness and responsibility of online training program confidentiality.

Finally, the university needs to concentrate on communication strategies for e-learning and LMS programs more effectively in order to increase the attractiveness of the program not only within the country but also taking into account the trend of exporting program to regional and international markets. The university also needs to consider cooperating with prestigious universities around the world to design and provide MOOCs to provide basic knowledge for those in need of lifelong learning. This is a good opportunity to promote access to the e-learning training market in the world, to attract international students, consolidating the university's position in the training field and to achieve development goals set out in the new situation. Regular communication will boost both students and lecturers to gradually change face-to-face communication to communicating through the media quickly and easily. As a result, they adapt to changing environment more easily**.**

5. References

1. Alhabeed, A. & J. Rowley (2017), Critical success factors for eLearning in Saudi Arabian universities, The International Journal of Educational Management; Bradford Vol. 31, Iss. 2, pp. 131-147.

2. Dương Trọng Tấn & Nguyễn Khắc Thành (2015), MOOC - một hiện tượng giáo dục số toàn cầu, available at https://chungta.vn/chuyen-gia/mooc-mot-hien-tuong-giao-duc-so-toan-cau-1098526.html on 26/5/2015.

3. Hyoung Seok Kang et al, (2016), "Smart manufacturing: past research, present findings, and future directions"; International journal of engineering and manufacturing-green technology, Vol. 3, Iss.1, pp.111-128, Jan 2016, ISSN 2198-0810 (online).

4. Hai-woong Park (2018), New forms of business and increased non-regular forms of employment: Opportunity and challenge for skills for inclusion and innovation in the Republic of Korea, in ILO (2018), Skills and the future of work: strategies for inclusive growth in Asia and the Pacific; available at https://universitiesofthefuture.eu/wp-content/uploads/2019/02/State-of-Maturity_Report.pdf.

5. Nguyễn Thị Thu Hà (2019), Phát triển giáo dục đào tạo trực tuyến ở Việt Nam trong thời kỳ hội nhập, available at http://tapchitaichinh.vn/nghien-cuu-trao-doi/phat-trien-giao-duc-dao-tao-truc-tuyen-o-viet-nam-trong-thoi-ky-hoi-nhap-301446.html on 1/1/2019.

6. Phan Thu Trang (2018), E-learning ở Việt Nam và một số vấn đề cần quan tâm, Tạp chí Khoa học và Công nghệ Việt Nam, available at https://khoahocvacongnghevietnam.com.vn/khcn-trung-uong/20460-e-learning-tai-viet-nam-va-mot-so-van-de-can-quan-tam.html.

7. Snellman, C. L. (2015), University in Knowledge Society: Role and Challenges, Journal of System and Management Sciences Vol. 5 (2015) No. 4, pp. 84-113 available at http://www.aasmr.org/jsms/Vol5/No.4/JSMS-VOL5-NO4-5.pdf.

8. Schawb, K (2016), The Fourth Industrial Revolution: what it means and how to respond, available at https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/

9. Tần Ngôn Trước (2001), *Thời đại kinh tế tri thức*, National Political Publishing House, Hanoi.

10. Thủ tướng Chính phủ, 2020, Quyết định phê duyệt "Chương trình chuyển đổi số quốc gia đến năm 2025, định hướng đến năm 2030" available at https://luatvietnam.vn/chinh-sach/quyet-dinh-749-qd-ttg-phe-duyet-chuong-trinh-chuyen-doi-so-quoc-gia-den-nam-2025-184241-d1.html.

11. Trần Thị Tuyết Oanh et al. (2019), Tài liệu Đánh giá trong giáo dục đại học, Trường Đại học Sư phạm Hà Nội.

12. Trần Thị Lan Thu (2019), Luận án tiến sĩ quản lý giáo dục: Quản lý đào tạo trực tuyến tại các trường đại học Việt Nam hiện nay, Học viện khoa học xã hội, available at https://gass.edu.vn/CMS/Lists/LuanVan_LuanAn/Attachments/17316/LA%20TranThiThu Lan.pdf

13. http://www.ilo.org/global/topics/future-of-work/WCMS_448448/lang--en/index.htm

1. 14.https://ionetech.vn/tin-tuc/noi-dung/cong-nghe-so-la-gi-cac-dinh-nghia-lien-quan-den-thoi-dai cong-nghe-so-21518.html

2. 15.https://vietnamnet.vn/vn/thong-tin-truyen-thong/chien-luoc-chuyen-doi-so-quoc-gia-dung-dau-10-su-kien-ict-viet-nam-2020-702161.html

DIGITAL ECONOMY DEVELOPMENT IN SINGAPORE AND LESSONS FOR VIET NAM

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Abstract

In the current digitalization era, the digital economy has become an inevitable development trend for the global economy in general and Vietnam in particular. The digital economy includes many new and diverse economic forms. These types of economy also create many opportunities for agencies and businesses and create many job opportunities for workers. However, developing the digital economy is also a challenging issue in the current period considering problems of infrastructure, human resources and so on to boost the digital economy. Singapore is an experienced country in developing the digital economy in Southeast Asia today. In this article, the author focuses on some economic development experiences of Singapore, one of the countries with the highest level of digital economic development in Southeast Asia, thereby drawing some lessons for Vietnam in the process of developing the digital economy.

Keywords: *Singapore, Vietnam, digital economy, development*

1. Introduction

The Digital Economy also referred as the New Economy. It refers to an Economy in which digital computing technologies are used in Economic Activities. Digital economy is underpinned by the spread of Information and Communication Technologies (ICT) across all business sectors to enhance its productivity. Digital transformation of the economy is undermining conventional notions about how businesses are structured, how consumers obtain services, informations and goods and how states need to adapt to these new regulatory challenges.

Singapore is one of the leading countries in the region in terms of digital economy development. Now aday, Singapore is drastically conducting digital transformation with the ambition to become the first smart country in the world and has solid foundations ready for the 4.0 era. Human capital, digital competitiveness, and production capacity of Singapore are among the top in the world. Up to 2020, Singapore is also one of the leading Southeast Asian countries in developing facilities for promoting the digital economy.

In the current digitalization era, the digital economy has become an inevitable development trend for the global economy in general and Vietnam in particular. With a population of nearly 100 million people, Vietnam is considered as one of the countries with a good digital economy development rate in the ASEAN region. With a large proportion of Internet and smartphone users, and relatively wide coverage of Internet and telecommunications infrastructure, Vietnam has great potential for developing the digital economy. However, there are many challenges that Vietnam has to face such as technological infrastructure, human resources to develop the digital economy... In this article, the author focuses on some economic development experiences of Singapore, one of the countries with the highest level of digital economic development in Southeast Asia, thereby drawing some lessons for Vietnam in the process of developing the digital economy.

2. Method

In the presentation, the authors use method of document collection, document analysis method to: analyzing Singapore's experiences in digital economic development, thereby drawing some lessons for Vietnam. Synthetic method: from the collected documents about Singapore, Vietnam and the digital economy, logically arrange and systematize the content. Analytical method: exploiting documents and selecting information about the digital economy, analyzing documents to come up with relevant content for the presentation

3. Results

Singapore is a multi-ethnic, multi-lingual country with almost no resources. After separating from Malaysia in 1965, Singapore faced many difficulties and urgent issues such as security, economy, ethnic conflicts, etc., Former Prime Minister of Singapore, Lee Kuan Yew assessed Singapore at that time, compared to many other countries: a huge gap with the uncertain future of survival (Lee Kuan Yew, 2000, p.19). Recognizing that, the Government had a series of correct and appropriate policies to bring the country from *the third world* economy to *the first world* economy. Through groundbreaking policies, Singapore has made a spectacular transformation and has become one of the four dragons of Asia. Today, Singapore is considered one of the world's major trade centers. People can live in a green, clean and modern environment. GDP per capita is ranked among the highest in the world.

Singapore is one of the leading countries in the region in terms of digital economy development. For many years, Singapore has focused on policies that promote economic restructuring towards economic innovation and increased labor productivity. Singapore has a very clear goal in developing the digital economy to become the world's leading digital economy. To achieve this goal, Singapore has implemented many different solutions, focusing on supporting businesses in digital transformation and preparing conditions and supporting factors for the development of the digital economy. It can be said that Singapore is drastically conducting digital transformation with the ambition to become the first smart country in the world and has solid foundations ready for the 4.0 era. Human capital, digital competitiveness, and production capacity of Singapore are among the top in the world. Up to 2020, Singapore is also one of the leading Southeast Asian countries in developing facilities for promoting the digital economy. This is also an example that many countries are interested in and consulted about, including Vietnam.

3.1. Singapore's digital economy development experiences

3.1.1. Infrastructure

In upgrading the digital infrastructure to promote capacity and expand the application of digitalization in businesses, Singapore has made remarkable progress. In 2010, the fiber optic network was put into use. In 2011, it was 4G mobile network. Thanks to the fiber optic network, Singapore's average internet connection speed has increased on par with countries like Japan and Finland. The average internet connection speed rose from 5.4 Megabits (Mbps) per second to 20 Mbps from 2012 to 2016 (Singapore, 2019). Thanks to continuous investment in infrastructure, Singapore is considered as one of the top countries with the fastest 4G connection speed in the world. According to data from the Singapore Information Media Development Authority (IMDA) between 2012 and 2016, after efforts to improve the digital infrastructure system in Singapore, there has been a double in the number of subscriptions to 4G services and broadband fiber networks. From 2012 to 2016, the total number of subscriptions to optical fiber broadband (OFB) services increased from about 0.3 million to over 1.1 million households; from 2013 to 2016, the total number of accounts registered to use 4G networks (both prepaid and postpaid) more than doubled from 2.1 million to nearly 4.9 million subscribers (Singapore, 2019)

For the corporate sector, the government has pushed business leaders to invest more in digital assets, developing digital infrastructure to improve their digital skills. In the period 2013 to 2015, the total capital expenditure of enterprises in fixed digital assets (including computers, peripheral devices and information and telecommunications equipment) achieved Compounded Annual Growth Rate (CAGR), at 7.1% (Singapore, 2019). In addition to investing in digital assets, businesses also in turn and continuously apply digital tools in their business activities.

Being aware of the importance of 5G technology will be the basis for the development of new applications, new business models and so on. Singapore has rapidly developed this advanced wireless mobile network technology. In 2019, the Singapore Information Media Development Authority (IMDA) implemented programs such as “5G Innovation” to research and support businesses; or “5G Grant” to promote research projects on applications and solutions for 5G technology. 5G networks provide data download speeds many times faster than 4G (Singapore, 2019). According to IMDA, at least 50% of the country will have independent 5G coverage by the end of 2022 (Singapore, 2019) Newly designed infrastructure using dedicated technologies for 5G is to develop new applications around smart factories, self-driving cars, and self-connected devices. This new investment will be more effective than upgrading the infrastructure from the existing 4G.

In addition to the above prominent trends, the level of application of digital tools and capabilities such as cloud computing services, smart factories, and so on has also increased rapidly in recent years. Singaporean Governments always strivie to digitize the economy, maintain and develop the level of digitalization of households and businesses.

3.1.2. Support for digital economic transformation

Singapore has long been known as a country with a dynamic economy with the strongest potential for growth in the East Asia - Pacific region. With a favorable business environment, professionalism, and high-quality human resources, Singapore has attracted many foreign investors. From 2003 to 2017, Singapore was continuously ranked as the country with the highest global business climate index in the region. In 2018, 2019, Singapore continuously ranked second in the world on the ranking of business environment published by World Bank. This index shows that Singapore possesses a favorable regulatory environment that businesses to operate in the island nation. In the field of digital economy, Singapore is currently home to many large companies in the global technology field such as Google, Facebook, Alibaba, or leading businesses in the region such as Garena, Grab, Lazada and Razer,…(The World Bank, 2003). Besides, the Government of Singapore also introduces preferential policies to attract investment capital from abroad, encouraging multinational companies to set up headquarters in their country (Singapore Economic Development Board, 2019). At the same time, the Singapore government also promotes development through start-up projects in the fields of technology and science by offering preferential financial policies, supporting business orientation, building a startup ecosystem with the aim of acting as a bridge in cooperation, combining core values between organizations, businesses, and investors (Startup Decisions, 2019). Government digitization has contributed to make Singapore one of the best business environments in the world for many years in a row. Through two projects, SME Go Digital and SME Digital Tech Hub, small and medium enterprises (SMEs) in Singapore will better understand the opportunities and development potentials in digital technology application such as accessing new markets, improving high productivity and operational efficiency. It is not just about the media, government projects also provide businesses with suitable transformation roadmaps for each industry, specific advice on digital solutions from experts that was proven in each stage of the company's development and other support during implementation (SNDGO, 2018, p.32)

In addition, the Start Digital project supports small and medium enterprises to train human resources in digital marketing, electronic payments, and network security within 18 months. Enterprises are exempt from tuition fees for the first 6 months and reduce tuition fees for the remaining time. At the same time, Singapore also arranges experienced experts to give free advice from A to Z for small and medium enterprises in implementing digital transformation. During the Covid-19 pandemic, Singapore has used the threat as a driving force to accelerate digital transformation in order to control and minimize the consequences of the pandemic, and on the other hand, to quickly reach the goal of becoming the first country that is smart in the world. As a result, up to 73% of both medium and large businesses have accelerated the pace of digitization in various ways to respond to the pandemic, from launching digital products, digital payments to e-commerce and automation.

In addition, Singapore has also implemented many other projects to support and encourage people and businesses to access, understand and apply digital technology in life and business. Through SkillsFuture or SG Innovate, the government builds and provides people with courses and media events on information technology, artificial intelligence (AI), robotics, blockchain and many more other in-depth technological topics…

Singapore also pays special attention to recruiting experienced technology experts with strategic vision to take the lead in the digital transformation journey. This is an important factor for Singapore's success in digital transformation. The reality shows that many countries make good policies, but due to the lack of effective implementation support institutions and talented and dedicated commanders, policies are often not implemented properly or they just exist on paper.

Singapore sets out key roadmaps each year, focusing on specific areas for innovation and digitization. The digital transformation journey is carried out step by step with a clear roadmap so that people and businesses have time to get used to and gradually adapt. Digital products and services are constantly being improved to be more complete. When problems arise between the Government and the people, even the smallest problems must be resolved immediately.

3.1.3. Building a smart nation

In 2014, the Singapore Government launched the “Smart Nation” initiative. In 2017, they announced the establishment of the Smart Nation Digital Government Office (SNDGO) to coordinate efforts from different government agencies towards the goal of becoming the world's first smart country.

The “Smart Nation” project aims to solve the main challenges that countries around the world are facing, which are 5 challenges: high urban population density, population aging, increasing demand for health care, difficult urban transport and lack of energy. By applying digital technologies to solve these problems, Singapore hopes its “Smart Nation” model can become a model for other countries.

Singapore's smart nation model aims to include the following contents: greener, cleaner and safer living environment for urban residents; more choices of means of transportation, better home health care for the elderly; more convenient public services and better living opportunities for citizens. Jurong Lak, a district in western Singapore has been chosen as a testbed for the smart city initiatives.

The Smart Nation Platform (SNP) is set up with many important features to support individuals, governments and businesses, focusing on 3 aspects: connection, collection and understanding.

With ambitious and people-pleasing goals, Singapore has mobilized the whole system to participate, bringing together high-class technology experts, elite talents, businesses and people to join hands to build a Digital Government.

The most significant achievement of the implementation of the Smart Nation is the application of information solutions in implementing digital government, providing public services through a digital platform in order to reduce number, time, and cost for administrative procedures in not only businesses but also people's daily lives (SNDGO, 2018, p.32). According to the 2020 Business Environment Assessment Report of the World Bank (WB - The World Bank), the Singapore government has built digital platforms for receiving, processing and returning the results of documents for businesses, supporting businesses and experts to access information about land and plan publicly, in detail and completely free of charge. The digitization of government has contributed to make Singapore one of the best business environments in the world for many years in a row (The World Bank, 2020). In the social field, SNDGO has built and launched a lot of useful applications, in supporting Singaporeans and families to have a modern, smart, and easy life.

People participate in most of the stages of making digital products and services with a strict 5-step process: Surveying and collecting people's opinions; tested from the use of people; defect assessment; redesign and improve service digitization.

The government built 11 service journeys with essential utilities of the people such as those from birth to high school, workers looking for jobs, healthcare... All of them implemented as a one-stop shop, thus saving costs, time and effort, and changing awareness, habits and working methods of officials.

Typically, the application “Life Singapore” (LifeSG) has received the attention and enthusiastic participation of a large number of people. This digital service integrates more than 40 convenient services such as registration of birth certificates, child benefits, finding the best schools, information about programs, priorities for the elderly, about jobs, skills development courses, updating the latest government welfare programs...

Efforts in improving the living conditions of the people, have contributed to help Singapore attract highly qualified laborers from all over the world to work, live, and contribute to the development of this small country.

3.1.4. E-payment development

Singapore is one of the first countries to apply electronic payments (EP) in the world. This is also the fastest growing e-commerce market in ASEAN countries. E-commerce activities have developed at a relatively fast rate. Since 2015, the country's e-marketing index has been around 56%-57%. According to the Singapore e-commerce survey, almost everyone in Singapore has a smartphone, but 9 out of 10 people still want to pay for day-to-day transactions the old-fashioned way with cash. 43% of Singaporeans surveyed said they use cash the most, almost double the 25% in China. (Central Institute for Economic Management, 2018, p.4). The reason is that Singapore has many e-commerce programs, but there is a lack of connection and connection between these payment systems, so it causes a lot of trouble, especially people have to carry many cards and businesses also have to pay to install multiple systems.

Advocacy to turn Singapore into a cashless society is unanimously necessary to simplify and unify the different payment systems. To accelerate the process, the Monetary Authority of Singapore has launched an initiative with 2,000 POS systems (machines that accept card payments for customers to swipe cards) for uniform payment at more than 650 retail stores across the country. These POSs support a variety of payment options, including Samsung Pay and Apple Pay. Responding to the Government's policy of promoting e-commerce, many businesses have been implementing many innovative initiatives such as using RazerPay, Grabpay, NetsPay, etc.

POS has the advantage of being compact, occupying only a very small area, and can be easily installed in many places. In addition, the Singapore government has planned to develop a fast payment system, using a common QR code (a type of code that can be scanned with a smartphone) to conduct e-commerce across the country. In fact, QR codes offer a cheaper and less infrastructure alternative to debit and credit card schemes. Therefore, at present, QR codes are increasingly used in e-commerce, contributing to the promotion of cashless payments.

In 2020 Singapore's e-commerce market reached SGD 9.3 billion (about 7 billion USD) and is expected to grow by 40% in the next 4 years. Credit cards, e-wallets and bank transfers are the most popular online payment methods in Singapore, with 45%, 20% and 12% respectively in transaction volume. Among the above payment methods, e-wallets such as GrabPay and DBS PayLah are expected to account for about 27% of the Singapore market by 2024. (Hoang Linh, 2020)

E-commerce activities develop at a relatively fast rate. Even public services are allowed to pay electronically, from public services to fines. Singapore encourages specialized people to support the elderly and small businesses to use the Internet. To encourage more merchants to use electronic payments, the Singapore government plans to provide S$300, equivalent to VND5 million per month, to small businesses for a period of five months. The goal of this activity is to support 18,000 small businesses and 100,000 elderly people to know and be able to use the electronic payment solution within 1 year. (Hoang Linh, 2020)

Before the global Covid-19 pandemic, Singapore made positive changes in the digital transformation process. This has reduced the consequences of the Covid pandemic in recent years. The government has spent more than S$500 million to support businesses and citizens to accelerate digital transformation to mitigate the impact of this crisis. In response to the pandemic, businesses and the government are also accelerating the digitization process. Singapore is considered one of the best countries to control the Covid-19 epidemic in the world. Because of this, the World Economic Forum chose Singapore instead of Switzerland to hold its annual conference in 2021.

3.2. Lessons learned for Vietnam

Until now, most countries in the world have attached great importance to the development of the digital economy, considering it a new development step and a new economic model in the future. Currently, the industrial revolution 4.0 has penetrated all aspects of social life. Right from the means of transportation through mobile booking applications such as Grab, Uber; living online thanks to Twitter, Instagram and Facebook to ordering food online or apps using cloud technology… It can be seen very clearly that the digital economy is booming in the world, becoming the leading factor driving the growth and development of each country.

With a population of nearly 100 million people, Vietnam is considered as one of the countries with a good digital economy development rate in the ASEAN region. Vietnam has recorded the emergence of digitization trends in many fields and economic sectors, from commerce and payment to transportation, education, and healthcare. In addition, the e-commerce market is also growing. With a large proportion of Internet and smartphone users, and relatively wide coverage of Internet and telecommunications infrastructure, Vietnam has great potential for developing the digital economy. However, there are many challenges that Vietnam has to face such as technological infrastructure, human resources to develop the digital economy... The strong development of the Internet and technology is expected to create a support for the digital economy to develop rapidly and make an increasing contribution to Vietnam's economy in the coming time. However, for the digital economy to develop sustainably, it is necessary to have synchronous support solutions and efforts from many sides. From the experience of Singapore, we can draw lessons for Vietnam:

First, it is important to focus on investing and upgrading digital infrastructure as well as modern digital technology solutions, accelerate cashless payment applications, and make e-government efficient…. There is a need to develop the fundamental fields of the digital economy such as digital infrastructure, digital resources, digital services, digital market.... This helps to deploy smart connected digital applications, accelerate non-cash payment applications, effective e-government, etc. For Vietnam, first of all, it is necessary to focus on developing digital economy fields to help expand markets and promote consumption. These are the areas that help Vietnam take advantage of the opportunities of international integration, especially free trade agreements, but also do not require a high level of technology. At the same time, the Government needs to provide digital service platforms to support businesses and reduce transaction time and costs such as online licensing and license approval... in the most convenient and fastest way.

Second, in addition to focusing on upgrading digital infrastructure, the issue of human resources to meet modern technology also plays a very important role. It is essential to focus on developing human resources for the digital economy, in which focus on developing and attracting digital technology experts and digital entrepreneurs. Paying attention to educational innovation and training, making the workforce catch up with digital technology trends are necessary. Accordingly, updating and supplementing training curricula on digital technology and digital skills in schools; create conditions for learners to access the technology field as soon as possible; promote training and practice linkages between schools and the business sector in digital technology application; focus on flexibility, practical learning, practice, lifelong learning, taking practice as the focus of the training program.

Third, there is a need to build and perfect institutions, laws and policies to create a framework for the development of the digital economy. The institutional framework must be able to adjust at the national, sectoral and corporate levels. Viet Nam need to develop very specific plans and guidelines on digital transformation for businesses, these plans are associated with financial sources and annual funds to facilitate business access to the economy.

In addition, it is necessary to pay attention to the development of policies on standards, to standardize production stages and processes to increase connectivity, interconnection and synchronization. Develop and promulgate laws and policies on network security and information security to serve as a basis for promulgating standards for information exchange between entities and to ensure information and data for organizations, individuals and businesses in the digital economy. Currently, only about half of ASEAN member states have comprehensive data protection laws and authorities have limited capacity to protect data. Therefore, Vietnam needs to complete and connect policies with the region for more effective implementation. In addition, the Government needs to have policies to exploit the digital potential effectively.

Fourth, the potential contribution of the digital economy to society is not small, but there are also many problems arising in the process of developing the digital economy: the disadvantages arising in the development of the digital economy; occupations that will be "dead", new occupations appear, workers will be replaced by robots, artificial intelligence; contradictions, conflicts between traditional business types and mechanisms and new ones appearing... Therefore, it is necessary to increase the awareness of people and businesses about the digital economy, paying attention to the benefits and challenges that come with it, with specific contents for each industry and field, especially through agencies, offices, factories and schools.

4. Discussion and Conclusion

In conclusion, in today's digital age, the digital economy has become an inevitable development trend for economies around the world. Until now, most countries in the world, both developed and developing countries, have attached great importance to the development of the digital economy, considering it a new development step, a new economic model in the future, and a new economic model, offering solutions to transform to the digital economy. However, each country with its own characteristics and strengths will have different mechanisms, policies and measures to develop the digital economy. The Singapore Government's digital economy development policies and strategies have achieved many results, which focuses on supporting businesses in digital transformation, preparing the conditions and supporting factors for the development of the digital economy, supporting digital transformation on a large scale, and supporting digital transformation in each field. This is also an issue that many countries care about and refer to, including Vietnam. However, in this digital economic transformation, Vietnam also has to face many problems such as technology infrastructure, human resources to develop the digital economy... Therefore, digital economy requires synchronous support solutions and efforts from many sides.

5. References

1. Singapore (2019), IMDA - Infocomm Media Development Authority, (https://www.imda.gov.sg/)

2. Singapore Economic Development Board (December 2019), *Pioneer Certificate Incentive and Development And Expansion Incentive*

3. Startup Decisions, *Startup Grants & Funding Sources in Singapore*, (https://www.startupdecisions.com.sg/singapore/incentives/startup-funding-sources/)

4. SNDGO (2018): *Smart Nation: The Way Forward*, p.32.

5. The World Bank (2003), *Doing Business Rankings 2003 – 2020*, (https://www.doingbusiness.org/en/data)

6. The World Bank (2020), *Doing Business 2020 Singapore*, (https://www.doingbusiness.org/en/data)

7. Hoang Linh (2020), *Digital economy integration - opportunities are in the hands of Asean countries*, Industry and Trade Magazine, http://tapchicongthuong.vn/bai-viet/tich-hop-kinh-te-so-co-hoi-nam-trong-tay-cac-nuoc-asean-68420.htm

8. Lee Kuan Yew (2000), *From Third World to First: The Singapore: 1965-2000, Memoirs of Lee Kuan Yew*, Times Editions, Singapore Press Holdings, p.19

9. Central Institute for Economic Management (2018), Theme No. 4: *Developing the digital economy from the experience of some Asian countries and implications for Vietnam*, p.4

INFLUENCE OF DIGITAL TECHNOLOGY USE TO CUSTOMERS' ELECTRONIC PAYMENT INTENTION IN VIETNAM

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Abstract

The objective of this research study is to investigate the influence of using digital technology to electronic payment intentions of customers in Northern Vietnam. A quantitative research with 360 respondents who have used or had intention of using electronic payment in Northern Vietnam was conducted. Results revealed that 7 factors including Perceived usefulness, Perceived ease of use, Risk perception, Trust, Digital technology activities, Subjective norms and Perceived behavioral control have influence to customers' electronic payment intention. Among them, three factors of Perceived usefulness, Perceived ease of use and Perceived behavioral control have a significant impact customers' electronic payment intention.

Keyword*: digital technology, electronic payment, electronic payment intention*

1. Introduction

Due to the popularity of Internet and strongly development of e-commerce, electronic-payment (e- payment) has increasingly become a global trend. E- payment is gradually asserting its position with preeminent benefits such as speed, convenience and accuracy in transactions, and easy control of spending. This payment form also brings benefits in the socio-economic field such as promoting sustainable economic development, creating transparency in expenditures and transactions, and creating a transparent cash flow. Governments of many countries have introduced policies to encourage the development of e- payment, especially in the context of Covid-19 pandemic, which further motivates people to change their money usage habits. Switching to electronic transactions help people ensure safety and limit the spread of disease in the community.

According to the statistics of Datareportal Vietnam, there were 68.17 million Internet users in January 2020, up by 6.2 million users (10%) over the previous year. As well, approximately 145.8 million mobile devices connected to the Internet in 2020, an increase of 2.7 million devices (1.9%) comparing to the 2019's figures. The mass adoption of digital technology is one of the main reasons for the tremendous growth in online payment in Vietnam. In addition, there are great benefits in using online payment such as having a wide selection of platforms offering unique features and customized services to meet users' increasing needs and demands. Rural areas are the next destinations for Fintech companies in the future as the Government's policies continue to encourage online payment .

Although the data in the Landscape 2020 e-payment market report shows a boom in Vietnam, cash is still the most popular payment method, accounting for up to 80% of the transaction rate; 20% of the transaction rate comes from the electronic payment market throughout Vietnam. In addition, according to statistics from the State Bank of Vietnam, in 2020, approximately 31% of people own bank cards. The main reason is that Vietnamese people's habit of using cash has been ingrained for a long time. Electronic payment methods are still very new and have not been widely disseminated due to users' anxiety of insecurity and risk. In the context that the application of digital technologies in payment is becoming increasingly popular, it is important to research customer behavior to make customers feel secure in paying using technology. Investigating the influence of digital technology to customers' e-payment intentions helps to enhance customers' e-payment intentions

2. Theory and hypothesis development

Due to the fact that the use of internet has been becoming popular, there have been a number of researches on factors affecting the customer's e-payment intention, for example, a study by Zlatko Bezhovski's group, Goce Delchev University, and Krste Misirkov (2016) on the future trend of mobile payments, focusing on one a wide range of issues with electronic payment methods including security, privacy and consumer acceptance of e-commerce for payment; or the study "Factors affecting the intention to use Mobile Banking" by the group of authors P. Luarn, H.-H. Lin (2005) emphasizes perceived usefulness and two factors of perceived behavioral control (perceived self-efficacy and perceived financial costs) on customers' intention to use mobile banking services. In Vietnam, there have been several studies on the topic such as "Factors affecting the intention to accept mobile banking products of individual customers - a case study for Vietcombank" by Nguyen Binh Minh, Trinh Xuan Truong; "Research model of factors affecting consumers' decision to use electronic payment methods" by Master Vu Van Diep. Since none of them consider digital technology use determinant factor to customer's electronic payment intention, study on the relationship between digital technology use and customer's electronic payment intention is needed.

Digital technology and electronic payment

Fitzgerald et al. (2014) defined digital technology as social media using forms such as mobile, computer, analytic, or embedded usage. These digital technologies include the

Internet of Things - IoT (Perkel, 2017) with next-generation telecommunications networks - 5G (Ting, Wong and Sim, 2019); Big Data (LeCun, Bengio, and Hinton, 2015); artificial intelligence - AI using deep learning (Ting, Wet and Nat, 2018); and block- chain technology (Heaven, 2019). Digital technology has transformed aspects of life from work, travel, shopping, entertainment, and communication. Realizing its popularity, Paul (2021) pointed out the important benefits of digital technology including social connection, multi-tasking ability, automation, information storage, etc.

Dennis (2004), described an electronic payment system as a type of financial commitment between a buyer and a supplier connected by the use of electronic infrastructure. In addition, Briggs and Brooks (2011) see online payments as a form of relationship between associations and people supported by banks and companies that convert between financial transaction empowerment. Electronic payment is a form of the electronic transaction including money transfer, money receipt, and withdrawal via the Internet. An electronic payment service exists under a web interface that allows customers to remotely access and manage their bank accounts and transactions (Weir et al. 2006, Lim 2008). Electronic payment systems can be classified into five categories (Lawrence et al. 2002, Guan and Hua 2003, Abrazhevich 2004, Dai and Grundy 2007, Schneider 2007), including electronic money, debit cards, credit cards, prepaid cards, and electronic checks. K. Peffers and W. Ma (2003; 2015) classify electronic payment systems including electronic checks, electronic money, credit cards, and electronic transfers. Currently, popular forms of electronic payment worldwide include credit card, debit card, e-wallet, mobile payment (mobile banking, QR code), electronic money, payment via the gateway.

Hypothesis development

Perceived usefulness

Perceived usefulness is defined as the degree to which a person believes that their job performance will be enhanced by using a particular system (Davis, 1989). Wen et al. (2011) introduced another concept of perceived usefulness as consumers' evaluation of the benefits of product information and perceived usefulness when shopping online. Perceived usefulness is an important determinant of intention to use (Al-Maroof and Al-Emran, 2018). In electronic payment, perceived usefulness variable is measured by transaction speed, user-friendliness, customer experience, accuracy, convenience... (Liao, ZQ and Cheung, 2002). Several studies have shown that perceived usefulness has a positive relationship with intention to use electronic payments (Al-Fahim et al., 2015; Ayo et al., 2010; Chin and Ahmad, 1970, 2015; Dutot., 2015; Lee, 2009; Meharia, 2012; Nasir et al., 2015; Pham and Ho, 2015; Santouridis and Kyritsi, 2014; Sinha and Mukherjee, 2016; Upadhyay and Jahanyan, 2016). Thus, the first hypothesis can be stated as follows:

H1: Customer's perceived usefulness positively influence on electronic payment intention.

Perceived ease of use

Perceived ease of use is defined as the degree to which a person believes it will be effortless to use a particular system (Davis et al., 1989). Ease of use is also studied in the documents on intention to use electronic payments (Cabanillas 2014, 2017; Gefen 2003; Phon Tanuki Thaworn, 2016; Yang, 2015). The less complex the perception of using electronic payments, the more positive customer attitudes towards e-banking services. Therefore, the second hypothesis is introduced as follows:

H2: Customers' perceived ease of use positively influence on electronic payment intention.

Risk perception

Risk perception is the ability to express the loss associated with achieving desired outcomes when using e-services (Yang et al, 2015). Previous studies have demonstrated that risk perception is one of the most important impediments to customers' acceptance of mobile banking (Akturan and Tezcan, 2012; Cruz et al., 2010; Hanafizadeh et al., 2014; Lee et al., 2007). Zhao et al. (2008) pointed out the risks that customers face when using online banking services including privacy, financial, security and performance. Featherman and Pavlou (2003) and Littler and Melanthiou (2006) hypothesized that risk perception encompasses five dimensions in the context of banking services: financial risk, performance, timing, mentality and security. According to the Federal Reserve Board (FRB, 2012), consumer adoption of mobile banking and mobile payment technology is hampered by concerns about information theft and security. The third hypothesis is established as follows:

H3: Consumers' risk perception positively influence on electronic payment intention.

Trust

Trust is the foundation of interpersonal communication and a catalyst in transactions between sellers and buyers to achieve customer satisfaction as expected (Yousafzai et al., 2003). Trust is considered an important factor in determining intention to adopt technology (Chong et al, 2012; Zhang et al., 2012; Chong, 2013). Many studies on the influence of trust on electronic services (Featherman and Pavlou, 2003; Gefen et al., 2003), electronic banking (Gao and Waechter, 2017, Nguyen and Nguyen, 2016; Pham, 2013) proved that trust is one of the factors that strongly influence the electronic payment intention. When making a comparison between traditional payment and electronic payment, it is found that the more people use the electronic payment channel, the higher the level of trust in electronic payment. Dahlberg et al. (2003), Shin (2009), Amoroso and Watanabe (2012), Xin et al. (2013) and Ho Pham (2014) argued that the trust factor can be used as a strong predictor of e-wallet adoption.

Research conducted Gefen et al (2003) found that perceived trust has a positive and significant relationship with perceived usefulness. Thus, the fourth hypothesis is as follows:

H4: Consumers' trust positively influence on electronic payment intention.

Digital technology activities

Previous studies have identified technologies related to society (Li et al., 2017; Oestreicher-Singer and Zalmanson, 2012), mobility (Hanelt et al., 2015a; Pousttchi et al., 2015), analytics (Duerr et al., 2017; Günther et al., 2017), cloud (Clohessy et al., 2017; Du et al., 2016), and Internet of things - IoT (Petrikina et al., 2017; Richter et al., 2017). Digital technology has been identified as a source of disruption (Karimi and Walter, 2015) to consumer behavior and expectations, the competitive landscape, and data availability. Changing consumer behavior and expectations of digital technology have profound effects on the behavior (Chanias, 2017; Hong and Lee, 2017) of common consumers (Yoo et al., 2010a) to approach information and communication capabilities (e.g. using social media on phones, laptops). Applying these technologies, customers become active participants in the relationships that take place between an organization and its stakeholders (Kane, 2014; Yeow et al., 2017). Thus, the fifth hypothesis is established as follows:

H5: Consumers' digital technology activities positively influence on electronic payment intention.

Subjective norms

Subjective norm or social influence is people's perception of social pressure to perform or not their behavior (Ajzen and Fishbein, 1975; Park et al., 2006). These social pressures come from family, friends, co-workers and surrounding media. Previous researches have shown a positive correlation between subjective norm and customers' intention to use electronic payments (Ravi, Carr & Sagar, 2007; Bhattacherjee, 2000; Nasir, Wu, Yago, & Li, 2015; Goh 2017). Research by Nysveen et al. (2005) demonstrated the above correlation that individuals can accept a certain system when under huge pressure from society and the influence of the elders or friends. In particular, they are directly influenced through word of mouth about electronic payments. Thus, the sixth hypothesis can be established as follows:

H6: Customers' subjective norms positively influence on electronic payment intention.

Perceived behavioral control

Perceived behavior control factor was proposed by Ajzen (1985) to improve the TRA model for more realism. Perceived behavioral control plays an essential role such as an individual's self-assessment of the difficulty or ease of performing a behavior. The more resources and opportunities they are getting, the fewer barriers they will face, so that it will be more difficult to control their perceived behavior perception. According to Ajzen (1991), this element is developed from the self-belief of the person intending to perform the behavior, and the easy and favorable conditions for performing this one. Taylor and Todd (1995) argued that perceived behavioral control of customers is obtained when the person intending to perform the behavior has all the information necessary for personal decision and self-assertion. Through these studies, perceived behavioral control has been shown to have a positive effect on behavioral intention. Thus, the seventh hypothesis is stated as follows:

H7: Customers' perceived behavioral control positively influence on electronic payment intention.

Given the seven hypotheses, the research model can be illustrated as followings:

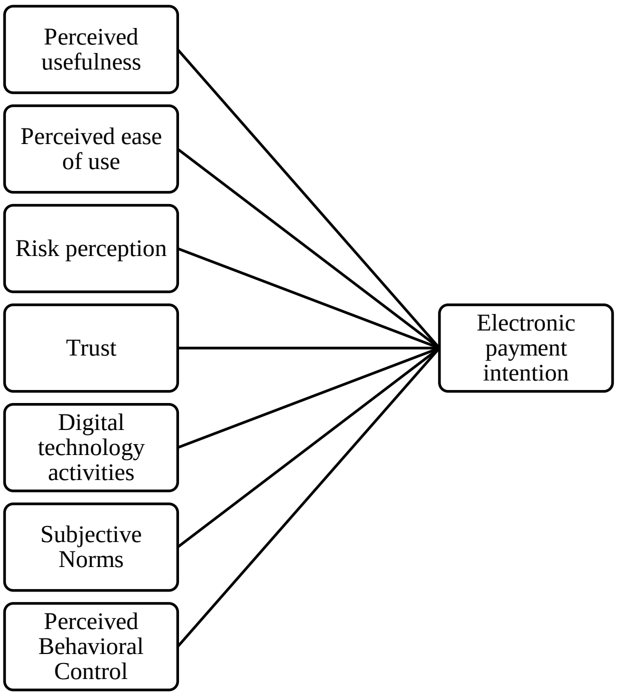

Figure 1: Proposed research model

3. Method

In this research, the authors used two main methods: qualitative research and quantitative research. Regarding the qualitative method, the research team has carried out in-depth interviews combined with referring to more documents related to the topic in order to figure out the elements in the proposed model. Regarding the quantitative method, using a questionnaire designed on a 5-likert scale to assess the degree of agreement of the respondents with the assertions given in the questionnaire. Then, the authors collect data through 360 final qualifying results and analyze it using tools such as descriptive statistics, exploratory factor analysis (EFA), scale testing (Cronbach's Alpha), correlation analysis and analysis regression - hypothesis testing.

Data analyzed using sample size N=360. According to statistics, men accounted for 34.72%, women accounted for 64.72%, and other 0.56%. The age of the respondents is highest at 18-25 years old (94.17%), with a large difference in the age ratio. People attending university education accounted for the highest rate of 88.61%. Respondents' income is mainly under 10 million dong.

4. Results

Cronbach's Alpha

In the first measurement, the reliability analysis for all indicators of the factors has Cronbach's Alpha coefficient of the total variable greater than 0.6, which means that all are accepted for reliability. However, when looking specifically at each indicator of the factors, the research team found that Cronbach's Alpha if item deleted of *Digital technology activities* 03 is 0.843 which is larger than the Cronbach's Alpha coefficient of the total is 0.765 and *Perceived usefulness* has Cronbach's Alpha if item deleted is 0.934 which is greater than Cronbach's Alpha coefficient of total variable is 0.921, so these two indicators are removed. The new results give a table of Cronbach's Alpha coefficients as below:

Table 1: Cronbach's Alpha

Factor name	Number of indicators	Cronbach's Alpha coefficients
Perceived Usefulness	5	.934
Perceived Ease of Use	5	.931
Risk Perception	5	.895
Trust	5	.889
Digital technology activities	3	.843
Subjective Norms	4	.852
Perceived Behavioral Control	3	.917
Electronic Payment Intention	3	.920

Source: results of the study

There are 33 indicators which are accepted to be used in exploratory factor analysis EFA and regression analysis.

Exploratory Factor Analysis (EFA)

The EFA results show that KMO = 0.949, Sig = 0.00< 0.005, the final results of it are presented in the following table:

Table 2: EFA analysis

	1	2	3	4	5	6	7
LI01	.875						
LI02	.786						
LI03	.759						
LI04	.724						
LI05	.708						
DSD01		.786					
DSD02		.752					
DSD03		.686					
DSD04		.661					
DSD05		.623					
RR01			.741				
RR02			.733				
RR03			.712				
RR04			.699				
RR05			.643				
TT01				.693			
TT02				.685			
TT03				.657			
TT04				.644			
TT05				.629			
HĐ01					.789		
HĐ02					.724		
HĐ04					.703		
CCQ01						.788	
CCQ02						.745	
CCQ03						.684	
CCQ04						.651	
KSHV01							.697
KSHV02							.652
KSHV03							.631

Source: results of the study

The results of the first EFA analysis show that the KMO values and the sig coefficients of the Bartlett test are satisfied. The Eigenvalue numeric value has up to the 7th factor whose value is equal to 1,057 (greater than 1), and the cumulative percentage is as high as 69.032%. This proves that the indicators of seven factors *Perceived usefulness, Perceived ease of use, Risk perception, Trust, Digital technology activities, Subjective norm, Perceived behavioral control* have been satisfy the necessary conditions in exploratory factor analysis.

Correlation Analysis

Before the linear regression analysis, we analyze the correlation between the variables by building a correlation matrix. The results of the correlation matrix analysis between the independent and dependent variables are presented in table 3.

Table 3: Correlation matrix

		YĐ	LI	DSD	RR	TT	HĐ	CCQ	KSHV
YĐ	Pearson Correlation	1	.611**	.631**	.485**	.693**	.715**	.664**	.797**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000
	N	360	360	360	360	360	360	360	360
LI	Pearson Correlation		1	.723**	.428**	.517**	.629**	.420**	.385**
	Sig. (2-tailed)			.000	.000	.000	.000	.000	.000
	N		360	360	360	360	360	360	360
DSD	Pearson Correlation			1	.561**	.634**	.644**	.538**	.431**
	Sig. (2-tailed)				.000	.000	.000	.000	.000
	N			360	360	360	360	360	360
RR	Pearson Correlation				1	.723**	.404**	.502**	.398**
	Sig. (2-tailed)					.000	.000	.000	.000
	N				360	360	360	360	360
TT	Pearson Correlation					1	.625**	.677**	.441**
	Sig. (2-tailed)						.000	.000	.000
	N					360	360	360	360
HĐ	Pearson Correlation						1	.587**	.414**
	Sig. (2-tailed)							.000	.000
	N						360	360	360
CCQ	Pearson Correlation							1	.464**
	Sig. (2-tailed)								.000
	N							360	360
KSHV	Pearson Correlation								1
	Sig. (2-tailed)								
	N								360
**. Correlation is significant at the 0.01 level (2-tailed).									

Source: results of the study

Regarding to table 3, there is a correlation between the dependent variable and the independent variables at the 5% level of significance. And in fact, at the 5% level of significance, the hypothesis that the correlation coefficient which is zero is rejected. This means that there is a linear correlation between YĐ and the independent variables LI, DSD, RR, TT, HD, CCQ and KSHV.

Table 4: Linear Regression Analysis

Model summary

Model	R	R Square	Adjusted R Square	STD. Error of the Estimate	Durbin – Waston
	.634	0.502	.533	.78179925	1.939

Source: results of the study

Regarding to model summary table, we focus on commenting on two values that are the calibrated R-squared value and the Durbin-Waston value. The adjusted R-squared value reflects the influence of the independent variables on the dependent variable. In this case, with the adjusted R-squared value of 0.533 (within the threshold of 50%, this value is acceptable), it means that the 7 independent variables explain 53.3% of the change in independent variable *Electronic payment intention*. Durbin-Waston value is 1,939, close to 2, showing that there is no first order series correlation in the model.

In this study, the team only selected a limited number of samples to investigate, thereby reducing the properties of the overall. Therefore, the group conducted ANOVA test to check whether this linear regression model is generalizable and applicable. The result of Sig value of ANOVA test is 0.000 less than 0.05, so the linear regression model (1) is suitable for the overall.

Table 5: Linear regression analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
	Constant	0.147	0.065		0.000	1.000		
	LI	0.586	0.065	0.586	6.801	0.000	1.00	1.000
	DSD	0.527	0.065	0.527	4.417	0.000	1.00	1.000

	RR	0.511	0.065	0.511	5.311	0.000	1.00	1.000
	TT	0.381	0.065	0.381	4.195	0.000	1.00	1.000
	HĐ	0.347	0.065	0.347	4.871	0.000	1.00	1.000
	CCQ	0.214	0.065	0.214	6.125	0.000	1.00	1.000
	KSHV	0.198	0.065	0.198	4.987	0.000	1.00	1.000

Source: results of the study

In this regression table, the group focuses on analyzing three values that are Beta Standardized Coefficients, the Sig value and the VIF coefficient. We see that the Sig value of the 7 independent variables is 0.000 less than 0.05, so the independent variable is significant in this regression model.

YD = 0.147 + 0.586.LI + 0.527.DSD + 0.511.RR + 0.381.TT + 0.347. Contract + 0.214. CCQ + 0.198. KSHV

Considering Beta Standardized Coefficients, the results show that 7 independent variables have impact on the dependent variable *Electronic payment intention*, and the group also sees the *Perceived usefulness* factor which is the strongest impact with Beta coefficient of 0.586, followed by *Perceived ease of use* factor with Beta coefficient of 0.527 and *Risk perception* factor with Beta coefficient of 0.511, the weakest influencing factor is *Perceived behavioral control* with a Beta coefficient of 0.198; in which there is the element of risk perception that has a negative impact on the dependent variable because in the process of asking the questionnaire, the group asked the opposite questions. That is the reason why the beta coefficient is positive but the impact of this factor is negative, while the remaining factors have a positive impact on the dependent variable.

The VIF value is used to check the multi-collinearity phenomenon, with this research topic, if the VIF coefficient is less than 2, there is no multi-collinearity. The results show that the VIF values of all 7 factors are equal to 1 (less than 2) so there is no autocorrelation between these 7 factors.

5. Discussion and Conclusion

From the above results, it is found that the factor Perception usefulness has the most significant impact on the online payment intention of Vietnam customers. In order to promote the electronic payment behavior, the research team will focus on solutions to improve this factor. The contributions of organizations, businesses, and government are very important to meet the expectation of developing online payment in the future. Besides, it is necessary to develop infrastructure and promote communication policies in order that consumers will be aware of the benefits of electronic payment compared to the current traditional one. Organizations and agencies need to provide conditions for customers to experience and discover the benefits of this kind of payment. Enterprises ought to promote communication and advertising to get this form closer and deeper to everyone. In addition, the Government also should come up with policies and measures to support the development of infrastructure for digital technology. Contemporarily, Vietnamese consumers need to learn further to use this kind of payment correctly and effectively. If the bilateral relationship between consumers and organizations is implemented, perceived ease of use of electronic payment behavior will be enhanced. Thus, these actions will create favorable opportunities for payment transactions. E-payment services will become stronger in the future.

6. References

1. Allen Newell (2003): Unified Theory of Cognition Knowledge representation: ACM 1998, I.2.4, Russell & Norvig, pp. 320-363.

2. Big Data Analytics (2018). IBM. https://www.ibm.com/analytics/hadoop/big-data-analytics

3. Boss, G., Malladi, P., Quan, D., Legregni, L. & Hall, H. (2007), *Cloud Computing*, IBM Corporation.

4. C. Luisa, J. Michalina, F. Piotr & V. Zofia. (2020), "Business Models for Digital Economy: Good Practices and Success Stories", *Business Expert Press*. p.21.

5. Chen, C. (2006), "Identifying significant factors influencing consumer trust in an online travel site", *Information Technology & Tourism*, 8(3/4), 197–214.

6. Chung, N., & Kwon, S. J. (2009), "Effect of trust level on mobile banking satisfaction: a multi-group analysis of information system success instruments", *Behavior & Information Technology,* Vol. 28(6), 549–562.

7. Dan W Patterson (2004), *Introduction to Artificial Intelligence & expert system*, Prentice Halls of India, p.2.

8. Dijkstra, M. (2017), "Block-chain: towards disruption in the real estate sector", *Delft University of Technology*, Delft.

9. Fabiana, R., Fernando, A. & Ieva, M. (2016), "Perceived key determinants of payment instrument usage: A fuzzy cognitive mapping-based approach", *Technological and Economic Development of Economy,* 24 (3), 950-968.

10. Fam, K. S., Foscht, T., & Collins, R. D. (2004), "Trust and the online relationship- an exploratory study from New Zealand", *Tourism Management*, 25(2), 195 - 207.

11. Fitzgerald, M., Kruschwitz, N., Bonnet, D. and Welch, M. (2014), "Embracing digital technology –a new strategic imperative", *MIT Sloan Management Review,* Vol. 55, No. 2, pp. 1-12

12. Goodman, P. (2021), 16 Advantages of Digital Technology. TurboFuture, Available at https://turbofuture.com/computers/Advantages-of-Digital-Technology (access on May 5, 2021)

13. Henfridsson, L. Mathiassen, F. Svahn (2014), "Managing technological change in the digital age: The role of architectural frames", *Journal of Information Technology*, Vol. 29, pp.27 - 43.

14. Hileman, G. and Rauchs, M. (2017), "Global blockchain benchmarking study*",* *Cambridge Centre for Alternative Finance,* Cambridge.

15. I-Scoop (2021) 5G and IoT in 2018 and beyond: the mobile broadband future of IoT, Available online at https://www.i-scoop.eu/internetof-things-guide (access on 14 Jan 2021).

16. Kemp, S. (2021) *Digital 2020: Vietnam*. DataReportal – Global Digital Insights, Available online at https://datareportal.com/reports/digital-2020-vietnam?fbclid=IwAR3aVSqLXrTeLYS7VROfI5JLhu8uEcng0t_vK5uHVNOMD9_OOI w5FICteZI (access on Feb 4 2021)

17. Kim, H., Kim, T., & Shin, S. W. (2009), "Modeling roles of subjective norms and e-Trust in customers' acceptance of airline B2C e-Commerce websites", *Tourism Management,* 30(2), 266 – 277.

18. Lloyd, B. R. M. (2018). *Health Psychology by Mel Reed & Bev Lloyd* (1st ed.), ED-TECH PRESS.

19. Mary Rogers Gillmore Matthew E. Archibald Diane M. Morrison Anthony Wilsdon Elizabeth A. Wells Marilyn J. Hoppe Deborah Nahom Elise Murowchick (2004), "Teen Sexual Behavior: Applicability of the Theory of Reasoned Action", *Journal of Marriage and Family*, Vol. 64, No. 4 (Nov., 2002), pp. 885-897.

20. McCole, P. (2002), "The role of trust for electronic commerce in services", *International Journal of Contemporary Hospitality Management*, 14(2), 81–87.

21. Ming, K. L. Y., Jais, M., Wen, C. C., & Zaidi, N. S. (2020), "Factor Affecting Adoption of E-Wallet in Sarawak", *International Journal of Academic Research in Accounting, Finance and Management Sciences,* 10(2), 244–253.

22. Mitcham, Carl (1978), "Types of technology", *Research in Philosophy and Technology,* 1: 229–94. pp.232

23. Nelson, E. (2011), "Friedman's Monetary Economics in Practice", *Finance and Economics Discussion Series*, 2011(26), 1–45.

24. Ovidiu Vermesan SINTEF and Peter FriessEU (2014), "Internet of Things - From Research and Innovation to Market Deployment", river publishers' series in communications.

25. P. A. M. Lange, A. W. Kruglanski & E. T. Higgins (2012, Eds.), *Handbook of theories of social psychology,* Sage, London, UK.

26. Pantano, E., Priporas, C. V., Sorace, S., & Iazzolino, G. (2017), "Does

innovation-orientation lead to retail industry growth? Empirical evidence from patent analysis”, *Journal of Retailing and Consumer Services*, 34, 88 – 94

27. Rocha, Á., Adeli, H., Reis, L. P., Costanzo, S., Orovic, I., & Moreira, F. (2020), “Trends and Innovations in Information Systems and Technologies”, Advances in Intelligent Systems and Computing, Volume 2, 1160.

28. Shahriari, S. (2015), E- commerce and its impact on global trend and market, *International Journal of Research Management*, available at https://www.granthaalayahpublication.org/journals/index.php/granthaalayah/article/view/IJRG15_A04_63 (access on April 14, 2021).

29. Urbinati, A., Chiaroni, D., Chiesa, V., & Frattini, F. (2018), “The role of digital technologies in open innovation processes: an exploratory multiple case study analysis”, *R&D Management*, 50(1), 136–160.

30. Vietnam IT (2020), Vận hội mới ngành IT Việt Nam trước sóng đầu tư , available at https://topdev.vn/TopDev_VietnamITLandscape_2020.pdf (access on April 14, 2021)

31. Vinitha, K., & Vasantha, S. (2017), “Factors Influencing Consumer’s Intention to Adopt Digital Payment-Conceptual Model”, *Indian Journal of Public Health Research & Development*, 8(3), 168–173.

32. Virginia, B., Martin, S. & Mona, A. (2019), “Innovation drivers and trends in the retail industry: an application to emerging markets and the case of the Gulf region”, *Journal of Comparative Management*, vol. 2, No.1.

33. Yann, J. W. C., Saeedi, M., & Meskaran, F. (2019), “A Literature Review on Factors Influencing Intention to Adopt E-wallet”, *Journal of Advanced Research in Dynamical and Control Systems*, Vol. 11 (11-SPECIAL ISSUE), 895–903.

IDENTIFYING FACTORS AFFECTING DIGITAL TRANSFORMATION IN VIETNAM

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Abstract

The entire world is now witnessing the Fourth Industrial Revolution and Artificial Intelligence (AI) is indeed altering the lives of the many in both developing and developed countries. Massive digital transformations are affecting the economies of those countries and are bringing with them many promised merits, as well as many challenges to face. This paper aims to focus on analyzing, identifying and measuring the factors affecting digital transformation in Vietnam. Research results show that there are five factors: policy system, leader's vision, network security, sustainable development of the economy and digital knowledge and skills. From there, the article recommends policy implications for state management agencies and other organizations that can help digital transformation in Vietnam will be more effective.

Keywords: *factor, affect, digital transformation, Viet Nam.*

1. Introduction

According to the report "Southeast Asia Digital Economy 2019", Vietnam's digital economy in 2019 was worth 12 billion USD (contributing 5% of national GDP in 2019), 4 times higher than the value of 2015. and is expected to reach 43 billion USD by 2025.

The digital shifts underway are reshaping economies and societies today and will continue to do so in the future. The ongoing digitalisation of the economy and society holds many promises to spur innovation, generate efficiencies, and improve services throughout the economy. Moreover, the successful transition to a digital economy is a necessary condition for boosting more inclusive and sustainable growth and enhancing overall well-being.

This paper seeks to study the factors affecting digital transformation for some countries. The paper is interested in examining the impacts of digital transformation upon the sample of some countries and accordingly come up with relevant and interesting implication for those countries.

Hence, the paper aims to add to the existing literature regarding some factors affecting digital transformation in the world. The implications of those factors are of significant importance to policy makers regarding how much support should be given to encourage the digital transformation and the promotion of artificial intelligence.

There are many different definitions of digital transformation that shown in the table:

Table 1. Definitions of the term "digital transformation"

Source	Definition
European Commission (2019)	"Digital transformation is characterized by a fusion of advanced technologies and the integration of physical and digital systems, the predominance of innovative business models and new processes, and the creation of smart products and services."
OECD (2018)	"Digital transformation refers to the economic and societal effects of digitization and digitalization. Digitization is the conversion of analog data and processes into a machine-readable format. Digitalization is the use of digital technologies and data as well as their interconnection which results in new or changes to existing activities."
Ismail, Khater, and Zaki (2017)	[Digital transformation is a] "process through which companies converge multiple new digital technologies, enhanced with ubiquitous connectivity, with the intention of reaching superior performance and sustained competitive advantage, by transforming multiple business dimensions, including the ***business model***, the ***customer experience*** (comprising digitally enabled products and services) and ***operation***s (comprising processes and decision-making), and simultaneously impacting ***people*** (including skills talent and culture) and ***networks*** (including the entire value system)."
Schwertner (2017)	"the application of technology to build new business models, processes, software and systems that result in more profitable revenue, greater competitive advantage, and higher efficiency."
Deloitte (2018)	"Digital transformation is the use of technology to radically improve the performance or reach of an organization. In a digitally transformed business, digital technologies enable improved processes, engaged talent, and new business models."
Bloomberg (2018)	"Digital transformation requires the organization to deal better with change overall, essentially making change a core competency as the enterprise becomes customer-driven end-to-end. Such agility will facilitate ongoing digitalization initiatives but should not be confused with them."

(Source: authors' compilation)

There are many kinds of digital transformation frameworks and these common patterns in most frameworks:

- Digitized business model
- Talent enhancement within the enterprise
- Customer-centric products and services
- Innovative culture
- Collaborative leadership

2. Literature Review

Pervasive and ubiquitous digitalization has brought new disruptive changes to the economy (Yoo, 2013), and environmental conditions are undergoing rapid change due to digital technology and digitalization (Hartl and Hess, 2017; Porter and Heppelmann, 2014). Digital technology, digital innovation, and digitalization are fundamentally altering business processes, products, services, and relationships (Karimi and Walter, 2015), and organizations need to fundamentally change the way they do business and employees' mindset, as well as restructure to survive (Hartl and Hess, 2017)

United State history shows that the state did not only facilitate the digital knowledge economy but also actively created it with a bold vision, enabling policies and targeted investments. For example, an in-depth examination of all the key technologies that make iPhone so smart were government funded: Internet, GPS, touch screen display, and SIRI voice-activated personal assistant (Mazzucato, 2013, chapter 5).

Organizations must have an e-leadership model in place to promote successful strategic change related to digital transformation and provide a level of much-needed stability during the change process (Li, Liu, Belitski, Ghobadian, & O'Regan, 2016). Any digital transformation requires a strategic model which will lead to a successful implementation and improved outcomes once the change is complete (Berman, 2012).

In the research Identifying Security Risks of Digital Transformation - An Engineering Perspective of Nguyen Anh Duc and Aparna Chirumamilla (2018) showed that the role of security in digital transformation, inclued mobile security, cloud storage security, sercuring big data and sercuring internet of things.

Early neoclassical models like Solow (1956) treated technical change as an exogenous variable, illustrating how long-run economic growth only depended on (exogenous) technical change. Arrow (1962), who endogenized technology by assuming learning by doing, stated that it grew at a constant rate, and found that long-run economic growth crucially depends on population growth. Other important contributions in the 1960s were made by Uzawa (1965), Phelps (1966), Conlisk (1967, 1969) and Shell (1967) among others, who all related technology growth to some specification based on labour resources devoted to the development of new technologies and ideas

In the research Digital Knowledge and skills of Natalija Kokolek, Bozidar Jakovic & Tamara Curlin (2015) showed that Digital transformation as a driver of positive and radical changes represents a complex issue which affects all segments of the society and the whole economy. Digital knowledge and skills implies the ability to operate in the digital economy on a professional and personal level. It means having in-depth understanding of the environment and the nature, role and opportunities generated by the digital environment in any aspect of your life.

3. Method

3.1. Model building and developing hypothesis research

Based on previous studies, the article proposes hypotheses affecting digital transformation in Vietnam: state policies, leader's vision, network sercurity, the sustainable development of the economy and digital knowledge and skills.

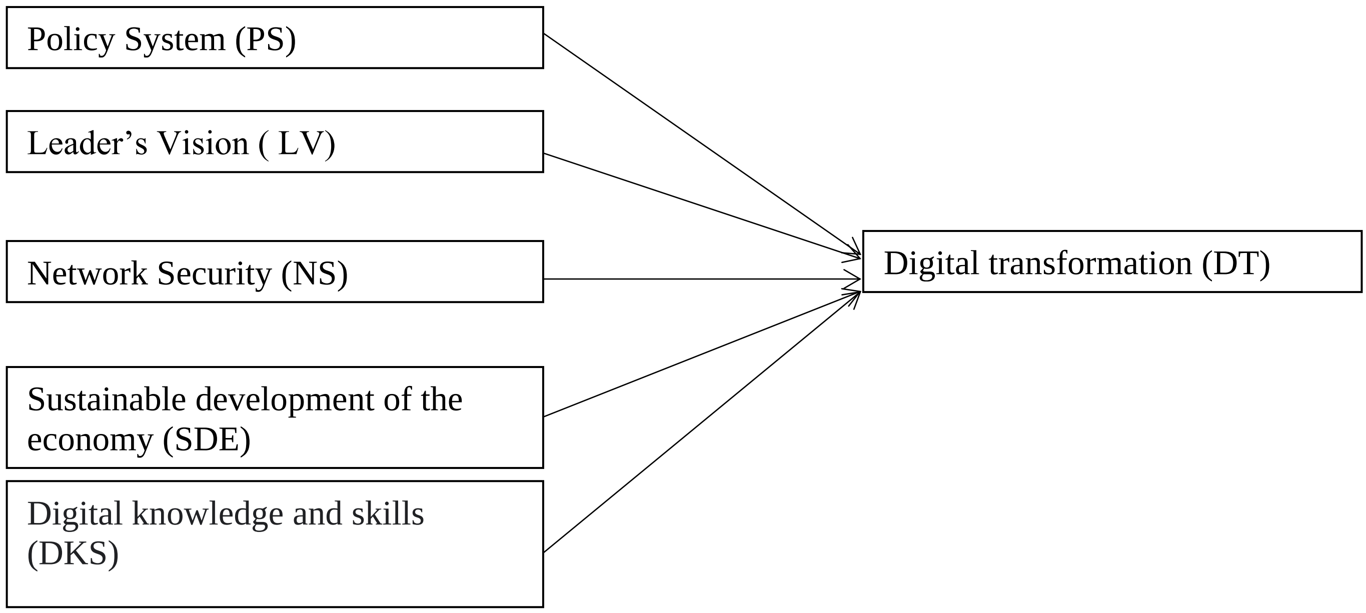
H1: A complete and clear policies and laws of the state will benefit digital transformation.

H2: The good national leader'vision will have a positive influence to digital transformation.

H3: The network sercurity will ensure for digital transformation.

H4: The sustainable development of the economy will support digital transformation.

H5: Digital knowledge and skills will advantage digital transformation.



3.2. Variables and mesures

Through qualitative research results, the author has built some of scale. Likert's scale with 5 levels (1 to 5) is suitable for measuring research.

- *Build the scale and describe the independent variable*

Policy system: the scale of this variable inherits from the study of Mazzucato (2013). The author has adjusted and added some of scales, the results have 5 observed variables.

Leader's Vision: the scale of this variable inherits from the study of Li, Liu, Belitski, Ghobadian, & O'Regan (2016). The author has adjusted and added some of scales, the results have 5 observed variables.

Network Security: the scale of this variable inherits from the study of Nguyen Anh Duc and Aparna Chirumamilla (2018). The author has adjusted and added some of scales, the results have 4 observed variables.

Sustainable development of the economy: the scale of this variable inherits from the study of Conlisk (1967, 1969). The author has adjusted and added some of scales, the results have 4 observed variables.

Digital knowledge and skills: the scale of this variable inherits from the study of Natalija Kokolek, Bozidar Jakovic & Tamara Curlin (2015). The author has adjusted and added some of scales, the results have 5 observed variables.

Build the scale and describe the dependent variable : Digital transformation (DT). The dependent variable in the research model is self-built by the author, based on collecting expert opinions from the case study method and background theory.

3.3. Data collection method

- Respondents: Professionals, leaders working in different organizations
- Survey method: The survey form for this research is surveyed in two ways: The questionares are sent directly to the respontdents and collected after the survey is completed; Email individuals that match the sample selection criteria.

3.4. Primary data collection

In a total of 378 responses, there are:

- 211 experts, employees and 167 administrators of different organizations;
- 198 males (52,4%) and 180 females (47,6%)

4. Results

4.1. The results of reliability and variables

By using SPSS 20.0 software to analise data and obtained the results of the synthesis of Cronbach Alpha coefficient as well as the correlation coefficient of the total variable, the reliability test of the independent variables all showed that the coefficients are large. more than 0.6 and all observed variables for the variables in the model, including the independent and dependent variables, have a reliable variable correlation coefficient. In addition, when analyzing the combined reliability and extracted variance, the combined reliability coefficients are all greater than 0.7 and the variance extracted for the factors is all greater than 0.5. Thus, it is possible to confirm the necessary reliability of the scales.

Table 2. Summary of Cronbach's alpha coefficient results

Independent Variables	**Cronbach's coefficient Alpha**
Policy System (PS)	*0,861*
Leader's Vision (LV)	*0,874*
Network Security (NS)	*0,789*
Sustainable development of the economy (SDE)	*0,801*
Digital knowledge and skills (DKS)	*0,842*
Dependence variable DT	*0,882*

(Source: authors' compilation)

4.2. Exploratory factor analysis results

Table 3. KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser- Meyer-Olkin Measure of Sampling Adequacy		0,952
Bartlett's Test of Sphericity	Approx. Chi-Square	2863.393
	Df	213
	Sig.	.000

(Source: authors' compilation)

The results in Table 2 show that the KMO index of 0.952 is very close to 1.0, showing that the factor analysis is appropriate and the significance level is sig. if .000 is less than 0.05, it is statistically significant.

4.3. Linear regression analysis results

Correlation coefficient test (r)

Table 4. correlation matrix

		PL	LV	NS	SDE	DKS	DT
PL	Pearson Correlation	1	.359**	.377**	.428**	.407**	.567**
	Sig. (2- tailed)		.000	.000	.000	.000	.000
	N		228	228	228	228	228
LV	Pearson Correlation		1	.164*	.119	.298**	.447**
	Sig. (2- tailed)			.013	.074	.000	.000
	N			228	228	228	228
NS	Pearson Correlation			1	.295**	.175**	.406**
	Sig. (2- tailed)				.000	.008	.000
	N				228	228	228
SDE	Pearson Correlation				1	.429**	.455**
	Sig. (2- tailed)					.000	.000
	N					228	228
DKS	Pearson Correlation					1	.462**
	Sig. (2- tailed)						.000
	N						228
DT	Pearson Correlation						1
	Sig. (2- tailed)						
	N						228

(Source: authors' compilation)

The correlation t matrix shows that the correlation coefficient between the "obstructing factor" and the variables is as follows: with the variable "Policy system" (Pearson = 0.567), the variable "Leader's vision" (Pearson = 0.447), variable "Network sercurity" (Pearson = 0.406), variable " Sustainable development of the economy " (Pearson = 0.455), variable "Digital knowledge and skills" (Pearson = 0.462). Therefore, it can be concluded that the independent variables can be included in the model to explain the factors affecting university governance in the condition of educational autonomy including 5 independent variables

Regression analysis

The results of the linear regression test are shown in Table 4

Table 5. Linear regression test results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.705[a]	.697	.686	.63049	2.013

a. Predictor: (Constant), PS, LV, NS, SDE, DKS

b. Dependent Variable: QTDH

Model		Unstandardize Coefficients		Standardize Coefficients	t	Sig.	Collinearrity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
	(Constant)	-.895	.302		-2.967	.003		
	PS	.370	.085	.243	4.369	.000	.644	1.752
	LV	.284	.059	.232	4.871	.000	.833	1.501
	NS	.225	.065	.185	3.489	.001	.834	1.099
	SDE	.222	.067	.168	3.329	.001	.712	1.005
	DKS	.196	.065	.199	3.026	.003	.724	1.382

(Source: authors' compilation)

The result shows that the adjusted R2 coefficient is 0.697. This means that the research model explains 69.7% of the variation of the dependent variable by the independent variables in the model. The VIF (Variance Inflation Factor) coefficients of the independent factors in the model are all low and less than 2.2 (from 1.005 to 1.752). This shows that there is no multicollinearity between the independent variables in the model (Nguyen Dinh Tho, 2011). Also the Sig coefficient. of the independent factor coefficients in the model are all less than 0.05. Therefore, all 5 factors affect the dependent variable.

The normalized regression model shows a simple linear relationship between the variables:

DT= 0,243*PS+ 0,232*LV+ 0,185* NS+ 0,168* SDE+ 0,199* DKS

The variable "Policy system" with Beta coefficient is 0.243 with high statistical significance >99.99% when the Sig index. reach 0.000; Similar variable "Leader's Vision" with Beta coefficient is 0.232 with statistical significance Sig. has a value of 0.000. Next are the variables "Network security" with Beta coefficient of 0.185 and Sig statistical significance. is 0.001, the variable "Sustainable development of the economy " with 2 values Beta and Sig. are 0.168 and 0.001 respectively. Finally, the variable "Digital Knowledge and skills" with a Beta value of 0.199 has a Sig statistical significance. is 0.003.

The results of this study show that the factor that has the strongest influence on university governance in the context of autonomous education is the policy-legal system. deciding on university governance, next is the organizational culture factor, the organizational model in the university also greatly affects the university administration and finally the cognitive factor of the staff. management in changing management

5. Discussion and Conclusion

5.1. Reconmedations

- ***Policy System***

The range of these roles includes setting national policies and priorities for the digital economy; supporting research and development of promising technologies; regulating and complementing market forces to ensure affordable access to the Internet; investing in human and organizational complements and institutional learning across all sectors and divides; leading public services transformation and governance; and creating state capabilities and institutions to plan, fund, and implement national digital transformation strategies. We elaborate only on a few.

State policy roles in the digital age extend to various forms of content and media platforms**.** The media is increasingly central to the functioning of markets and democracy. State policy aims to regulate, increasingly in a multi-platform environment, obligations, roles, and responsibilities of media service and content providers while creating, aggregating, and making available audiovisual content. Similarly, the state must work with stakeholders to set polices and regulations for data protection. The aim is to regulate data subjects' rights and data controllers and processers' obligations while collecting, processing, and using personal data. It also regulates transfer of data across national boundaries and roles and responsibilities in data-processing value chains.

Governments are required to manage the growing risks of concentration, inequality, and control that can undermine the promised shared prosperity. When the Internet and digital platforms deliver scale economies, but without competitive environment, the outcome could be excessive concentration and monopolies. When tasks are fast and automated but workers' skills are not continuously upgraded, the outcome will be greater inequality. When digital technologies help overcome information scarcity, but governments remain unaccountable, the outcome will be greater control rather than citizen empowerment and inclusion.

Continue to implement strong digital transformation in Party Committees, National Assembly, Government, Viet Nam Fatherland Front and socio-political organizations to ensure unity, interconnection and synchronization.

The Ministry of Public Security needs to speed up the development of a decree on personal data protection.

Ministries and local authorities need to step up the settlement of administrative procedures in the electronic environment, concentrate resources, increase the rate of online public service delivery at level 3 and level 4 and integrate service provision. on the National Public Service Portal.

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- ***Leader's vision:***

Leader's visiong is a key factor to support digital transformation. The government considers the digital economy to be an important development driver to bring Vietnam to fast progress, taking shortcuts in development. vision to 2030 Vietnam becomes a digital, stable and prosperous country, pioneering in testing new technologies and models. This program aims at the dual goal of developing a digital government, a digital economy, and a digital society, as well as forming Vietnamese digital technology enterprises capable of going global. Awareness of digital transformation in parallel with advanced countries.

- ***Network security:***

In order to ensure information security and contribute to the development of information technology, according to experts, in the coming time, it is necessary to drastically and synchronously implement many solutions. State management agencies need to raise awareness about ensuring information security, this is an important and regular task of the entire Party and community.

Enhancing education, fostering and raising awareness of officials and people; focus on propagating and disseminating to students about the risks and threatening factors that cause information insecurity. So that, raising the awareness of using information services, especially from abroad; improve the ability to recognize, receive information, self-defense ability, "immunity" against fake, bad and malicious information. Beside, the state will invest to modern infrastructure, bandwidth is wide enough to overcome attacks causing network congestion, and have a backup storage system. Regularly review, detect and fix security "holes" throughout the system, add specialized equipment and software capable of checking and controlling information security and safety in the telecommunications network environment. communication, internet, radio frequency...

The establishment of a cyber safety monitoring center will be a solid stepping stone for Vietnam to master network safety equipment, aiming to ensure a safe cyberspace. At the same time, effectively respond to various types of cyber attacks, avoid exposing and leaking information of users, financial institutions - banks, enterprises...

- ***Sustainable development of the economy***

It is necessary to transform the growth model from breadth to depth, clarify issues of economic theory in order to clearly explain and give specific instructions for the economic management process. Apply forms of GDP measurement through full calculation of benefits, costs, development of clean energy, renewable energy. Develop and implement a green growth strategy. Use energy economically and efficiently, develop clean energy, renewable energy to ensure national energy security.

Sustainable development of regions and localities should focus on prioritizing development before key economic regions, and at the same time pay attention to less developed areas and have more difficult conditions in order to create balanced development.

Improve growth quality, ensure macroeconomic stability, especially financial and monetary policies.

Establish a healthy and fair competitive business investment environment, select good factors for the economy with investors, do business effectively, fire weak business organizations.

- ***Digital Knowledge and skills***

To be successful in digital transformation, state management agencies have policy system to support citizens in learning and developing skills to meet the requirements of national digital transformation. Accordingly, the state needs to widely propagate digital transformation knowledge to the people as well as develop projects to support organizations in developing digital skills for employees. In addition, the Ministry of Education and Training directs all levels of training to change training programs to suit digital transformation. Education implements the transcoding of thinking from instinct to meaning of development. "Learning to change the world, learning to write for hope" - these are also interesting and scientific suggestions from the above studies that become the premise to build a framework for transferring skills - from school level Preschool is social emotional learning, higher education includes critical thinking skills, creativity, communication. Transfer skills change, including computational thinking, is not to encourage students to become "robots" but to learn, a way of thinking that connects background skills with the ability to find problems, analyze problems and solve that problem in accordance with life: helping high school students prepare to connect learning with practice, between academic knowledge in school and the reality and requirements of the digital era that sometimes at times currently unknown.

5.2. Conclusion

Digital transformation has been developing strongly in Vietnam. For successful digital transformation, the state needs to have synchronous policies and solutions. In addition, the government needs to realize the long-term vision of digital transformation activities affecting the country, creating a healthy, solid and safe security environment. Futhermore, there must be some solutions for sustainable economic development and equipping citizens with knowledge and skills to be able to adapt to the digital environment

6. References

1. Alvesson, M., Blom, M., & Sveningsson, S. (2017). Reflexive leadership: Organising in an imperfect world. London: SAGE Publications Inc.

2. Beard, C., & Wilson, J. P. (2013). Experiential Learning: A Handbook for Education, Training and Coaching (Third Edition edition). Kogan Page.

3. Bilgeri, D., Wortmann, F., & Fleisch, E. (2017). How Digital Transformation Affects Large Manufacturing Companies' Organization. In *ICIS 2017 Proceedings* (pp. 1–9).

4. Brown, C., Czerniewicz, L., Huang, C.-W., Mayisela, T. (2016). Curriculum for digital education leadership: A concept paper. Commonwealth of Learning (COL). Vancover: Commonwealth of Learning and University of Cape Town.

5. Caldwell, S., & Mays, N. (2012). Caldwell, S., & Mays, N. (2012). Studying policy implementation using a macro, meso and micro frame analysis: the case of the Collaboration for Leadership in Applied Health Research & Care (CLAHRC) programme nationally and in North West London Health Res Policy Syst, 10(32), doi:10.1186/1478-4505-10-32 Ciriello, R. F., & Richter, A. (2015). Idea Hubs as Nexus of Collective Creativity in Digital Innovation. In *Icis 2015* (pp. 1–19).

6. Fichman, R. G., Dos Santos, B. L., & Zheng, Z. (Eric). (2014). Digital Innovation as a Fundamental and Powerful Concept in the Information Systems Curriculum. *MIS Quarterly*, *38*(2), 329–353.

7. Haffke, I., Kalgovas, B., & Benlian, A. (2016). The Role of the CIO and the CDO in an

8. Organization's Digital Transformation. In *ICIS 2016 Proceedings* (pp. 1–20).

9. Haffke, I., Kalgovas, B., & Benlian, A. (2017). The Transformative Role of Bimodal IT in an Era of Digital Business. In *50th Hawaii International Conference on System Sciences* (pp. 5460–5469).

10. Hartl, E., & Hess, T. (2017). The Role of Cultural Values for Digital Transformation: Insights from a Delphi Study. In *AMCIS 2017 Proceedings* (pp. 1–10). Retrieved from

11. http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1369&context=amcis2017

12. Heilig, L., Schwarze, S., & Voß, S. (2017). An Analysis of Digital Transformation in the History and Future of Modern Ports. In *HICSS 2017 Proceedings* (pp. 1341–1350).

13. https://doi.org/10.24251/HICSS.2017.160

DIGITAL TRANSFORMATION AND ISSUES POSED TO TRAINING, RETRAIN HUMAN RESOURCES OF OFFICERS IN VIETNAM

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Abstract

Digital transformation is an irreversible trend on a global scale. In Vietnam, digital transformation is becoming an indispensable driving force for development. In order to succeed in digital transformation, training and fostering human resources, especially cadres and civil servants maintains decisive positions and roles. This study focuses on clarifying the theoretical basis, current situation and impacts, challenges of digital transformation with training and fostering human resources of cadres and civil servants in State administrative agencies in Vietnam. By the data collection, analysis and synthesis of information, the research results have showed that digital transformation has posed many problems for training and fostering human resources of cadres and civil servants, such as: objectives; content; forms and methods; the quality of the teaching staff; technical facilities…. On that basis, the author proposes some solutions to promote digital transformation in training and fostering human resources for cadres and civil servants in Vietnam in the next period.

Keywords: *Digital transformation; training and retraining; officials; human resources*

1. Introduction

At the moment, digital transformation is an inevitable trend, an opportunity for all countries to rise up in the fourth industrial revolution. Digital transformation has a far-reaching impact, covering all socio-economic fields and industries, contributing to increasing labor productivity, transforming operation and business models towards innovation and creativity; improve the competitiveness of the country, opening up new development space, creating new values in addition to the inherent values. For Vietnam, this is an invaluable, "unique" opportunity to change the country's ranking and keep up with the development of countries in the region and on the world.

Aware of that, in June 2020, the Prime Minister approved the "National Digital Transformation Program to 2025, with orientation to 2030". In which, it is determined: By 2030, Vietnam will become a digital, stable and prosperous country, pioneering in testing new technologies and models; fundamentally and comprehensively renovating the management and administration activities of the Government, production and business activities of enterprises, people's ways of living and working, developing a safe, humane, and wide digital environment. (Prime Minister, 2020, p.1). According to Ho Tu Bao (2020), in order to conduct digital transformation, three basic elements are needed, which are people, institutions and technology. In which, human is the most important and decisive factor; in digital transformation, two main problems of human are awareness and human resources. Therefore, at present, training and fostering human resources, especially, human resources of cadres and civil servants have been a more important and urgent problem than ever.

In addition, in order to implement the National Digital Transformation Program, state agencies must be the motive force, which lead the entire digital transformation process of the country. Digital transformation of state agencies is the development of the digital government of central agencies and digital government, smart cities of local agencies at all levels. Among that, state agencies from central to local levels need to accelerate the digital transformation process by training and equipping their staff with digital transformation knowledge, digital skills and digital technology for leaders and a large number of cadres and civil servants. This problem puts increasing demands on the contingent of cadres and civil servants in terms of quality and capacity, especially knowledge and skills of digital transformation. At the same time, it is required that training and fostering of human resources for cadres and civil servants must be also innovated in terms of contents, programs, forms and methods, etc. in order to meet the require of state manegement in the digital transfomation background. For the purpose of analyzing and assessing the current situation, and clarifying the impacts, challenges of digital transformation on training and fostering human resources for cadres and civil servants, the research proposes a number of solutions to promote digital transformation in training and fostering human resources for cadres and civil servants in Vietnam.

2. Theoretical basis of the research problem

2.1. The concept of digital transformation

Digital transformation has many different interpretations, definitions and differences in each field. According to Gartner Information Technology Research and Consulting Company, digital transformation is the application of technology in changing business models of enterprises, thereby creating more opportunities and new values, helping businesses accelerate growth and achieve better sales. According to Microsoft, digital transformation is the restructuring of thinking in the coordination among data, processes and people to create new values. However, it can be understood in a general way: Digital transformation is a total and comprehensive changing process of individuals and organizations in the way of living, working and production methods based on digital technologies (Ministry of Information and Communication, 2020, page 15).

The foundation of digital transformation is the digitization process taking place everywhere, creating digital versions of things in the physical world, which means creating data that carries their information. Things in the physical world can be connected to each other through their digital versions on the Internet (Internet of Things), creating digital space (or cyberspace). This connection is also the connection between physical space and digital space (physical-cyber connection), leading to the possibility of activities in the physical world can be calculated and controlled from digital space. Therefore, in essence, digital transformation is about transferring our activities from the real world to the virtual world in the network environment.

For Vietnam, the goal of national digital transformation is to build and implement effectively digital government, economy and society. Among that, the Digital Government helps the Government not only operate more efficiently, effectively and transparently but also reduce corruption; The digital economy promotes innovation, creates new values, helps increase labor productivity, creates new growth engines and escapes the middle-income trap; the digital society helps people have equal opportunities to access services, training and knowledge, narrow the development gap and reduce inequality.

2.2. The concept of cadres, civil servants and training and fostering human resources for cadres and civil servants

2.2.1. The concept of cadres and civil servants

In Vietnam, in the common sense, cadres are considered as all people working in the apparatus of the Party, government, mass organizations, and armed forces. It was defines in The Law on Cadres and Civil Servants in 2008 that: Cadres are Vietnamese citizens who are elected, approved and appointed to hold positions and titles according to terms in agencies of the Communist Party of Vietnam, the State, socio-political organizations at the central, provincial and district levels (National Assembly, 2008).

It was defined in The amending law of the Law on Cadres and Civil Servants in 2019 that: civil servants are Vietnamese citizens who are recruited and appointed to ranks, positions and titles corresponding to the employment positions in the personnel and received salaries from the State budget in: agencies of the Communist Party of Vietnam, the State, socio-political organizations at the central, provincial and district levels; agencies and units of the People's Army that are not officers, professional soldiers or defense workers; agencies and units of the People's Public Security who are not officers, non-commissioned officers serving under the professional regime, public security workers (National Assembly, 2019).

2.2.2. The concept of training and fostering human resources for cadres and civil servants

In order to form and develop each individual's professional knowledge, skills and techniques, training is the systematically equipping process with basic knowledge according to a certain program. Generally, the concept of "training" includes the meaning of "retraining", so the phrase "training and fostering" is often used in conjunction with each other. However, fostering has basic characteristics which are different from training. Fostering is mainly the addition and updating of knowledge and information to the knowledge that the individual already had.

Currently, there are many different views on human resources. However, it can be understood that human resource is the total of physical and mental strength existing in the entire social labor force of a country. In which, they have been crystallized the tradition and creative work experience of a country in history and used to produce material and spiritual wealth for the present and future needs of the country. Thus, it can be understood that training and fostering human resources for cadres and civil servants is a process of equipping a contingent of cadres and civil servants with the necessary qualities, knowledge, skills and behaviors in order to perform the assigned duties and responsibilities excellently.

3. Methods

3.1. Study overview

At present, digital transformation is an inevitable development trend of countries around the world. Therefore, in Vietnam, this issue is interested in research by many scientists. In particular, many scientific seminars have been held to discuss digital transformation such as: the workshop "Digital transformation - The inevitable trend of development" of Dak Lak province (March 2021); seminar "Digital Transformation - Transforming Business Model" of Ho Chi Minh Computer Association in collaboration with Ho Chi Minh Investment and Trade Promotion Center (February 2021)... In which , the impacts of digital transformation on socio-economic fields, the position and role of digital transformation; opportunities, difficulties, challenges and proposing of some solutions for promoting digital transformation in Vietnam... have been pointed out in the majority of works.

Regarding the human factor in digital transformation, human resource training has been refered in a large number of the works such as: Phan Quoc Tan (2021); Van Anh (2021); Doan Phong (2021)… In which, all authors have agreed that in order to meet the requirements of digital transformation, human resources must be professionally and ethically trained. They are capable of mastering technology, creative and able to quickly adapt to the change of technology.

In particular, Phan Quoc Tan (2021) pointed out: with the characteristics of digital human resources, it is necessary for employees to change their mindset from just learning once to work for life to learning for life to be able to afford lifelong employment. Specifically: learning to improve education level; improving general knowledge, learning more foreign languages, informatics...; learning to improve professional skills; learning life skills: teamwork skills, industrial working style; dispute and conflict resolution skills, self-care skills, which are really important...

Besides, in terms of training and fostering cadres and civil servants, there are quite a few studies which has been carried out on this issue under the impact of digital transformation, but they are mainly researched under the influence of the first industrial revolution. Wednesday, such as: Tran Viet Quan (2020); Luong Trong Thanh and Ta Van Hung (2018)… The authors of the works have explained and clarified the impact of the fourth public revolution on training and fostering cadres in aspects such as training and fostering objectives; model of organizing teaching and learning activities in training and retraining; teaching methods and role of lecturers; content, curriculum, etc. However, these are valuable documents that the author can inherit and apply in research.

3.2. Research Methods

- Methods of data collection during the research: the author mainly uses the secondary data collection method. In which, the author searches, collects and synthesizes data from published works related to the research problem, such as textbooks, reference books, topics. , doctoral theses, scientific articles; legal documents of the State; reports and documents of the Ministry of Home Affairs and the Department of Home Affairs of the localities... In addition, the author also consulted opinions of some experts and scientists about the research content.

- Synthesizing and analyzing information method: the collected data is processed by excel software and made into tables. At the same time, they are arranged scientifically and logically in the statistical tables to help to compare, contrast and analyze in order to properly assess the nature of the problem to be researched.

- Descriptive statistical method: the author uses descriptive statistical method to assess the current status of the contingent of cadres and civil servants (ethical quality, education level, professional knowledge, skills and attitudes) and the actual situation of training and fostering human resources of cadres and civil servants about the program content; forms and methods; teaching staff; facilities…This is the practical basis for the author to evaluate the impacts of digital transformation on training and fostering human resources for cadres and civil servants and propose some solutions.

4. Results

4.1. The current situation of the quality of human resources of cadres and civil servants and activities of training and fostering human resources of cadres and civil servants in Vietnam

Regarding the quality of human resources of cadres and civil servants:

Over the past years, the human resources of cadres and civil servants have matured and developed in many aspects, increasingly improved quality, gradually meeting the requirements of the period of accelerating country industrialization and modernization. In the Seventh Conference Resolution of the Central Committee of the Vietnam Communist Party, Term XII (May, 2018), it was pointed out that the cadres have an ideological stance, solid political courage, simple lifestyle and morality, exemplary, consciously organized and disciplined; they always cultivate, train, raise level and capacity, strive and complete assigned tasks. Many cadres are dynamic, creative, adaptable to the trend of integration and capable of working in an international environment... (Central Committee of the Communist Party of Vietnam, 2018). Especially, commune-level cadres and civil servants has been estimated up to April 2020, the total number of them has 234,617 people, an average of 21 people/commune, in which, cadres have 113,672 people, civil servants with 120,945 people (Government, 2021); level of ability, capacity, responsibilities, styles and attitudes of commune-level cadres and civil servants have made certain improvements, the quality of official duty performance has basically met the requirements of tasks...

In addition, the quality of human resources for cadres and civil servants, including leaders and managers in a number of sectors, fields, agencies, units and localities, is still limited, uneven, and really unsatisfactory in comparison with meeting the country's digital transformation requirements. In the Seventh Conference Resolution of the Central Committee of the Vietnam Communist Party, Term XII (May 2018), it was also pointed out that many cadres, including unprofessional senior officials, work unproperly with their expertise and forte; foreign language level, communication skills and work ability in an international environment are still limited. Many young cadres lack bravery and hesitate to practice... Some leaders and managers, including the strategic level officers, lack role models, have low prestige, unworthy qualification with their duties, bureaucracy, alienation from the people, individualism, entanglement in corruption, wastefulness, negativity, group interests... (Central Committee of the Vietnam Communist Party, 2018). In particular, in the document of the 13th National Congress of Deputies, the Communist Party of Vietnam emphasized: A part of cadres and party members has lost their ideals, lost their will, hesitated difficulties and suffering, and depressed on political thought, morality, lifestyle, "self-evolution", "self-transformation" (Communist Party of Vietnam, 2021, p.92).

Regarding training and retraining activities for cadres and civil servants:

Activities of training and fostering human resources of cadres and civil servants are renewed, clearly assigned and decentralized. The system of training and retraining establishments has been rearranged and reorganized in a lean orientation, contributing to improving the quality and efficiency of operations. The organization and compilation of programs and documents have been paid attention to. In order to meet the requirements of digital transformation, the Prime Minister has approved many projects, such as: Project on training and retraining cadres, civil servants and public employees in the period 2016 - 2025; The National Program on foreign language learning for officials, civil servants and public employees in the period of 2019 - 2030... In addition, localities have organized many training courses to foster knowledge and skills on conversion. numbers for cadres and civil servants in state agencies.

In the period 2011 - 2015, the total number of trained and fostered cadres and civil servants was nearly 2,900,000 people, in which, training in professional knowledge and specialist skills was 1,870,000 turns of people, reaching a rate of nearly 65% of the total number of cadres and civil servants are trained and fostered. In the period 2016 - 2020 (estimated to March, 2020), the whole country has conducted training and retraining for more than 5.4 million turns of officials and civil servants. In which, about 697,036 people were trained and fostered in political theory; 447,181 people were received training on state management knowledge and about 4.2 million people were received professional training and retraining (2.3 times more than in the 2011-2015 period). According to reports from ministries and local agencies, until March 2020, the total number of civil servants trained and retrained in the period 2016 - 2020 at ministries and branches is 594,654 turns of people, meanwhile, in provinces, cities, the number is more than 1,151,654 turns of people (Government, 2021).

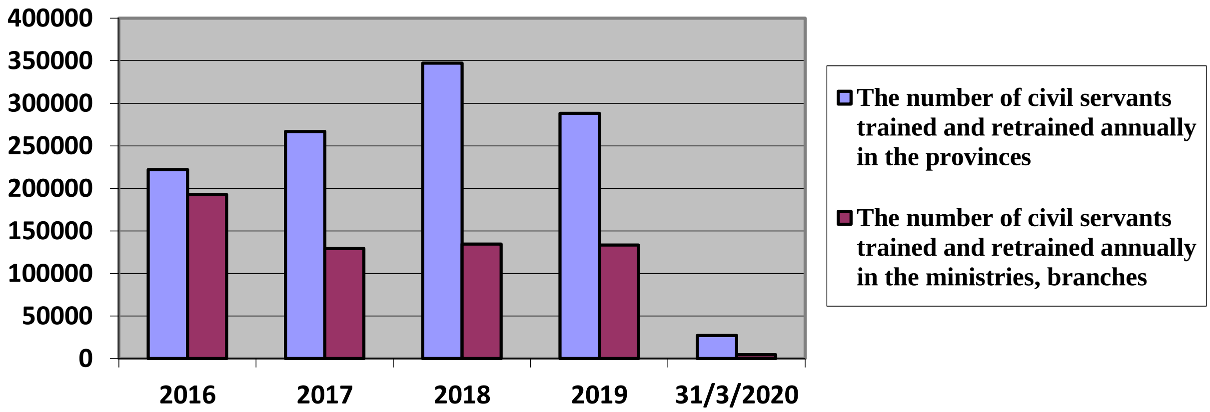

Figure 1: Number of civil servants trained and retrained on the national scale in the period 2016 - 2020

Source: Government (2021), Summary report of the State administrative reform overall program for the period 2011-2020 and orientation for the period 2021-2030, issued on April 19, 2021.

However, activities of training and fostering human resources for cadres and civil servants are still limited, such as: training and retraining programs still have contents that are not only really unattached to the needs of cadres and civil servants but also focused on theoretical issues and discounted on practical skills; the cadres sending for studying is not based on the needs of the job and the cadres and civil servants themselves, but it is mainly based on fully meeting the standards related to certificates and degrees; there are no mechanisms and policies to encourage cadres and civil servants to study actively in order to improve their professional qualifications and capacity...; facilities and equipment of training institutions are still poor, unsatisfiable the requirements of training and retraining activities in the context of digital transformation; the qualifications and capacity of the teaching staff are still limited, especially in foreign languages and informatics…

4.2. Issues for training and fostering human resources for cadres and civil servants in Vietnam in digital transformation

Digital transformation is becoming an important factor creating change in all industries and fields, in which, placing increasing demands on the quality of human resources, especially human resources of cadres and civil servants in Vietnam. In the current digital transformation period, there are many problems for training and fostering human resources for cadres and civil servants in Vietnam, such as: objectives; content; forms, methods; the quality of the teaching staff; technical facilities….

Specifically:

- *For training and retraining purposes:*

In the Project on training and fostering cadres, civil servants and public employees during the period 2016 - 2025, the Government has determined the goal: to create a drastic change in the quality and effectiveness of training and retraining, contributing to build a contingent of professional cadres and civil servants with sufficient qualities, qualifications and capabilities, meeting the requirements of serving people, the development of the country and international integration. In response to the requirements of national digital transformation, development of digital government, digital economy and digital society, the goal of training and fostering cadres and civil servants must be oriented to unleash potential and empower creativity for each individual; they must have the ability to think, innovate and skills in analyzing and synthesizing information; they also must have the ability to work independently, make decisions on the basis of data analysis, the ability to work with smart technology, international communication and life skills and the ability to connect and share. Obviously, in the face of the impact of digital transformation, the goal of training and fostering human resources for cadres and civil servants needs innovation in the direction of promoting the creative working ability of each individual.

- *For the content and program of the training and retraining program:*

Digital transformation has put great pressure on training and retraining activities for schools and organizations; from developing training programs, updating content to training skills for officials and civil servants to meet the requirements of the job. The training program needs to specify the output standards, the requirements of achieving the general quality, professional capacity, especially the knowledge and skills to serve for digital transformation. Previously, the content of training and retraining was often focused on transmitting simple knowledge. However, in the current digital transformation period, cadres and civil servants must not only have basic knowledge but also have the capacity and skills to work in an international environment, a digital transformation environment. Therefore, current training and retraining content includes: knowledge and skills related to cognition: systems thinking, critical thinking, ability to respond to change, ability to work creation…; physical skills: language and communication skills, digital skills and internet connectivity; social skills: communication, behavior, conflict resolution, teamwork, creating and maintaining relationships... That places increasing demands on schools and organizations for the building programs, renovating training and retraining content.

- *For forms and methods of training and retraining:*

In training and fostering process, digital transformation will support innovation in the direction of reducing presentations, transferring knowledge to developing learners' capacity, increasing self-study ability, creating learning opportunities anytime, anywhere. personalization of learning, contributing to the creation of a learning society and lifelong learning. In particular, many forms and methods of training and fostering have been developed with the explosion of technology platforms. Combining traditional methods (presentation, conversation, practice...) with new methods (analysis, criticism, proposal, problem-solving, situation, action-oriented teaching, exchange of ideas, etc.) group change…) have been carried out. At the same time, applying methods associated with modern technology, such as: E-learning online teaching, educational methods integrating science, technology, engineering and math (STEM education), methods simulation methods, digitizing lectures... have been practised. Especially, digital transformation effectively supports personalization of learning - each learner will be learned a separate curriculum and learning method unlike others; and they have access to a huge knowledge base in the network environment, which makes the interaction between learners and teachers quick and easy.

- *For the teaching staff:*

Digital transformation in teaching is understood as the application of services, technology and digital to help improve teaching quality and improve learning outcomes. However, in order to do this, it requires both learners and teachers, first of all, teachers have to be trained in the use of modern technical means. Therefore, in the digital transformation period, lecturers must not only have professional competence, teaching capacity, scientific research capacity, etc., but also have knowledge and skills in digital transformation. These are skills in using information technology, skills in exploiting, experting in foreign languages in communication and teaching, effective using of applications for teaching, etc. In particular, they have to know to use profiencially new teaching methods, forms in face-to-face training as well as online training. Besides, in the context of science and technology development, learners can search for knowledge and skills on their own in the Internet. Therefore, if teachers do not regularly improve their professional qualifications, the leading role of teachers will be gradually lost. Obviously, this is also a significant pressure on the teaching staff in the current digital transition period.

- For facilities:

Facilities play an important and indispensable role in the process of training and fostering. In order to meeting the requirements of digital transformation, it requires schools to modernize teaching facilities, especially modern equipment that is integrated with tools for digital transformation, such as: Skype video conferencing, Gotomeeting, Blue jeans; chat application, sharing resources Microsoft Teams; the OneNote application; Stream; reader analytics application Reader Analytics; Wolfram Alpha online service; Power BI tools and Blackboard, WebCT learning management systems... At the same time, they have to use multi-tools, such as computers, projectors, electronic lectures, smart boards, electric textbooks electronics, teaching software…; research and apply AI technology in synthesizing learning information, in assessing learners' capacity and needs...

In addition, digital transformation also affects school management, including digitizing management information, creating interconnected large database systems, deploying online public services, and applying online public services. using 4.0 Technologies (AI, blockchain, data analysis, ..) to manage, operate, forecast, and support decision making quickly and accurately; digital chemistry materials: electronic textbooks, electronic lectures, e-learning lecture warehouses, multiple choice question banks...

4.3. Some solutions to promote digital transformation in training and fostering human resources for cadres and civil servants in Vietnam

Firstly, it should be propagated and raised awareness about the position, role and importance of digital transformation.

This is the most important, inclusive and cross-cutting measure to promote digital transformation in training and fostering human resources for cadres and civil servants. Because, raising awareness about digital transformation is a prerequisite, making an important contribution to promoting the process of digital transformation, developing digital government, digital economy and digital society to keep up with the times. Digital transformation is also a revolution of the whole people, it is only truly successful when each citizen actively participates and enjoys the benefits that digital transformation brings. Therefore, it is necessary to propagate, disseminate knowledge, and raise awareness about the position, role and importance of digital transformation by various forms and measures, such as: setting up and developing websites on social networking platforms to propagate and raise awareness and skills for digital transformation; building, establishing and maintaining regular columns and pages on the mass media; visual propaganda, using billboards, posters, infographics; coordinating with international and national organizations in the region and around the world for implementing propaganda programs, disseminating knowledge, raising awareness about digital transformation...

Secondly, the content of the training and retraining program is suitable for every subject.

For leaders, it must be focus on contents, such as: digital transformation strategy; develop digital government, digital economy and digital society; organizing the apparatus according to the digital service model and the digital operation model; managing and tracking numbers within the organization; and other relevant contents for the management team and key cadres of state agencies and organizations from commune level upwards.

For full-time staff, it must be focused on training and fostering contents, such as: digital technology in the 4.0 technology revolution; digital technology, such as: AI, Blockchain, Bigdata, Cloud computing…; application and deployment of digital technology platforms and applications; digital technology platform management; planning the implementation of digital transformation, managing digital transformation projects and other related contents for technical staff of specialized information technology units and technical staff in agencies and organizations. state office.

For cadres and civil servants: it must be focused on training and retraining in knowledge and skills of digital transformation, exploitation of digital technologies, digital data, digital platforms, digital services, digital information processing, electronic transactions, skills in using information technology and digital transformation…

Thirdly, promoting the role of self-study and self-improvement of cadres and civil servants.

Meeting the requirements of digital transformation, it requires that cadres and civil servants have to change their thinking, from just learning once to work for life to learning for life to be able to work for life. Therefore, each cadre and civil servant should promote the spirit of self-study and self-improvement; studying at home, at work, studying via the internet, study based on books, newspapers, documents, mass media according to the motto "whatever you need to learn"; raising awareness and responsibility for lifelong learning, improving working capacity, capacity for performing tasks and official duties of the contingent of cadres and civil servants. Besides, the State and organizations facilitate and support cadres and civil servants to update their knowledge, skills, methods and working experience in order to improve the quality and efficiency of their work; it must be focused on formulating and concretizing title standards and criteria for evaluating results and efficiency in fulfilling responsibilities and tasks and of cadres and civil servants.

Forthly, strengthening international cooperation in training and fostering cadres and civil servants.

International cooperation creates opportunities for officials and civil servants to participate in study abroad programs for improving their professional qualifications; lecturers will be learned with advanced teaching forms and methods from international universities; creating opportunities for scientific research cooperation, improving the quality of training and fostering in the direction of approaching international standards. Therefore, it is necessary to strengthen international cooperation for exchanging experiences in training, digital technology research, digital economy and digital society; encouraging Vietnamese training institutions to build and implement training cooperation programs, lecturers and students exchanging with training and research institutions, researching digital transformation, digital technology, prestigious digital society and economics in the world…

5. Disscusion and Conclusions

Digital transformation is the comprehensively changing process of the social development model, the way of living and operation in the digital age. Among that, improving the quality of human resources, especially the human resources of cadres and civil servants have playes an decisive roles and positions. Because this is one of the strong driving forces for rapid and sustainable development; one of important factors for promoting the socio-economic development of the country. In order to meet the requirements of the digital transformation, the contigent of cadres and civil servants must be individuals of real capacity, thoughtful ability and quickly adaptation; people of knowledgement and skills in the digital transformation… To do that, the training and fostering activities for the human resources of cadres and civil servants must be conducted regularly, continuously and renewed in term of objectives, program contents and forms, methods….

Through the research, the author has some recommendations for management agencies as follow:

Firstly, the Government needs to quickly complete and approve the project: "Raising awareness, skill traning and development of the human recources for national digital transformations to 2025, orientation to 2030".

Secondly, the government should complete mechanisms, policies for facilitating, encouraging cadres and civil servants in self-studying for their level improvement.

Thirdly, it should be that the government organize training and fostering activities at home and abroad; have an evaluation mechanism for improving the quality and effectiveness of training and fostering.

Forthly, the government should strengthen public service awareness and ethic education for cadres and civil servants working in state administration agencies.

6. References

1. Van Anh (2021), Solving human resource problems for national digital transformation, accessed May 14, 2021, from https://vietnamnet.vn/vn/Giao-duc/giai-bai-toan-nhan- luc-cho-chuyen-doi-so-quoc-gia-708492.html.

2. Ho Tu Bao (2020), Digital transformation and related concepts, Journal of Information and Communication, Issue 1 (April 2020), 30 - 32.

3. Central Committee of the Communist Party of Vietnam (2018), Resolution of the Seventh Conference of the Central Committee, Term XII about focusing on building a contingent of cadres at all levels, especially at the strategic level, with sufficient quality, capacity and prestige, on par with duties, issued on May 19, 2018.

4. Communist Party of Vietnam (2021), Documents of the 13th National Congress of Deputies, volume 1, National Political Publishing House - Truth, Hanoi.

5. Government (2021), Summary Report of the State Administration Reform overall Program for the period 2011-2020 and orientation for the period 2021-2030, issued on April 19, 2021.

6. Ministry of Home Affairs (2021), Report on Summary of work for the period 2016 - 2020 and implementation of work tasks in 2021 of the Interior sector, issued on January 11, 2021.

7. Ministry of Information and Communications (2020), Digital Transformation Manual, Internal Circulation.

8. National Assembly (2008), Law on cadres and civil servants, promulgated on November 13, 2008.

9. National Assembly (2019), Law amending and supplementing of some articles of Law on cadres and civil servants and Law on public employees, promulgated on November 25, 2019.

10. Phan Quoc Tan (2021), Improving the quality of human resources in the digital transformation period, accessed May 14, 2021, from https://cuocsongantoan.vn/nang-cao-chat-luong-nguon-nhan -luc-in-progress-construction-doi-so-67291.html.

11. Doan Phong (2021), Human Resources - 'key' to successful digital transformation, accessed May 14, 2021, from https://vietnamnet.vn/vn/cong-nghe/nhan-luc-chia-khoa -chuyen-doi-so-bar-cong-720068.html.

12. Prime Minister (2020), National Digital Transformation Program to 2025, with orientation to 2030, issued on June 3, 2020.

13. Tran Viet Quan (2020), Building a contingent of Vietnamese cadres and civil servants to meet the requirements of the Fourth Industrial Revolution, accessed May 15, 2021, from https://tcnn.vn/news /detail/48854/Xay-dung-doi-ngu-can-bo-cong-chuc-Viet-Nam-dap-ung-yeu-cau-cuoc-Cach-mang-cong-nghiep-lan-thu-tu.html .

14. Luong Trong Thanh & Ta Van Hung (2018), Industrial Revolution 4.0 and issues raised with schools of training, retraining staff, accessed May 15, 2021, from http://hvcsnd.edu .vn/nghien-cuu-trao-doi/dai-hoc-40/cach-mang-cong-nghiep-4-0-va-nhung-van-de-dat-ra-voi-cac-truong-dao-tao -boi-duong-can-bo-4094.

TAX ADMINISTRATION OF E-COMMERCE BUSINESS IN HANOI

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Abstract

Due to the development trend of the digital economy, many business models and activities are carried out on e-commerce platforms. In recent years, the Hanoi Tax Department has had many solutions to tax administration of this business activity, so the tax revenue in 2020 will increase nearly 5 times compared to 2019. On the basis of the development of e-commerce in Hanoi and the results of tax administration in the e-commerce business of the Hanoi Tax Department in recent years, the authors propose recommendations to strengthen the tax administration of this sector in Hanoi in the coming time.

Keywords: *e-commerce, tax administration,* ***the Hanoi Tax Department***

1. Introduction

In Vietnam, the trend of e-commerce business has been developing very strongly since 2010 with the emergence of many new types of e-commerce businesses. The development of e-commerce not only creates great benefits to the economy, but also brings many challenges in researching and promulgating policies to all of e-commerce activities.

There have been a number of studies on tax administration of e-commerce business. Typically, OECD (2001), *Taxation and Electronic Commerce - Implementing the Ottawa Taxation Framework Conditions,* recognizes that the mobility of e-commerce and its geographic sensitivity to tax differentials may exacerbate harmful tax competition. While a large number of web sites facilitating aggressive tax planning were identified, many of these appeared to be associated with a few promoting organisations, often based in tax havens. Most sites were physically located on servers in OECE Member countries, most likely due to bandwidth considerations and the availability of reliable telecommunication facilities. The ongoing development of e-commerce underlines the importance to all countries, both Member and non-member of curbing harmful tax competition.

According to Jing He (2015), *Chinese E-commerce Taxation,* China still lacks system e-commerce tax policty theory, so this blank makes a serious tax loss. Although China neither has a new e-commerce tax, the current tax system is still effective in B-B (business to business) mode and B-C (business to consumer) mode because these two modes mainly calculate and collect taxes in accordance to the existing turnover tax rules. However, everyone seems to ignore the taxation of the most widely used e-commerce C-C (user to user) mode. The comprehensive implementation of e-invoices and the check of electronic account records will help the Chinese tax authorities to monitor all transactions in real time.

While other countries in the world have had a number of studies on tax administration of e-commerce, this topic is still quite new to Vietnam. The author of the thesis "State Administration of E-commerce Business " - Dao Anh Tuan (2017), from the assessment results of state administration of e-commerce in Vietnam in the 2006-2012 period, proposed solutions to improve the state administration in this section: (i) Building a national e-commerce development strategy (ii) Completing e-commerce policies (iii) Completing the law on e-commerce (iv) Strengthening e-commerce training (v) Strengthening e-commerce inspection and examination. It can be seen that studies in Vietnam have mentioned the contents of tax administration or e-commerce, but there are no complete studies on tax administration in the e-commerce sector of the country in general and in Hanoi in particular, especially in the context of online business activities growing strongly.

This article analyzes the current situation of tax administration of the e-commerce sector in Hanoi from 2015 to 2020 in order to find out the causes and propose science-based solutions to strengthen tax administration of e-commerce in Hanoi in the near future.

2. Method

The authors collected secondary data on e-commerce and tax administration of this sector in Hanoi from 2015 to 2020 from reputable organizations such as the Vietnam E-Commerce Association (VECOM), the Hanoi Tax Department, then used the methods of statistical analysis combined with data analysis and processing to assess the current situation of tax administration of e-commerce to analyze the causes and to propose the solutions for strengthening tax administration and avoiding the state budget shortfall.

3. Results

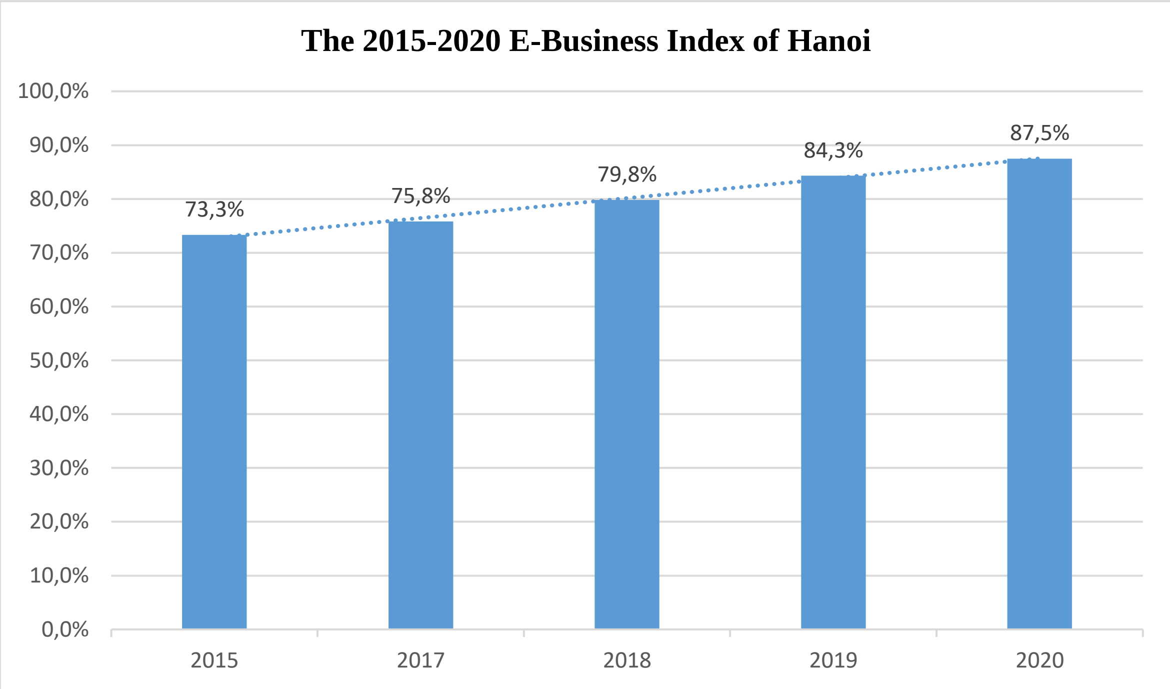
3.1. The growth of e-commerce in Hanoi

According to the report by Google, Temasek and Bain & Company, e-commerce growth in Vietnam was estimated at 46% in 2020. The total transaction value expected for 2020 was 14 billion USD, increasing by 16% over the same period last year. It is expected that the entire digital economy will be likely reach 52 billion USD in value by 2025.

Among 63 provinces and cities, Hanoi is considered one of the most dynamic e-commerce development markets. Over the years, Hanoi has always ranked second or more compared to the whole country in the E-Business Index (EBI).

In 2020, Hanoi ranked second with an aggregate score of 85.7 points, 1.4 points higher than the previous year. It is estimated that Hanoi and Ho Chi Minh City accounts for 70% of the national e-commerce scale. It can be seen that the scale of Vietnam's e-commerce market is still concentrated in these two largest economic centers, which have been ranked first and second in a row during the past years, having great differentials from other localities.

Figure 1: The 2015-2020 E-Business Index of Hanoi



Source: E-Business Index Report for recent years, Vietnam E-Commerce Association (VECOM)

75 percent of the total internet users in Hanoi have already made online purchases, increasing by 7% compared to that of 2019. 90 percent of the modern retailers, distributors; electricity, water, telecommunications service providers; and 25% of petrol stations have accepted cashless payments when buying or selling goods and services; up 5% compared to that of 2019.

3.2. Current situation of tax administration of e-commerce business in Hanoi

3.2.1. The organizational structure of Hanoi Tax Department

The Hanoi Tax Department has 3421 civil servants in total, which is divided into 24 divisions, 30 sub-departments and 312 tax administration teams.

It does not have a dedicated force of tax administration for individuals doing e-commerce business, which are naturally considered a type of household businesses monitored and managed by tax sub-departments (tax administration teams of communes, wards or inter-communes). According to Section 9 of Decision No 245 / QĐ-TCT dated March 25th, 2019 defining the functions and tasks of the teams of the tax sub-department:

Tax administration teams of communes, wards or inter-communes help the Head of the Tax Sub-Department in tax administration and collection from organizations (if any), individuals paying taxes in the assigned communes and wards (*including household businesses of industrial, e-commerical and service sectors; or including households paying personal income tax, non-agricultural land use tax, agricultural land use tax, natural resource tax* ...); and in making tax estimation for those whose they manage.

3.2.2. Information assistance and giving advice to taxpayers

In order to prevent tax revenue loss in e-commerce business, since 2017, the Hanoi Tax Department has actively reviewed individuals doing business activities through social networks. The tax department has sent text messages to subscribers who have sales addresses on social networks with 13,000 messages. As a result, more than 2,000 traders on social networks have registered for tax filing.

Table 2: The activities of information provision and tax advice to taxpayers

Forms of information provision and support	2018	2019	2020
Number of training sessions / number of participants	120 /22,335	194 /83,074	65 /11,335
Number of emails sent to enterprises, taxpayers	36,952	38,278	18,545
Number of seminars with enterprises and taxpayers/ number of participants	23/4,211	35/7,069	35/3,156
Number of direct responses to enterprises and taxpayers	18,373	7,065	49,480
Number of accepted recommendations	173	95	174
Number of radio broadcast sessions	20,472	18,155	32,125
Number of television broadcast sessions	42	98	104
Number of published articles on tax	670	1,199	1,606

Source: The Hanoi Tax Department

In order to make organizations and individuals know and proactively fulfill their tax obligations, the Hanoi Tax Department also holds propaganda in various forms, helping taxpayers to grasp tax laws.

3.2.3. Administration in tax declaration and accounting

Tax registration of organizations doing e-commerce business has been complied with the Circular No. 95/2016/TT-BTC of the Vietnam Ministry of Finance about guidance in tax registration.

Specifically, the Hanoi Tax Department has issued an official letter instructing individuals doing e-commerce business to carry out tax registration procedures. Besides, a set of procedures to guide individuals doing e-commerce business has been posted on the website of the department; and displayed on the bulletin board at the one-stop shop so that the officers who are assigned to receive tax registration dossiers can pay attention, or give support and specific instructions on tax declaration to taxpayers.

In order to increase the tax administration efficiency for e-commerce business, on June 13, 2019, the National Assembly passed the Law No. 38/2019 / QH 14 on Tax Administration. This law officially has taken effect since July 1, 2020, mentioning e-commerce activities and the responsibilities of relevant agencies in implementing tax administration of e-commerce business. Specifically, the article 15 of the law regulates the coordination responsibilities between ministries and branches in tax administration of e-commerce business. Based on legal regulations and practical situations in the e-commerce sector, the Ministry of Finance has instructed tax offices to implement tax policies and tax administration which are suitable for each model and each type of e-commerce activities. The Tax Administration Law in 2019 also stipulates that e-commerce businesses must issue electronic invoices when selling goods and providing services. This is an important legal basis for tax offices to tighten the tax administration of e-commerce businesses.

The Hanoi Tax Department has continued to coordinate with relevant agencies to collect information from organizations and individuals directly involved in, or related to the management, provision and usage of internet services, online information and games...Through collaboration with relevant agencies, the Hanoi Tax Department identified, categorized and collected data of E-commerce businesses and individuals; then had specific administration measures for each group. Basically, there are 3 main groups: individuals doing business, selling goods on social networks; organizations and individuals providing applications and products on Google Play, Apple Store, YouTube ...; organizations providing or selling services (websites, sales applications, e-commerce platforms, house rentals via Agoda, Booking.com, Airbnb,…)

3.2.4. Administration of Tax Payment and Tax Debt

Based on the results of data collection, the Hanoi Tax Department regularly coordinates with credit institutions and network operators to obtain data on business activities. Since then, the Tax Department has mobilized individuals to proactively declare and pay taxes. As of December 2020, the tax department's data system has managed the revenues of individuals operating on Google, Facebook, YouTube ... Up to now, over 300 individuals have paid taxes. Along with that, the Hanoi Tax Department built a database of more than 2,000 rental addresses, over 31,200 stores with e-commerce business activities to perform tax administration. According to the Director of the Tax Sub-Department of Cau

Giay district - Le Quang Hung, an individual declared their income of 330 billion VND and paid more than 23 billion VND in tax; and another individual earning 260 billion VND paid over 18 billion VND in tax; in 2020, at the district, 65 individuals doing online business declared their earnings and paid 55 billion VND in taxes.

Besides, the Hanoi Tax Department is concurrently building data on individuals and organizations doing online sales activities through inspection and examination of businesses and coordination with relevant agencies to identify individuals and organizations doing this type of business. The tax office has initially identified 25 cases with the tax payment of 4 billion VND.

Regarding housing rental activities through e-commerce platforms such as Agoda, Booking.com, Airbnb ..., the Hanoi Tax Department collected information and identified the lessors, then built and analyzed data, guided businesses or individuals to fulfill their obligation of tax registration, declaration and payment. Up to now, the personal tax amount paid to the state budget is nearly 94 billion VND.

Table 3: Results of tax collection and payment of Hanoi Tax Department

Unit: billion

Indicators	2018	2019	2020
Total domestic revenue	219,286	252,179	267,585
Tax debt collection	6,368	9,230	13,227
E-commerce business tax	-	25	123

Source: The Hanoi Tax Department

According to the Hanoi Tax Department, the total tax revenue in 2019 and 2020 for individuals earning from e-commerce business activities (Google, Facebook, Youtube) is 148 billion VND (25 billion VND in 2019, and 123 billion VND in 2020 - up 492% compared to 2019).

3.2.5. Tax inspection and examination

The Hanoi Tax Department said that in some cases where the taxpayers had been notified, guided and supported but did not register, declare and pay taxes deliberately; the tax office would conduct an inspection, examine and penalty for tax evasion and tax fraud according to regulations. For individuals who do not comply with the inspection and examination decisions, the Tax Department will synthesize and transfer their dossiers to investigating agencies for prosecution in accordance with law.

3.3. Difficulties

Tax administration of e-commerce business has initially achieved certain results. According to financial experts, the scale of Vietnam's e-commerce market is forecasted to reach 10 billion USD, however the contribution of this sector to the state budget is limited.

Regarding tax registration:

The majority of individuals doing e-commerce business in Hanoi have not registered their business, making it difficult for state agencies to monitor, manage and identify these subjects. Tax registration of these individuals is a difficult issue to manage. Actually, at the moment, tax offices have only encouraged and propagated these individuals to do tax registration voluntarily; put them under the tax admininistration; and required them to do tax registration.

Regaring tax declaration and payment:

There are several problems in tax declaration and payment:

- It is difficult for organizations and individuals to do tax declaration, especially for those who do online selling and advertising through Google, Facebook, Zalo ... Some common types of tax evasion that such businesses as Google and Facebook often do are avoidance of tax declaration, incorrect value added tax return, avoidance of contractor tax declaration for services of some multinational companies operating in Hanoi.

- Some e-commerce activities have not been included in the list of adjusted business lines or the list of business lines that are difficult to determine their nature, which makes it difficult to determine the applicable tax policy; for example, hight-tech ride-hailing service, "virtual" currency transactions, some activities such as doing business via online games, application rental for online advertising. These types of businesses have large revenue, but do not declare and pay enough taxes.

- The problem of determining revenue and income of e-commerce businesses is still complicated and difficult. Tracking and controlling the amount of goods, services and arising revenue of e-commerce activities is still difficult, mainly based on sales invoices and payment transactions via banks. Besides, it is difficult to require organizations and individuals doing online sales activities through social networks to declare and pay tax because it is difficult to manage goods transactions.

- Cash is still being used in the main payment process. If payments are made via banks, the bank accounts have not been registered with the tax offices, making it difficult to manage tax declarations and determine revenue of e-commerce businesses.

- Administration of tax collection is still difficult for cross-border e-commerce transactions, for example, in the case of online hotel or travel booking services, customers using these services often pay directly to an overseas enterprise, then this enterprise transfers money to hotels and accommodations ... so it is difficult to determine transactions, as well as revenue of these foreign enterprises to calculate and deduct tax.

Management of tax payer information:

One of specific characteristics of e-commerce is its large-scale of operation in the borderless internet environment whose transaction data can be changed, hiden or deleted easily. Thus, the management of taxpayer information for online sales is still a difficult issue. In fact, there have been millions of individuals and business households selling and exchanging goods on Facebook and other social networks, but the information of these organizations and individuals is not clear. Besides, their transactions are still in cash. They only use websites or social networks as a place to advertise…

Regarding tax inspection and examination: the inspection and examination methods of e-commerce activities are very different from the traditional methods, requiring tax officers having advanced knowledge of information technology and foreign languages besides the professional qualifications to trace transactions or extract historical data from these transactions as an evidence to fight against tax law violaitons…

3.4. Causes affecting the efficiency of tax policy implementation and tax administration in e-commerce sector

Objective reasons:

Firstly, cash is still the main means of payment in e-commerce business.

Secondly, because consumers rarely take the invoices when buying goods, stores and business households often do not issue invoices when selling goods to consumers via the Internet

Thirdly, the awareness of law observance of individuals selling goods on social media is still limited. The percentage of those who register and declare tax is still low.

Subjectives reasons:

Firstly, the legal basis for tax collection management of new business forms in the e-commerce sector has not been synchronized and completed, lacking a general legal framework on virtual currency, electronic money and virtual properties.

Secondly, it is difficult to apply penalties against foreign enterprises operating social networking sites in Hanoi such as Facebook, Google+ or Instagram if these businesses do not actually register on the electronic trading floor in Hanoi or provide information about organizations and individuals selling goods on their sites at the request of competent state administrative agencies because their headquarters are based in foreign countries.

Thirdly, the tax office's database is incomplete. The reality of using information technology applications for tax administration in e-commerce activities shows that related applications such as TPH, KTDL, TPR, BCTC, Khaithueonline are independent applications which have not been connected closely to each other and met the requirements of tax administration in this sector.

Fourthly, there has not been a tax administration agency specializing in the e-commerce sector. Tax officials and civil servants have not been equipped with specialized skills and qualifications of tax administration in this sector.

Fifthly, the coordination with ministries and functional branches has not caught up with the management requirements of the tax offices in the e-commerce sector.

4. Discussion and Conclusion

4.1. Some solutions to strengthen tax administration of e-commerce business in Hanoi

Firstly, it is necessary to promote tax propaganda and assistance for taxpayers in the e-commerce business.

Taxpayers should be enabled to easily access the information on tax regulations and tax administrative procedures. The list of tax administrative procedures should be displayed publicly and transparently at the "one-stop shop"of the Hanoi Tax Department to shorten the time of solving tax administrative procedures for taxpayers.

Tax offices need to regularly carry out activities to support taxpayers such as deploying the "Companion Months" to support taxpayers; implementing new tax policies and answering questions of taxpayers in the years of tax finalization.

Moreover, tax offices should strengthen coordination with relevant agencies to implement propaganda and support for taxpayers well; organize training courses for enterprises, especially newly established enterprises; cooperate with industry associations or agencies to organize training sessions according to the needs and specific topics.

It is also important to coordinate with associations and centers in organizing seminars, dialogues with taxpayers and relaying information on tax policies, timely detecting problems and recommendations of taxpayers in each area and each sector to find the most efficient solutions to implement tax policies and administrative procedures in Hanoi.

Secondly, enhancing the management of tax payment and tax debt should be emphasized.

To manage taxes of e-commerce activities, the Hanoi Tax Department needs to classify groups to deploy appropriate and efficient solutions fo the group of organizations and individuals providing applications and products on platforms such as Google Play, Apple Store, Youtube, etc. On the basis of this list, the Tax Department categorizes and invites individuals with large revenue to come to the tax office to propagate tax policies, provide tax codes, guide them through tax obligations and answer their questions about tax.

Regarding sales activities on websites and social networking sites:

- It is necessary to increase the dissemination of tax policies, provide guidance on how to calculate, declare and pay taxes for each group of taxpayers on newspapers, mass media, and information technology forums so that taxpayers who sell goods on the internet (on social networks such as Facebook, Instagram, Zalo; of on e-commerce trading floors such as Sendo, Lazada...; online auction floors like Hotdeal) can voluntarily fulfill their obligations of tax declaration. Tax officies need to collect information, determine the identity of the lessors; then build, analyze data, and guide business individuals to fulfill their obligations to register, declare and pay taxes. Besides, the tax officies should publicize individuals who do not strictly comply with their tax declaration and payment obligations on the mass media; and warn taxpayers who commit tax evasion about penalties in accordance with the law.

- The tax department should continue to closely coordinate with relevant agencies and departments (Department of Industry and Trade; Department of Planning and Investment; Department of Public Security; Department of Information and Communication; Department of Culture, Sports and Tourism) and central agencies to strengthen the management, inspection and examination of organizations and individuals conducting e-commerce business in the locality.

- The tax department should cooperate with inspectors from the State Bank of Vietnam in providing account statements of organizations and individuals doing e-commerce activities and opening accounts at commercial banks in Vietnam or non-bank organizations licensed by the State Bank to provide intermediary payment services.

- The tax department should also requires enterprises providing freight services to organizations and individuals doing e-commerce business (delivery companies; postal and telecommunications companies...) to provide information on the quantity goods transported, the amount of payment or collection on behalf of their customers (if any).

4.2. Regarding e-commerce activities on online trading floors or applications through which goods trading activities are carried out. Using online platforms to manage and collect taxes on e-commerce would be feasible and cost-effective. Accordingly, online trading floors and applications will collect and store information of goods providers. Owners of e-commerce trading floors are responsible for notifying tax obligations to goods providers or income earners; and making tax deductions before paying income or revenue to the goods providers or income earners. It is also applied to foreign goods providers operating on Vietnamese online platforms, in which tax deductions are made in accordance with regulations on foreign contractor tax.

- Fixed transaction addresses and online activities of individual businesses are just to advertise to attract more customers. The individuals under the tax administration should update information about their online transactions to adjust the increased business revenue if appropriate. In case an individual business does not have a fixed location to transact with customers, but only has an online address and personal account number, and sells goods with door-to-door delivery; the tax office should coordinate with the network operators to determine the identity, bank account number, and delivery method of this individual to request them to declare personal income tax everytime it is incurred according to regulations.

- Regarding foreign organizations and individuals (foreign contractors) doing e-commerce activities with income generated in Hanoi: If the buyer of goods or service provider is an enterprise or cooperative established under the Vietnamese law, the purchaser is obliged to declare and deduct contractor tax to pay tax according to regulations. If the buyer or service provider is another organization or individual, the foreign contractor must declare and pay contractor tax on the provided goods and services. If the foreign contractor does not have a permanent establishment in Vietnam, it can declare and pay tax through tax agents. This principle is specified in the Article 42 of the Law on Tax Administration 2019.

Tax offices need to closely coordinate with relevant ministries and branches in tax administration of e-commerce activities, especially the Ministry of Planning and Investment, the Ministry of Industry and Trade, the State Bank, and the Ministry of Information and Communication in the mechanism to coordinate information of e-commerce businesses, payment and other information in order to implement tax management.

In addition, the mechanisms, policies, and management for various types and forms of e-commerce business on many borderless and rapidly developing platforms must be oriented, predictable, and comprehensive; and catch up with the development of e-commerce activities…

Thirdly, it is necessary to strengthen tax inspection and examination; and penalties for tax evasion.

In case the taxpayers receive notifications, guides and support of tax obligations; but still deliberately fail to register, declare and pay tax; the tax offices will have inspection, examination and penalties for tax evasion, tax fraud according to regulations. If these individuals still do not comply with the decision on inspection and examination, the tax department will summarize and transfer the dossier to the investigation agency for prosecution in accordance with the law.

In case the taxpayers avoid declaring or declare incorrectly their transaction value, received income from e-commerce transactions, the tax offices need to collect data, create a data warehouse and analyze the common tax evasions in e-commerce businesses for easy identification. In a rapidly changing market like e-commerce with increasingly sophisticated mechanisms of tax avoidance, it is necessary to build a system to analyze, monitor and collect information about development trend of e-commerce as well as revenue from this activity from related agencies.

Fourthly, it is important to strengthen training and coaching activities for skills in searching, exploiting and gathering information on the internet to identify tax non-compliance and tax evasion cases; organize training courses on the forms of e-commerce business, skills of business data inspection, analysis and recovery.

Besides, the tax offices should organize training courses for civil servants in charge of tax administration of e-commerce activities in order to equip them with knowledge of e-commerce, foreign languages, information technology and skills of inspection and examination on computers. To accomplish this goal, in the Tax Administration Program for E-commerce 2025, the tax offices should cooperate with the Ministry of Industry and Trade and the Ministry of Information and Communications to organize training courses to improve management capacity for officials working in the e-commerce sector.

In order to equip tax officials with important knowledge and to improve their skills of tax management for e-commerce activities, the General Department of Taxation needs to organize domestic and foreign training courses and seminars about e-commerce and skills of searching and tracking data...

Fifthly, the tax department should enhance the application of information technology in tax administration for e-commerce activities; build a database of taxpayers and tax declarations.

It is necessary to continue to promote the application of e-invoices in the activities of providing or selling goods and services; build a database of tax offices integrated with the databases of relevant ministries and functional sectors, especially those of the banking system and telecommunications providers, etc., as well as intergrate information from online trading floors, e-commerce websites, social networking sites to ensure sufficient information for tax management.

5. References

1. Vietnam E-Commerce Association (2020), *Vietnam E-Business Index Report 2020.*

2. National Assembly (2019), *Law on Tax Administration* No. 38/2019/QH14 passed on June 13, 2019; accessed on August 30, 2019, https://thuvienphapluat.vn/van-ban/thue-phi- le-phi/Luat-quan-ly-thue-2019-387595.aspx

3. Hanoi Tax Department (2020), *Summary of tax missions in 2020; Missions and solutions for tax implementation in 2021*

4. Jing He (2015), *Chinese E-commerce Taxation*, accessed on March 20, 2018, from http://download.atlantis-press.com/php/download_paper.php?id=21394

5. OECD (2011), *OECD Guide to Measuring the Information Society 2011*, accessed on March 20, 2018, from https://unstats.un.org/unsd/EconStatKB/Attachment546.aspx?AttachmentType=1

6. Đào Anh Tuấn (2017), author of the thesis *"State administration of e-commerce business".*

DEVELOPING THE DIGITAL ECONOMY IN VIETNAM IN THE CONTEXT OF INDUSTRY 4.0

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Abstract

Digital economy is identified as one of the indispensable pillars and plays an important role in economic growth, creating a breakthrough growth for each country. In the context of Industry 4.0, which is strongly developing, the digital economy plays an increasingly important role in the economic structure of each country. Digital economic activities have developed strongly in recent years and are concerned and prioritized for development by the Government in Vietnam. This article has clarified the implications of the digital economy and the development of the digital economy in the world; evaluating the situation and trends of digital economy development in Vietnam and recommend solutions to promote digital economic development in Vietnam in the context of Industry 4.0.

Keywords: *Digital Economy, Industry 4.0, Vietnam*

1. Introduction

The digital economy is a recently-emerging phenomenon of increasing importance given estimates of double-digit annual growth around the world (WEF 2015). It is identified as one of the indispensable pillars and plays an important role in economic growth, creating a breakthrough for each country in the context of Industry 4.0. Currently, the digital economy is growing 15-25% per year in emerging markets; half of the world's population is connected online, one third is on social network, 53% is on mobile phones and is covered by all ages, races, geographies and backgrounds across the planet shows the strongly growing trend of digitizing the economy and social activities.

Industry 4.0 is having a strong impact on Vietnam, creating new opportunities for Vietnam to integrate more deeply and effectively into the world economy, move directly into the new industrial field, and take advantage of scientific advanced technology to speed up the process of industrialization and modernization of the country and narrow the development gap. In the context of Industry 4.0, which is strongly developing, the digital economy plays an increasingly important role in the economic structure of each country. Digital economy development will cause change in economic processes, systems and sectors, re-shaping existing consumer behavior, business interactions and business models (Dahlman et al. 2016). Vietnam is also not out of that trend, digital economic activities have developed strongly in recent years and are concerned and prioritized for development by the Government. According to research reports by Google and Temasek, Vietnam's digital economy reached a scale of about $ 3 billion in 2015, up to $ 9 billion in 2018 and forecast to reach $ 30 billion by 2025. Another research of Data61 Organization (Australia), Vietnam's GDP could increase by about 162 billion USD in 20 years if Vietnam successfully converts digital. On September 27, 2019, the Politburo issued Resolution No. 52-NQ/TW on a number of guidelines and policies to actively participate in the Fourth Industrial Revolution setting goals by 2025, digital economy is accounts for 20% of GDP.

This article has clarified the implications of the digital economy and the development of the digital economy in developed countries. Evaluate the current situation and trends of digital economy development in Vietnam and recommend solutions to promote digital economic development in Vietnam in the context of Industry 4.0.

2. Method

This study employs qualitative research methods that use secondary data sources. By synthesizing, analyzing, comparing, evaluating to related data and previous research outcomes, the study has clarified the implications of the digital economy and recommend solutions to promote digital economic development in Vietnam in the context of Industry 4.0 according to the goals of the article.

3. Results

3.1. Overview of digital economy.

The concept of "digital economy" has been mentioned for a long time before the Industrial Revolution 4.0. Early definitions (Tapscott 1996, Lane 1999, Mesenbourg 2001) focus specifically on the Internet while later definitions add new technologies such as mobile and sensor networks (DBCDE 2009), cloud computing and big data (G20 DETF 2016). Or they opt for the more generic notion of “digital technologies” as per the simple definitions. However, with the emergence of Industry Revolution 4.0, the digital trend or digital transformation really appears strongly in all fields, because the "core" of Industry Revolution 4.0 is digital transformation, with the integration of digitization, connection/hyperlink and intelligent data processing. According to Dahlman et al. (2016), digital technologies are spreading throughout the world at a faster pace than previous waves of technological innovation, and are re-shaping business models and sectors. Digital technology is applied in all fields and economics, from industry, agriculture to services; from production to distribution and circulation of goods to supporting infrastructure such as transportation, logistics, finance, banking, ... The digital economy is gradually becoming the economy itself. The function of digital economy also gradually coincides with the contents of the economic concept. Big data, connectivity and artificial intelligence are the buzzwords that stand for the next round of the digital revolution and underpin the concept of the digital economy.

Currently, there are many different views on the digital economy and it is not easy to define the digital economy. It is sometimes called the Internet economy, the new economy or Web economy. Cameron et al. (2019) defined a digital economy as an economy that contains all companies, services whose business is mainly related to buying, selling and supplying products, digital services or supporting infrastructure and equipment. Digital Economy Collaborative Group of Oxford said that the digital economy is "an economy operated mainly on digital technology, especially electronic transactions conducted through the internet". The digital economy is also sometimes referred to as the internet economy, the new economy or the network economy. Bukht and Heeks (2018) summarize 21 typical definitions of digital economy, saying that the first definition of digital economy appeared since 1999 and that there are more and more new definitions. The rapid development and widespread application of the Internet of Things to business has led to the high-speed formation and development of related economic activities, leading to the diversity and richness of digital economy definitions. The definitions of digital economy also include Information and Communication technology economy with the same target of consumption or ICT application; The penetration of information and communication technologies into the innovative economy will lead to the digitization of society 9 (Abdurakhmanova et al., 2020). It is the category that difference between the definitions.

Therefore, it can be understood that the digital economy is an economy operating mainly based on digital technology, especially electronic transactions conducted through the Internet. The current transformation caused by a massive onset of digitalization includes practically all areas of the economy and social life (Basl, 2017) such as industry, agriculture, services; manufacturing, distribution, goods circulation, transportation, logistics, finance and banking ...) that digital technology applied. Digitization of all sectors of the economy will not be easy, but without digitization it will not be possible to integrate into the world economy (Bulturbayevich and Jurayevich, 2020). In essence, these are the organizational models and operating modes of the economy based on the application of digital technology. In general, digital economy includes emerging phenomena, such as block chain technology, digital platforms, social media, e-businesses, software development-related businesses, etc., digital and media content development and application, related services and training, together with enterprises involved in the manufacture and development of information and communication technology equipment.

Characteristic of the digital economy is that it can be gathered in three main interlocking processes, including: material processing; energy processing; information processing. In which, information processing plays the most important role, information in all its forms becomes digital, which reduced to bits stored in computers and racing at the speed of light across networks ... The new world of possibilities thereby created is as significant as the invention of language itself, the old paradigm on which all the physically based interactions occurred (Tapscott, 1995). The interconnection between subjects and the economic cycle base on the achievements in information technology and the Internet helps to connect resources, eliminate many intermediaries and increase opportunities to access global value chains. The digital economy is causing rapid growth and the size of the economies is also increasing, in addition, it also changes the mode of production (infrastructure, resources, operation) and the structure of the economy. From that led to new waves: digital resources, digital wealth began to be concerned; Information power is leading the trend and the strength of each country today is measured by the development of technology, human intelligence and information.

In addition, the achievements that the digital economy has brought have contributed to stable economic growth, more efficient solutions proposed by technology to help solve problems of environmental pollution, optimized resource usage. Since the digital economy, social problems have decreased, creating opportunities for more individuals, fuelling inequality by preventing individuals, groups, regions, etc from participating in the digital economy (OECD 2015), organizations and businesses due to low cost of participation and easy access, thereby contributing to reducing the inequality gap of rich and poor, solving social problems.

3.2. Digital economy development in the world

According to Forbes (2016), the value of the world digital economic sector accounts for about 3.8% of the value of the global economy with 3,000 billion USD. In which, McKinsey data estimates that the Internet contributed more than 20% of GDP growth in developed economies during the five years to 2011 (Manyika and Roxburgh, 2011). Digitization has triggered massive structural changes across the economy and society. For ASEAN countries, this value is up to 150 billion USD, equivalent to 6% of the gross domestic product (GDP) of the member countries. The digital economy is estimated to make up around 5% of global GDP and 3% of global employment (Bukht and Heeks, 2017).

The current digital economy is developing rapidly and is reflected in the changing leadership positions of companies globally. Table 1 shows that 8 of the 10 largest companies by market cap in the world are technology companies or are directly related to technology with new digital-based business models. In recent years, industries with the number of billionaires appearing have been associated with high technology.

Table 1. List of 10 companies with the largest market capitalization in the world by the end of September 2020

Rank	Company	Year of establishment	Market capitalization (Billion USD)
1	Apple	1976	1.900
2	Saudi Aramco	1933	1.833
3	Microsoft	1975	1.500
4	Amazon	1994	1.500
5	Alphabet	2015	969
6	Alibaba	1999	729
7	Facebook	2004	711
8	Tencent Holdings	1998	637
9	Berkshire Hathaway	1839	499

10	Visa	1958	429

(Source: Yahoo Finance)

Recognizing this trend, developed countries in the world have set up a digital platform development strategy, in which applying technology to production activities in the economy is of top priority. Many of the most developed countries in the world such as the US, the origin of the boom of information technology with many famous companies, example of information search and sharing (e.g. Google, Facebook, Twitter, Pinterest), personal services (e.g. Uber, Airbnb), entertainment online (e.g. Netflix, YouTube, iTunes), and shopping (e.g. Amazon, eBay, Alibaba such as Google, Amazon, Facebook, Apple, (Manyika et al, 2016) ... are aware of the importance of the digital economy. Russia has developed a program of "Digital economy", providing for measures to create legal, technical, organizational and financial conditions for the development of the digital economy in Russia (Lowry, 2020). European countries also have plans to "Single Digital Market", Australia has "Digital Australia", ... Countries with the following developed economies such as Korea, China also take benefit of the advantages that go behind, learning experience from previous countries, concentrating resources for digital economic development. Korea has a Manufacturing Industry Innovation 3.0 strategy that helps small and medium-sized businesses build smart, optimal manufacturing processes. China in the 10 key areas of the "Made in China 2025" initiative has prioritized two main areas: information technology development, digital tools and robotics.

The digital economy development strategies are expected to increase the GDP of ASEAN countries by about 1.000 billion USD over the next 10 years. This issue has received the attention of many countries in the region. Specifically, Thailand has established the Ministry of Social and Digital Economy and Malaysia has set a target for the value of the digital economy to account for 17% of the country's economy, Singapore uses the slogan "Smart Nation" that taking technology as the core, ...

3.3. Digital economy in Vietnam

In recent years, Vietnam's digital economy has developed rapidly and strongly in both business market and infrastructure. With a population of nearly 100 million people, Vietnam is considered as a country with a fairly good digital economic growth rate in the ASEAN region. Vietnam has recorded the emergence of digitalization in many fields, economic sectors, from commerce, payment to transportation, education, health ... Up to now, Vietnam has about 64 million internet users, Vietnamese people on average spend 3 hours and 12 minutes per day using the internet on mobile devices such as smartphones and according to the regional average, the usage focuses on social networking and streaming communications applications (52%), video apps (20%) and games (11%), with other business apps.

Table 2. Economic development target of Vietnam by 2030

Year	GDP account for	Digital economy forms of each sector	Annual productivity	ICT Development Index (IDI)	Global Competitiveness Index (GCI)	Global Innovation Index (GII)
To year 2025	20%	10%	7%	Ranked in the top 50	Ranked in the top 50	Ranked in the top 35
To year 2030	30%	20%	8%	Ranked in the top 30	Ranked in the top 30	Ranked in the top 30

(Source: Decision 749/QD-TTg by 3/6/2020)

In September 2019, Resolution No. 52-NQ/TW expected the target of Vietnam's digital economy to be 20% of GDP, issued by the Politburo. On June 3, 2020, the Prime Minister issued Decision No. 749/QD-TTg approving the "National Digital Transformation Program to 2025, with an orientation toward 2030" with the goal that Vietnam belongs to group of 50 leading country in e-government, related to digital economic development, enhancing the competitiveness of the economy, the target by 2025 is digital economy accounting for 20% of GDP; the digital economy forms in each sector reaches at least 10%; by 2030, the digital economy will account for 30% of GDP; the digital economy forms in each sector reaches at least 20% (Table 2).

Vietnam has identified the goal of the digital economy to create digital-based business models based on all economic activities and digital economic development using digital technologies and data. Digital technologies create the right technical conditions for a series of new business models that can fundamentally alter the structure and competitive situation of existing markets and put old business models under pressure (Hungerland et al., 2015). Along with the development of the digital economy, organizations will shift to an eco-business model instead of the traditional business model, which means there is a link between production and application, from there contribute to improving productivity as well as labor efficiency. Enterprises in the digital economy will renew their production processes and use ecosystem models instead of traditional business models, linking production, commerce to consumption, and application of regulations process and use digital technology, thereby, increasing labor productivity and efficiency.

In recent years, Vietnam has always been looking for new momentum for growth and has proactively seized opportunities from digital in general and e-commerce in particular for economic growth. The policy system on digital economic development has been completed in the direction of creating favorable conditions for organizations and enterprises. The government and the state economic sector are the driving force behind digital economic development. During the transition to the digital economy, labor relations will change such as cooperation relationships, employer-employee relationship. In addition, employees will have improved skills, contributing to change and build Vietnam's digital economy. In many, especially rural areas of developing countries, 4G and even 3G are still inaccessible (Okeleke and Stryjak, 2015). Thereby, Vietnam's digital economy is still on the rise and contributes a large part to economic growth and structural change, helping to promote the development of science, technology and technology. In addition, Vietnam is also one of the first countries to deploy 5G early in the world. 5G network is the driving force for digital economic development in 2020, Vietnam has become the fifth country to master 5G technology, produce 5G phones and infrastructure equipment, which helps Vietnam catch up with the trend and keeping up with leading countries such as the United States, Korea, ...

4. Discussion and Conclusion

In the context of Industry 4.0, the digital economy is strongly developing and contributing to the economic development of many countries around the world such as the US, South Korea, China, ... Digital economy is considered to be an important goal for Vietnam in many coming years, contributing to the strong development of society, opening up opportunities to catch up for developing countries, including Vietnam. Alongside these opportunities, though, are various challenges, for example due to low levels of digital skill and technology penetration both within and between countries (Dahlman et al., 2016), lack of resources, capabilities, institutions, relations (Murphy and Carmody, 2015); specific volatility of developing country digital enterprises (Foster and Heeks, 2010). Therefore, to develop the digital economy, Vietnam needs to focus on the following solutions:

romote propaganda to raise awareness of the whole society about digital economy and development of Vietnam's digital economy: The fastest way to accelerate the digital economy is to use digital technology to change the way we produce and work. Using digital technology to solve Vietnamese problems, and from the cradle of Vietnam, these technology businesses will go global. Technology is born to solve problems, where there is a problem, there is technology, there is a solution. Problems are everywhere, it may in our daily work, and each of us can start a technology start-up to solve our problems. Therefore, the State needs to promote propaganda to raise awareness of the whole society about the digital economy. The press and media agencies need to guide the public opinion, help businesses, people and the whole society to have a correct awareness of the digital economy, thereby best preparing for the adaptation of this development trend. It is necessary to make society realize that Government, businesses and people all have separate responsibilities and roles in the digital economy. Enterprises need to actively prepare to seize opportunities and ensure international competitiveness in the global digital economy, must be ready for a digital future with new forms of business, must investing in technology infrastructure, human resources and ensuring network safety and security. Individuals also play an important role in the digital economy. Each individual needs to equip and improve their skills to use digital technology for future jobs, and must protect themselves against the dangers of being threatened or stealing personal information online.

Policies are often outdated that lead to unable to accommodate the emerging trends of new technologies and services offered through the digital economy (Van Welsum, 2016; Bukht and Heeks, 2018). Therefore, building and completing the institution to create a complete and comprehensive legal basis for the implementation and development of e-

Government,: The State needs to soon promulgate Decrees on data sharing; on personal data protection; about electronic authentication; on personal data protection and privacy protection; on reporting regime among state administrative agencies. In the coming time, it is necessary to study and propose the development of an e-Government Law and guiding documents to ensure the legal corridor for e-Government development based on open data and the application of new technologies towards the digital economy, digital society.

Completion of digital national databases: The State needs to focus on perfecting the construction of national fundamental databases, especially the digital national database on population, land ... And to ensure effective use of these national databases, it is necessary to build a platform for integrating and sharing data between central and local information systems; the interconnection system sends and receives electronic documents; electronic identity authentication system; linkage between the government's specialized digital signature authentication systems and public digital signatures; National payment gateway ... to ensure uninterrupted data and information among governments at all levels. To serve the management and administration of the Government, in the coming time, paperless Government Information Systems; Electronic system of policy consultation; The national reporting information system towards the construction of the Steering and Operation Center of the Government and the Prime Minister is being focused on research and establishment.

Investing in upgrading digital infrastructure, IT resources as well as modern digital technology solutions. According to Quinones et al., 2015 and Damarillo, 2011, infrastructural weaknesses are identified as a major barrier to digital entrepreneurship in the global South: The State needs to invest in upgrading the digital infrastructure system as well as modern digital technology solutions to deploy smart connection digital applications. Especially non-cash payment applications, effective e-government... The government needs to take the lead in applying information technology to management activities, formulating and publicizing the sectorial master plan on information technology development and application. On that basis, will issue standards for information exchange between agencies and units to create linkages and synchronization in the process. Along with building and developing modern telecommunications infrastructure, becoming a the foundation of the digital economy, it is necessary to focus on ensuring network safety and security, creating conditions for people and businesses to easily and equally access opportunities to develop digital content. Ensuring safety and network security will help Vietnam gain the trust of foreign partners, a safe environment for business investment, and also an opportunity for us to develop products serves network security.

Forming a team of senior digital economic experts: In the context of low economic level, Vietnam lacks senior digital economic experts who have sufficient knowledge and skills in many fields (science, technology, economy, management, society, etc.), to shape the development of the digital economy at national level. The government should form senior experts in relevant fields (science, technology, economy, management, society, etc.) to participate in the development of a digital economy plan. A plan that is tested in practice will create a premise for building a long-term national digital economy strategy.

5. References

1. Abdurakhmanova, G., Shayusupova, N., Irmatova, A., and Rustamov, D. (2020). The role of the digital economy in the development of the human capital market. *International Journal of Psychological Rehabilitation, 24*(7), 8043-8051.

2. Basl, J. (2017). Penetration of Industry 4.0 Principles into ERP Vendors' Products and Services – A Central European Study. Proceedings of the International Conference on Research and Practical Issues of Enterprise Information Systems.

3. Bukht, R., and Heeks, R. (2017). Defining, conceptualising and measuring the digital economy. *Development Informatics working paper*, (68).

4. Bukht, R., and Heeks, R. (2018). Development implications of digital economies. Manchester: University of Manchester.

5. Bulturbayevich, M. B., and Jurayevich, M. B. (2020). The Impact Of The Digital Economy On Economic Growth. *International Journal of Business, Law, and Education, 1*(1), 4-7.

6. Cameron, A., Pham, T.H., Atherton, J.,Nguyen, D.H., Nguyen, T.P.,Tran, S.T., Nguyen, T.N, Trinh, H.Y., Hajkowicz, S. (2019). Future of Vietnamese digital economy towards 2030 and 2045. CRISO, Brisbane

7. Carlsson, B. (2004). The Digital Economy: what is new and what is not?. *Structural change and economic dynamics, 15*(3), 245-264.

8. Dahlman, C., Mealy, S. and Wermelinger, M., 2016. Harnessing the Digital Economy for Developing Countries, OECD, Paris.

9. Dahlman, C., Mealy, S., and Wermelinger, M. (2016). Harnessing the digital economy for developing countries.

10. Damarillo, W. (2011). How Cloud Computing Can Boost Developing Nations. Forbes, 3 Nov.

11. DBCDE, 2009. Australia's Digital Economy: Future Directions, Department of Broadband, Communications and the Digital Economy, Canberra.

12. Do, A. D. (2020). Innovation in Vietnam in the context of Industry 4.0. Economy and Management Review, 33, 57–60.

13. Foster, C. and Heeks, R. 2010. Researching ICT micro-enterprise in developing countries, The Electronic Journal of Information Systems in Developing Countries, 43(7), 1-20.

14. G20 DETF, 2016. G20 Digital Economy Development and Cooperation Initiative, G20 Digital Economy Task Force.

15. Google Temasek, "e-conomy SEA: Unlocking the $200 billion digital opportunity in Southeast Asia," May 2016; McKinsey and Company, "Unlocking Indonesia's digital opportunity," September 2016; Onno W. Purbo, "Narrowing the digital

divide," in Edwin Jurriëns, Ross Tapsell (eds.), Digital Indonesia: Connectivity and Divergence, Singapore: ISEAS – Yusof Ishak Institute, 2017.

16. Hungerland, F., Quitzau, J., Zuber, C., Ehrlich, L., Growitsch, C., Rische, M. C., ... and Haß, H. J. (2015). *The digital economy* (No. 21e). Strategy 2030-Wealth and Life in the Next Generation.

17. Lane, N. (1999). Advancing the digital economy into the 21st century. *Information Systems Frontiers*, *1*(3), 317-320.

18. Lowry, A. (2020). Russia's Digital Economy Program: An Effective Strategy for Digital Transformation?. In *The Palgrave Handbook of Digital Russia Studies* (pp. 53-75). Palgrave Macmillan, Cham.

19. Manyika, J. and Roxburgh, C., 2011. The Great Transformer: The Impact of the Internet on Economic Growth and Prosperity, McKinsey Global Institute, New York, NY.

20. Manyika, J., Lund, S., Bughin, J., Woetzel, J. R., Stamenov, K., and Dhingra, D. (2016). *Digital globalization: The new era of global flows* (Vol. 4). San Francisco, CA: McKinsey Global Institute.

21. Mesenbourg, T. L. (2001). Measuring the digital economy. *US Bureau of the Census*, (1).

22. Murphy, J.T. and Carmody, P. 2015. Africa's Information Revolution, John Wiley, Chichester, UK

23. OECD. (2015). In It Together: Why Less Inequality Benefits All. OECD, Paris.

24. Okeleke, K., and Stryjak, J. (2015). Building Digital Societies in Asia. *GSM Association*.

25. Quinones, G., Nicholson, B., and Heeks, R. (2015). A literature review of E-entrepreneurship in emerging economies: Positioning research on Latin American digital startups. *Entrepreneurship in BRICS*, 179-208.

26. Tapscott, D. (1996). *The digital economy: Promise and peril in the age of networked intelligence* (Vol. 1). New York: McGraw-Hill.

27. Van Welsum, D. (2016). Sharing is caring? Not quite. Some observations about 'the sharing economy'. *World Development Report Background Papers*.

28. WEF, 2015. Expanding Participation and Boosting Growth: The Infrastructure Needs of the Digital Economy, World Economic Forum, Geneva.

AGRICULTURAL DIGITAL TRANSFORMATION AND DIGITAL VILLAGE MODEL IN THE CONTEXT OF INDUSTRIAL REVOLUTION 4.0

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Abstract

The industrial revolution 4.0 is opening a new era in the development of mankind - the digital age. With scientific and technological achievements having an increasingly strong impact on all aspects of society, digital government, along with the digital economy and digital society, are becoming an inevitable development trend of countries in the world. Digital transformation is an inevitable trend, one of the top concerns of countries in the context of the 4.0 industrial revolution. Digital transformation takes place in many areas including agriculture and rural digital transformation. The desired results of digital agriculture are systems of higher productivity, which are safe, anticipatory and adapted to the consequences of climate change, to offer greater food security, profitability and sustainability. In the context of industrial revolution 4.0, in the world, many digital village models have appeared, typically in the EU, India, Korea, China... These models have provided valuable experiences for agriculture and rural digital transformation in Viet Nam.

Keywords: *digital transformation, agricultural digital transformation, the industrial revolution 4.0.*

1. Introduction

Digital transformation is an inevitable trend in the context of the industrial revolution 4.0. This trend brings many benefits to the socio-economic development of each country, including agriculture and rural areas. Digital transformation in agriculture helps farmers and businesses improve productivity, improve profits, optimize production and deliver value – greater expansion opportunities. Internet of Things (IoT) and artificial intelligence (AI) are simplifying and streamlining the overall collection, inspection, and distribution of agricultural resources with sensors and Big data data governance systems. The application of robots in agriculture can improve efficiency and lead to higher and faster yields. Unmanned aerial vehicles (UAVs) used to spray pesticides and pesticides can significantly reduce the use of agrochemicals. The most innovative part of digital transformation is the ability to use artificial intelligence (AI) in data mining and analysis to forecast trends as well as warn unusual situations, helping manufacturers to make informed decisions. decided even before the start of the season.

Currently, agricultural production in Vietnam is facing many challenges: *firstly*, due to the increasing population, the demand for food and food is constantly increasing; *secondly*, the area of agricultural land is increasingly narrowing due to the process of urbanization; *thirdly*, climate change is complicated, seriously affecting agricultural production; *fourthly*, the process of international integration requires increasing quality of agricultural products; *fifthly*, due to the impact of the Covid-19 pandemic, exporting agricultural products faced many difficulties.Therefore, digital transformation of agriculture and rural areas is the key to narrowing the gap between rural and urban areas, improving productivity, quality and brand of agricultural products, thereby improving the income and living standards of farmers.

1.1. Objective of the Study

The objective of this study is to clarify the general theory of digital transformation in the context of the industrial revolution 4.0. On that basis, the author analyzes the necessity and benefits of agricultural digital transformation; the basic conditions and important drivers of agricultural digital transformation. The article also introduces some typical digital village models in the EU, India, Korea and China. Successful digital village models in the world have provided valuable experiences for the digital transformation of agriculture and rural areas in Vietnam. The author also focuses on clarifying the current situation and proposing basic solutions to promote the digital transformation of agriculture and rural digital transformation in Viet Nam in the context of the industrial revolution 4.0.

1.2. General theory of digital transformation and agricultural digital transformation

The industrial revolution 4.0 will take place in three main areas: digital, biotechnology and physics. In particular, the core elements of digital in this revolution are: Artificial Inteligence (AI), Internet of Things (IoT), Big Data, Fast Data, Cloud Computing (Klaus Schwab,2018).

The industrial revolution 4.0 is opening a new era in the development of mankind - *the digital age*. With scientific and technological achievements having an increasingly strong impact on all aspects of society, *digital government*, along with the *digital economy* and *digital society*, are becoming an inevitable development trend of countries in the world.

According to the Report "Digital Infrastructure Policies and Regulations in the Asia-Pacific Region" (9/2019) of the international telecommunications union (ITU), ***the digital economy and digital society have the following basic characteristics*** (ITU, 9/2019)***:***

- *Digitisation*: essentially, when information is digitised it becomes readable and processable by electronic computers and this means data management and processing tasks that were previously undertaken manually can now be automated. The first types of information to be digitised were numerical but now all forms of information can be converted to digital formats and managed digitally including high resolution audiovisual content.

- *Connectivity*: When computers are connected by increasingly fast and reliable networks, digitised data can be shared across multiple systems leading to further efficiency gains this means. Connectivity occurs at many levels: person-to-person, person to machine, and machine to machine. One of the results of the smart phone revolution has been the 'personalisation' of computing nodes at the edge of the network. Smart phone is an intensely personal device and this means that the user experience can be personalised and optimised and that an enormous amount of data reference to individuals can be collected at low cost.

- *Accessibility*: accessibility arises from a combination of digitisation in connectivity. Access to digitised information over networks vastly decreases the cost of access and leads to further automation and new business models.

- *Automation*: automation is a core goal of the digital economy and, in addition to the examples described above, industry observers are now expecting a revolutionary era of automation in which increasingly sophisticated processes will be undertaken through extensive networks of cloud computing resources that are process using AI and machine learning techniques.

- *Efficiency*: Higher efficiency or productivity is ultimately directed to transforming scarce resources or inputs into products and services that consumers value. While greater efficiency clearly serves economic goals, it can also be a powerful contributor to the achievement of environmental sustainability.

So what is digital Transformation?

According to Gartner - the world's leading information technology research and consulting company, the definition of digital transformation is as follows: Digital transformation is the use of digital technologies to change business models, create new opportunities, revenue and value.

Microsoft believes that: Digital transformation is about rethinking how organizations bring together people, data, and processes to create new value.

From FPT's point of view, digital transformation in organizations and businesses is the process of changing from a traditional model to a digital enterprise by applying new technologies such as big data (Big Data), Internet of Things (IoT), cloud computing… changing operating methods, leadership, working processes, and company culture. Digital transformation brings many benefits such as cutting operating costs, reaching more customers in a longer time, leading to faster and more accurate decision making thanks to timely and transparent reporting system. Thereby, the operational efficiency and competitiveness of organizations and enterprises are improved[3].

The difference between digital transformation and digitization:

Digitization		***Digital transformation***
Data digitization	***Process digitization***	
Convert information from analog or physical form to digital form For example: Hard copies of documents are converted into soft files on the computer; Notes on paper imported into Excel spreadsheets or paper reports converted into PDF files file	Leverage digital data to simplify individual, organizational and corporate workflows. For example: Using CRM software, HRM… to optimize workflow; Use software to collect and analyze real-time data.	- The full integration of digital technologies into all areas of an enterprise, applying technologies to change the way of operation, business model and bring new values to customers. enterprise goods. - Digital transformation based on new technology applications (Big Data), Internet of Things (IoT), cloud computing (Cloud)…. To change the operating method, leadership, implementation process, and culture of the enterprise.
Manual process (Step 1)	Semi-automatic process (Step 2)	Automated process (Step 3)

The digital transformation process must inevitably produce:

(1) Big data: complete data about digital versions of entities.

(2) Means of collecting, storing and connecting big data: IoT, Cloud, Big data

(3) Big data processing engine: AI

(4) Appropriate policies for digital technology

(5) Human resources master digital technology

In the process of digital transformation, the construction and development of digital infrastructure is considered an extremely urgent requirement today and connection infrastructure is one of the core components of digital infrastructure.

According to the Report "Digital Infrastructure Policies and Regulations in the Asia-Pacific Region" of the international telecommunications union (ITU), *Digital infrastructure* is the key to enabling the benefits of the digital economy and society. Digital infrastructure is the physical hardware and associated software that enables end-to-end information and communications system to operate (ITU, 9/2019).

[3] https://ocd.vn/chuyen-doi-so-la-gi-ban-chat/

Digital infrastructure includes:

- Internet backbone including national and trans-oceanic fibre cables;

- Fixed broadband infrastructure such as analogue coaxial and optic fibre cable networks;

- Mobile communications infrastructure and networks including FWA, transmission towers, radio and optic fiber backhaul networks;

- Broadband communications satellites;

- Data and cloud computing facilities;

- End user equipment such as mobile handsets, PCs, modems and local Wi-Fi and Bluetooth networks;

- Software platforms including computer and mobile device operating systems as well as application programming interfaces; and

- Network edge devices such as sensors, robots, autonomous and semiautonomous vehicles, and other Internet of things facilitating devices and software.

According to the Digital Economy Report 2019, the components of digital infrastructure include: (1) ICT networks (the core digital infrastructure for connectivity); (2) data infrastructure (data centres, submarine cables and cloud infrastructure); (3) digital platforms; (4) digital devices and applications (United Nations, 2019).

Trends in emerging digital technologies include: (1) Blockchain technologies; (2) Three-dimensional printing; (3) Internet of things; (4) 5G mobile broadband; (5) Cloud computing; (6) Automation and robotics; (7) Artificial intelligence and data analytics (United Nations, 2019).

1.3. General theory of digital transformation in agriculture

Inevitability and benefits of digital transformation in agriculture:

Currently, the fourth industrial revolution is fundamentally changing the world's production. This revolution creates a driving force to promote in-depth development of manufacturing industries, reduce consumption of energy and raw materials, reduce harm to the environment, improve the quality of products and services, strongly promote the development of production. In particular, the fourth industrial revolution has comprehensively impacted all areas of production, including agricultural production; profound impact on all classes and strata in society, including farmers.

Agriculture is an important part of the national economy, is the main industry that creates jobs and income for farmers. For the agricultural sector, applying modern technological achievements of the 4.0 industrial revolution, especially digital technology, can help solve the challenges facing the industry: *Firstly*, production conditions production becomes more and more difficult (agricultural land area is shrinking due to the process of industrialization and urbanization taking place more and more strongly; the labor force in agriculture tends to decrease due to economic restructuring due to economic restructuring. and population aging; climate change makes traditional farming increasingly difficult and precarious…); *secondly*, the income level of consumers is increasing, so the demand for the quality of agricultural products is increasing, shifting from quantity to quality, diversity, abundance and friendliness with the living environment.

The rise of digital agriculture could be the most transformative and disruptive of all the industries, because digital agriculture not only will change how farmers farm their farms, but also will transform fundamentally every part of the agrifood value chain. Digital agriculture will affect the behaviour of farmers, and also affect the way that input providers, processing and retail companies market, price and sell their products. It can be applied to all aspects of agrifood systems and reflects a change in generalized management of resources towards highly optimized, individualized, intelligent and anticipatory management, in real time, hyperconnected and driven by data. For example, rather than treating all fields, crops and value chains uniformly, each could receive their own highly optimized management prescriptions and animals could be monitored and managed individually. Value chains could have traceability and coordination at the lowest level of granularity. The desired results of digital agriculture are systems of higher productivity, which are safe, anticipatory and adapted to the consequences of climate change, to offer greater food security, profitability and sustainability.

Therefore, in this report we classified digital technologies according to the following structure, based on the complexity and stage of penetration of these technologies in the agrifood sector: a) mobile devices and social media; b) precision agriculture and remote sensing technologies (IoT, GNSS, RTK, VRT, PLF, UAV and satellite imagery); c) Big Data, cloud, analytics and Cybersecurity; d) integration and coordination (blockchain, ERP, financing and insurance systems); e) intelligent systems (Deep Learning, Machine Learning and Artificial Intelligence and robotics and autonomous systems) (Food and Agriculture Organization of the United Nations, 2019)

According to The Digital technologies in agriculture and rural areas status report (2019) of Food and Agriculture Organization of the United Nations, *basic conditions for agricultural digital transformation include*:

Firstly, IT infrastructure and network in rural areas (Connectivity: mobile subscription and the access to broadband infrastructure; affordability: costs of ict tools as a precondition for adoption by rural population)

Secondly, Educational attainment, digital literacy and employment among rural communities (literacy rate and the gap between urban and rural areas; introduction of icts to the educational process; employment in the rural areas and agrifood sector;

Thirdly, Policies and programmes for enabling digital agriculture (institutional support and mechanisms include e-government services, e-agriculture services, doing agribusiness initiatives; policy regulation and frameworks; existing digital agriculture strategies)

Enablers for digital agriculture transformation include: (1) Use of digital technologies among rural population and farmers; (2) Digital skills among rural population (global trend on digital skills, digital skills gap between urban and rural areas); (3) Digital agripreneurial and innovation culture (Food and Agriculture Organization of the United Nations, 2019)

2. Method

In this article, the author uses secondary data to clarify the general theory of digital transformation and agricultural digital transformation; learn some typical digital village models in the world; analyzing the current situation of digital transformation of agriculture and rural areas in Vietnam in the context of the industrial revolution 4.0. Secondary data were obtained from government journals and websites.

3. Results

3.1. Typical agricultural and rural digital transformation models in the world

3.1.1. Digital Village model in EU

According to the European Rural Review No.26, smart villages will create 5 main drivers: *firstly*, responding to depopulation and demographic change; *secondly*, finding local solutions to public funding cuts and the centralisation of public services; *thirdly*, exploiting linkages with small towns and cities; *fourthly*, maximising the role of rural areas in the transition to a low-carbon, circular economy*; fifthly*, promoting the digital transformation of rural areas (European Network for Rural Development, 5/2018)

Since 2016, the European Commission has coordinated with the European Parliament to launch a pilot policy to build smart villages in the 2016-2020 period with the name "Europe acting for smart villages" in a number of countries and based on technology connected with indigenous values in order to preserve and develop European values, helping rural people have jobs and prosperous lives.

On the 11th of April 2017, the European Commission presented an “EU action for Smart Villages”, a document to launch reflections on villages of the future. It announces a series of initiatives within the EU rural development, regional development, research, transport, energy, and digital policies and funds. This Action Plan is a follow-up of the Cork Declaration of September 2016 in which one of the ten priorities is “investing in rural viability and vitality”. Smart Villages is a relatively new concept within the EU policy making. According to this EU action, Smart Villages refer to “rural areas and communities which build on their existing strengths and assets as well as on developing new areas.

The EU Action Plan presents 16 planned actions that will be implemented by 2020 to promote smart villages. The plan is a mix of actions, conferences or calls for proposals already scheduled before the Cork Declaration and some new actions more directly targeting the implementation of Smart Villages.

In April 2018, another declaration that was widely accepted in Europe was the Bled Declaration (Bled, Slovennia) titled “The Smarter Future of Rural Areas in the EU”. The Declaration calls for innovative and inclusive use of digital technologies; strengthened knowledge and entrepreneurship; and complementary support under EU funding instruments to boost the development of rural economies across the EU.

According to the Bled Declaration, the concept of a smart village should include: precision farming, various digital platforms (e-learning, e-health, e-administration, transport, gastronomy, social services, retail), shared economy, circular economy reducing waste and saving resources, bio-based economy, renewable energy, rural tourism, social innovations in rural services and entrepreneurship.

In the EU, the typical smart village models are the German Digital Village model. The German Digital Village project, implemented from 2015 to 2019 with a funding budget of about 4.5 million Euros. The main purposes of the project are: 1) Innovation in the smart rural ecosystem; 2) Building interdisciplinary solutions; 3) Create a culture of collaboration between the people, the local government; 4) Building sustainable solutions; 5) Develop cost-effective digital solutions.

3.1.2. Digital Village model in India

The Government of India launched different schemes for making strong base for farmers so that farmers of India can get the benefit of digital world in their farming business. The rural India has various panchayat. It is important to provide high speed internet connectivity to all panchayat so that all rural areas of India can have high speed internet connectivity. The central and state government of India set up a Core ICT infrastructure and the objective is to taking the digital literacy to the remotest locations of the India. The Department of Telecom (DoT) has established Bharat Broadband Networks Ltd. (BBNL) to spread out the National Optical fiber Network (NOFN). BBNL spread the optic fibre cable terminating in each of the 2,50,000 gram panchayats. In this way all panchayats in the India can have high speed internet connectivity. This will provide digitalization and connectivity to the local institutes like panchayat office, schools, health centre etc. After connecting the local institutes of the rural India with the internet, now the requirement is making the rural India digital literate. National Institute of Electronics and Information Technology [NIELIT] has identified more than 5000 facilitation centers across India for training on courses which literate the rural India about basic online activities. Under the umbrella of Digital India scheme, Department of Electronics and Information Technology [DeitY] launched Mobile seva through which government departments/agencies deliver public services to the people through mobile only (Jain, 2019)

Akodara village is located in Sabarkantha district of Gujarat. This village is known as “Digital Village” on 2, January, 2015. Akodara village was adopted by ICICI Bank under the Digital Village schemes in 2015. Akodara is known as Digital village and Cashless village. This village is known as the first Digital village of India. All mobile banking activities are done in Hindi, English and Gujarati languages. ICICI bank also provides training to the villagers about the processing of financial activities over the internet. The majority of the villagers are using electronic payment methods or digital methods for making payments. The majority of payments are done through SMS only and the payments are directly goes to the shopkeeper‟s accounts. The gram panchayat rented out the premises of village to ICICI Bank‟s rural branch. People in Akodara are using mobile phone for making payments of their different purchases. The village has their own website (http://akodara-digitalvillage.in) and people are using this website for different purpose. This village has wi-fi facility and people are using wi-fi for different online activities (Sonia Bhatt, 2020).

3.1.3. Model of information network village in Korea

Korea has attracted special attention from the world through the Information Network Village (INVIL) project. The main objective of the project is to close the gap between rural and urban areas, through increasing the availability of e-government services, and to raise people's living standards by promoting e-commerce. The project is expected to raise awareness of the local community in the application of information and communication technology to promote the regional economy through e-commerce transactions, education and public information. INVIL villages often create an environment using the Internet that provides residents with information, training them and guiding them to access various types of information closely related to daily life and business activities. livelihoods of residents, and more importantly, facilitate the formation of local communities and bring them together.

The INVIL project is a partnership between the Ministry of Public Affairs and Security of Korea (MOPAS) with local governments and each INVIL. MOPAS provides information infrastructure such as high-speed Internet connection, PC.... MOPAS is the governing body that establishes plans, budgets, legislation, and supports the network of cooperation between the organizations involved and promotes the project. The local government establishes and manages the information environment in each village, develops local content and centralizes administrative support and practical content, such as computer training, Internet applications, manage the site for local people especially in winter, when the crops are idle in 7 languages. Each INVIL organizes activity committees, manages village centers and develops profit models using the INVIL shopping website and INVIL experience for local people to participate and contribute to the activity sustainability of information networked villages.

The information villages of Korea are built as follows:

- Regarding communication infrastructure: Villages participating in INVIL must be located in locations where high-speed, low-cost Internet infrastructure can be built;

- INVIL Center in the Village: The INVIL Center in the village is built and equipped with facilities for training, as well as providing online public services to residents;

- Developing information content: In order to encourage the participation of residents, INVIL has organized and developed online education and training programs on IT application, exploitation and operation of e-commerce website, tourism. ecology… (including for people with disabilities, the elderly, leaders of villages and communes, etc.).

For farmers, the INVIL project also offers ways to increase people's income in a sustainable way, providing information platforms about crops, prices, farming methods, weather conditions, as well as a market information platform, connecting supply and demand of farmers' products, remote consulting services, medical information...

In addition, the project also encourages local residents to contribute to promoting their communities by posting local news on the website (new.invil.org) and forming clubs (community.invil.org).) on the Internet. By doing so, INVIL has enabled farmers to actively find their own way to manage their villages, develop a business model and seek sustainable development plans.

The successful experiences of the information network village model in Korea:

With these results, in 2011, the INVIL project became the first Korean public policy program to win the first prize of the United Nations Award for Public Service, in the category of "Promoting Participation in Public Services". policy making through innovative mechanisms”. The successful case of INVIL can be drawn through the following experiences:

Firstly, the village community is the center of development projects. The active participation of the people is a key factor in ensuring success. For projects applying information and communication technology, as well as digital transformation, training people to become digital citizens is a prerequisite solution.

Secondly, the application of information and communication technology, digital transformation is not a one-time infrastructure investment project, but must be continuously maintained, ensuring the sustainable development of the project. Even the criteria of the project must be continuously reviewed, updated and redesigned to match the realities of life.

Thirdly, the sharing of information and knowledge in implementation, not only between state agencies and enterprises, but also within the population community must also be focused.

Fourthly, applying information and communication technology, digital transformation is not only a solution to socio-economic problems in the short term, but also shapes a community and a country in the future. Therefore, the approach needs to be flexible, both according to a systematic design mechanism, as well as with inter-sectoral and inter-agency coordination, between localities and the central government, and between localities.

3.1.4. E-commerce for poverty alleviation in rural china (Taobao villages)

China's rapid development of e-commerce has begun to reshape production and consumption patterns as well as change people's daily lives. In 2014, the Alibaba Group, in collaboration with the government, launched the Rural Taobao Programme to help give rural residents greater access to a broader variety of goods and services and help farmers earn more by selling agricultural products directly to urban consumers in online platforms.

The programme has four main activities: 1) Setting up an e-commerce service network in counties and villages; 2) Improving logistical connections for villages through "two-stage delivery" shipping packages from county centres to villages; 3) Providing training in e-commerce and promoting entrepreneurship; and 4) Developing rural financial services through the AntFinancial subsidiary of Alibaba.

The Rural Taobao Programme has expanded rapidly, from 212 villages in 12 counties in 2014 to more than 30 000 villages in 1000 counties in 2018, spreading from the coast to inland. While over 95 percent of the Taobao Villages cluster in the eastern region, particularly in Zhejiang, Guangdong, and Jiangsu, they have started to spread to the inland region, going from four shops in 2014 to over 100 in 2018.

The formation of Taobao Villages broadly proceeded through three stages: 1) Version 1.0 was mainly about grassroots development: Villagers, often returned migrants with distinct entrepreneurial skills, led the establishment of online businesses and created models for other villagers to follow. Examples include the early Taobao Villages, such as Shaji in Jiangsu province. 2) As e-commerce developed and more Taobao Villages prospered, version 2.0 was accompanied by government support: Local governments provided direct support for infrastructure, e-commerce training, and finance. Examples include Jieyang in Guangdong province. 3) In recent years, as more Taobao Villages formed, the platform-ecosystem version 3.0 has emerged: Local governments are providing support through subsidies for specialized e-commerce service providers and firms to build an e-commerce ecosystem with e-platform companies. Tailored support to villagers includes training and developing suitable local online products and branding. This process is typical of Taobao Villages in locations where the industrial base is weak and human capital (entrepreneurship and skills) more limited. Examples include Xifeng in Guizhou province.

Its main activities consist of establishing and improving rural e-commerce public service, fostering rural e-commerce supply chains, promoting connectivity between agriculture and commerce, and enhancing e-commerce training. The programme grew quickly and by 2018 had supported 1016 demonstration counties, covering 737 poverty-stricken counties (89 percent of the total), including 137 counties with extreme poverty (41 percent of the total). The share of poverty-stricken counties among demonstration counties increased from 27 percent in 2014 to 45 percent in 2015 and 65 percent in 2016, while in 2017 and 2018, more than 90 percent were poverty-stricken counties, with the rest underdeveloped.

While further research is needed to clarify and quantify the relationship between e-commerce participation and household welfare improvement, numerous anecdotal cases show that people gain wealth and have better lives after participating in e-commerce. Women in particular seem to benefit and account for a large share of e-commerce entrepreneurs. The ratio of women to men entrepreneurs in e-commerce is at or near parity, compared to a ratio of 1:3 in traditional businesses. The average age of female entrepreneurs in traditional businesses is 47.6 while the online counterparts tend to be younger, with those aged 25-29 accounting for 30 percent and those aged 18–24 nearly 30 percent on the Taobao platform. The average age of online female entrepreneurs is 31.4.

Success stories in Taobao Villages suggest that digital technologies can contribute to inclusive growth in rural China. They can lower the required skill threshold allowing individuals, including the less educated, to participate in e-commerce and earn more. The experience in Taobao Villages has sparked strong interest among researchers, policy-makers and the private sector to explore the use of e-commerce as a tool for poverty alleviation and rural vitalization (Food and Agriculture Organization of the United Nations, 2019)

3.2. The reality of Vietnam's agricultural digital transformation in the context of the 4.0 industrial revolution

Vietnam is currently an agricultural country with rural areas accounting for 63% of the population, 66% of households, and 68% of working people; Agriculture accounts for 13.96% of GDP. The small, inefficient production model and lack of value chain linkages have always been a "serious disease" of Vietnam's agriculture.

In the context of industrial revolution 4.0, agricultural production in Vietnam is facing many challenges: Due to the increasing population, the demand for food is constantly increasing; agricultural land area is shrinking due to urbanization, so it is necessary to increase agricultural productivity to meet food security; Climate change is taking place strongly, creating great pressure on our country's agriculture; The process of international integration requires higher quality agricultural products. In addition, due to the impact of the Covid-19 pandemic, Vietnam's agricultural exports were at a standstill, the major export markets of China, the EU, and the US froze, plus the double impact of drought, saltwater intrusion and Floods and storms, Vietnam's agriculture witnessed the loss of crops, bankruptcies of businesses and a series of immediate difficulties. Therefore, agricultural digital transformation is an inevitable trend to develop a modern and sustainable Vietnamese agriculture.

To adapt to the new situation and take advantage of the opportunities brought by the industrial revolution 4.0, Vietnam has issued Resolution No. 52-NQ/TW (September 27, 2019) on a number of undertakings and policies to actively participate in the fourth industrial revolution, which emphasizes the urgent need to accelerate the digital transformation process. On that basis, the Prime Minister signed Decision No. 2289/QD-TT (December 31, 2020) promulgating the National Strategy on the fourth industrial revolution to 2030; Decision No.749/QD-TTg (June 3, 2020) approving the national digital transformation program to 2025, with orientation to 2030.

The Digital Transformation Program in Vietnam has three main pillars: digital government, digital economy and digital society. The basics of this program include: 1) Awareness plays a decisive role in digital transformation; 2) People are at the heart of digital transformation; 3) Institutions and technology are the drivers of digital transformation; 4) Developing a digital platform is a breakthrough solution to promote faster digital transformation, reduce costs, and increase efficiency; 5) Ensuring network safety and security is the key to successful and sustainable digital transformation, and at the same time is an integral and integral part of digital transformation; 6) The participation of the whole political system, synchronous action at all levels and the participation of the whole people are factors to ensure the success of digital transformation.

The National Digital Transformation Program has introduced many important solutions to support the digital transformation of agriculture, farmers and rural areas towards the goal of building a new countryside to improve the material and spiritual life of the people. citizen; have appropriate socio-economic infrastructure; economic structure and forms of production organization rationally, linking agricultural development with industry and service; linking rural development with urban areas; a democratic, equal and stable rural society, rich in national cultural identity; ecological environment is protected; national defense and security, order is maintained.

In recent years, the agricultural industry has begun to pay more attention to many digital transformation solutions and applications in almost all fields.

In farming, IoT and Big Data technologies have begun to be applied through digital technology products such as software that allows analysis of data on the environment, plant types and growth stages, and consumers. can retrieve and monitor these parameters in real time…

IOT technology, Blockchain, biotechnology are widely applied in large-scale livestock farms. The dairy industry applies digital technology the most, with the prominent models being the modern farms of TH TrueMilk Group and Vinamilk Company.

In forestry, applying DND technology in the management of forest varieties and forest products; GIS technology and remote sensing images to build software for early detection and warning of forest fires from satellite images, monitoring and early detection software for deforestation, forest degradation...

In fisheries, digital transformation is also strong such as the use of ultrasonic fish detectors, flow meters, satellite phones; seine receiver (standing); capture and drop net capture system, GIS technology and global positioning system (GPS) to help manage offshore fishing fleet. Applying biotechnology selectively, breeding varieties with high yield, quality, disease resistance, good tolerance to the environment, circulating aquaculture technology (RAS), biofloc technology, technology nanotechnology, marine cage culture technology, cold water fish farming technology.

Artificial intelligence technology has been used in shrimp farming to analyze water quality data; feed management and health of farmed shrimp. Automation technology has been widely applied in seafood processing from sorting, steaming, packaging, production lines..., helping to reduce production costs and ensure the quality of seafood products. ...

In the context of industrial revolution 4.0, Vietnam has researched and learned from typical smart village models in the world (EU, India, Korea, China...). Vietnam is also making efforts to implement "smart villages, connected communes" projects with Vietnamese identity, in order to bridge the gap between urban and rural areas, and improve the lives of rural residents.

In September 2020, the Ministry of Agriculture and Rural Development coordinated with the Ministry of Information and Communications to organize a seminar on digital transformation and smart new rural orientation for the period 2021 - 2025. Experts from the Digital Agriculture Cooperative at the Workshop, the "smart village, connected commune" model in Vietnam is a community of hamlets, villages and communes in rural areas using innovative solutions based on local strengths and opportunities, on a participatory, shared approach to developing and implementing economic and social strategies to improve economic, social and environmental conditions, especially differentiated by mobilizing digital technology solutions. The model of "smart village, connected commune" promises to form truly civilized and modern rural areas while still preserving the cultural identity of traditional villages.

The Ministry of Agriculture and Rural Development and the Ministry of Information and Communications jointly have an idea to submit to the Government to develop a project to bring information technology and digital transformation into one of the criteria for building a new countryside in the 2021 period. - 2025. Specifically, digital transformation infrastructure will be essential infrastructure, including broadband connection infrastructure with fiber optic cable covering rural areas, followed by 4G connection infrastructure, then 5G. How can every citizen have access to internet connection through basic connection systems at reasonable costs….

Experts and researchers believe that the construction of smart villages and connected communes in Vietnam needs to start from people, take people as the object of service, build the most direct connections, save money. as complete as possible. Accordingly, smart villages and connected communes will include components of smart institutions, smart people (trained and professional), smart government and smart agriculture.

4. Discussion and Conclusion

4.1. Basic solutions to digital transformation of agriculture in Viet Nam

Basic solutions to digital transformation of agriculture in Vietnam include:

Firstly, develop hi-tech agriculture in the direction of focusing on smart agriculture and precision agriculture, increasing the proportion of digital agriculture in the economy. Implementing digital transformation in agriculture must be based on data. Focus on building big data systems of the industry such as land, crops, livestock and fisheries. Building an integrated observation and monitoring network in the air and on the ground for agricultural activities. Promote the provision of information on the environment, weather, and land quality for farmers to improve productivity and crop quality, and support the sharing of agricultural equipment through digital platforms.

Secondly, apply digital technology to automate production and business processes; managing and monitoring the origin and supply chain of products, ensuring fast, transparent, accurate, safe, and food hygiene. Consider piloting the implementation of the initiative "Each farmer is a trader, each cooperative is an enterprise applying digital technology" with the goal that each farmer will be oriented and trained in digital technology application in the future. produce, supply, distribute, forecast (price, season, ...) agricultural products, promote the development of e-commerce in agriculture.

Thirdly, implement strong digital transformation in management to have timely policies and administration for agricultural development such as forecasting, market warning, planning management.

4.2. Conclusion

In summary, in the context of the industrial revolution 4.0, digital transformation is a global trend and a top concern of countries, including Viet Nam. Vietnam is currently an agricultural country with rural areas accounting for 63% of the population. Agriculture and rural digital transformation in Vietnam is of particular importance to overcome the challenges facing the agricultural sector, to close the gap between rural and urban areas and to improve the living standards of farmers.

5. References

1. Ali Research (2014), Research Report of Taobao Villages in China, 阿里研究，中国淘宝村研究报告 (2014), Retrieved from http://www.199it.com/archives/316574.html.
2. Digital Infrastructure Plan – Update (1/2020), Retrieved from https://www.toronto.ca/legdocs/mmis/2020/ex/bgrd/backgroundfile-141665.pdf.
3. Decision No.749/QD-TTg approving the national digital transformation program to 2025, with orientation to 2030 (June 3, 2020), Retrieved from

https://thuvienphapluat.vn/van-ban/Cong-nghe-thong-tin/Quyet-dinh-749-QD-TTg-2020-phe-duyet-Chuong-trinh-Chuyen-doi-so-quoc-gia-444136.aspx.

4. Decision No.1600/QD-TT (16/8/2016) Approving the National Target Program on New Rural Development for the 2016-2020 period. Retrieved from https://thuvienphapluat.vn/van-ban/Van-hoa-Xa-hoi/Quyet-dinh-1600-QD-ttg-chuong-trinh-muc-tieu-quoc-gia-xay-dung-nong-thon-moi-2016-2020-320132.aspx.

5. European Network for Rural Development (5/2018), EU rural review No 26. Smart villages revitalising rural services. Retrieved from https://enrd.ec.europa.eu.

6. European Network for Rural Development. Digital Villages Germany. Truy cập tại https://enrd.ec.europa.eu/sites/default/files/tg_smart-villages_case-study_de.pdf.

7. Food and Agriculture Organization of the United Nations (2019), Digital technologies in agriculture and rural areas status report, Retrieved from http://www.fao.org/3/ca4985en/ca4985en.pdf.

8. International telecommunications union (ITU) (9/2019) Digital Infrastructure Policy and Regulation in the Asia-Pacific Region, Retrieved from https://www.itu.int/en/ITU-D/Regional-Presence/AsiaPacific/SiteAssets/Pages/Events/2019/RRITP2019/ASP/ITU_2019_Digital_Infrastructure_5Sep2019FNL.pdf

9. Klaus Schwab (2018), The Fourth industrial revolution. World Economic Forum.

10. Man Chul Jung, Sora Park, Jee Young Lee (2014). Information Network Villages A community-focused digital divide reduction policy in rural Korea. Australian journal of telecommunications and the digital economy, volume 2, number 1, ISSN 2203-1693. http://doi.org/10.7790/ajtde.v2n1.21.

11. Resolution No. 52-NQ/TW on a number of guidelines and policies to actively participate in the fourth industrial revolution, Retrieved from https://thuvienphapluat.vn/van-ban/Dau-tu/Nghi-quyet-52-NQ-TW-2019-chinh-sach-chu-dong-tham-gia-cuoc-Cach-mang-cong-nghiep-lan-thu-tu-425113.aspx.

12. Sora Park, Man-Chul Jung, Jee Young Lee (2014). Information Network Villages: A community-focused digital divide reduction policy in rural Korea. Journal of Telecommunications and the Digital Economy. 2(1):21.1-21.16.

13. Sonia Bhatt (2020). Digitalization of Rural India - Digital Village, VISION: Journal of Indian Taxation Vol. 7 (1), Jan-Jun 2020, pp. 83-93 DOI: 10.17492/vision.v7i1.195413. https://www.journalpressindia.com.

14. United Nations (2019), Digital Economy Report 2019, Retrieved from https://unctad.org/en/PublicationsLibrary/der2019_en.pdf.

15. Jain, R. (2019). A study of e-consumers in India. PRAGATI: Journal of Indian Economy, 6(1), 112-121.

EVALUATING THE EFFECTIVENESS OF CAREER SELECTION THROUGH COLLEGE ADMISSIONS COUNSELING VIA FACEBOOK

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Abstract

Facebook is the leading medium which is used for communication during the COVID-19 pandemic in Vietnam. Due to social distancing by this pandemic, the way college admissions counseling must also change by remote consultation. This paper examines the impact of facebook usage on students' career selection. In addition, it also analyse the effectiveness of career selection through college admission advisory based on facebook. Empirical data was collected from 6.404 freshmans using questionnaire survey at National Economics University, Vietnam. The obtained results show that high school students often search for admission information via Facebook and then the university's website.

Key words: *Admission; Facebook; Freshman; Recruitment*

1. Introduction

Nowadays, it can be recognized that students are as digital members of the Net Generation because they were born in the digital age and digital technology has affected them from an early age (Prensky, 2010; Thompson, 2013; Laura, Genevieve, Beth, & Matthew, 2020; Arteaga, Cortijo, Javed, 2014; Aiman, Adrienne, Cathy, Nijina, Maria, 2021). This Generation is considered as groups of young people who live in a computer-based environment. This has brought a completely new approach of learning, thinking and sharing. In today's world, one of the most effective mechanisms of communication is social media. There were 4.2 billion active social media users and 4.66 billion active internet users by January 2021. 4.2 billion active social media users show the penetration of social media.

The most popular social media worldwide is Facebook with more than 2.6 billion monthly active users (Statista, 2021). It has become unprecedent popularity among college students both in their academic and social life. The distribution of facebook users aged 18-24 by gender worldwide as of January 2021 was 9.6% for women and 14.2% for men, respectively (Statista, 2021). Thompson and Lougheed (2012) found that 80.24% of college students suppose that using Facebook is an important factor in college social culture.

Recently, a study (Kayla, H., 2018) that detailed recruitment information from a large online study of family caregivers aimed to develop a method to assess how family caregivers control stress day-by-day. Twitter and Facebook was used for these recruiting strategies. Here, Facebook was the most effective to target family caregivers with 86% of the sample. This research also points out that the use of social media recruitment methods should be very attractive because of cheap price, simplicity, and efficient methods for large samples.

A lot of features for users such as posting photos, updating status, livestreaming video, updating wall, reading news feed, giving comments, giving likes, messaging, forming groups, managing fanpage, playing games, creating events, online marketing, taking notes and chatting in the groups are provided by facebook (Ryan & Xenos, 2011; Silvia, Giulia, 2018). A number of advantages have been shown when using Facebook, such as generating new ideas, a chance to make new friends, getting someone to do things (Dholakia, Bagozzi & Pearo, 2004), higher-level of life satisfaction (Valenzuela, Park, & Kee, 2009), the need for admiration and to belong (Silvia, Giulia, 2018), knowledge sharing, information distribution, quick feedback (Seo, Kim, & Yang, 2016), making social circle strong, learning new ideas, and information-seeking (Syed, Wasim, Nida, Muhammad, Shahzad, 2020), and bridging and bonding social capital (Phua, Jin, & Kim, 2017).

Although students have considered Facebook as a social technology rather than a formal teaching tool (Madge et al., 2009; Shihui, Yip, Lai, Liaquat, 2019; Mazman & Usluel, 2009; Reynol, 2012; Selwyn, 2009; Hong et al., 2014), students' performance could be impacted significantly by Facebook. Recently, the potential of social media platforms, such as Facebook, WhatsApp, Twitter, and Instagram, were also explored to use for enhancing students' active learning (Isaiah, Mark, Tijana, 2019; Stone and Logan, 2018).

Vietnam is among one of the Asian countries which lie in Southeast Asia. The total population of Vietnam is 98,168,833 in the year 2021 (internetworldstats, 2021). Statitics reveal that Vietnam is among the top seven countries in terms of number of Facebook users with more than 68 millions accounts in the first quarter of 2021 (Statista, 2021).

If we, as educators, wish to make strong connections with our future students and engage them with the admission documents we want them to consider choosing, we need to fit our approach strategies to their lifestyles. It is necessary to move from a traditional admissions counseling to digital one, especially in COVID-19 pandemics.

2. Literature review

2.1. Employer branding, and Social media

The Internet completely assists recruitment at the same time for recruiters and those being recruited (Carrillat et al., 2014). Social network platforms are a main source of future talent who are availble to recruit at a low cost and very easily. These social networks futher reveal valuable information that was previously unreachable to recruiters. For that reason, implicit employers exert to expand their digital presence, attractiveness, and reputation, which are important to their ability to attract talented employees. Recruiters hold on their own profiles, design their pages for business, animate their blogs, send their newsletters, and enter into professional communities. Social networks are also used to check and add the information supplied by their implicit employees. Besides, automated tools are constantly used to scan social networks in search of the rare pearl (Faliagka et al., 2012). However, these social networks are creating a risen pressure in recruiters to work faster and occlude more diversified and much bigger information flows to search the suitable candidates for their jobs.

Recruitment based on social media through 4 different ways: (1) as a connector, it allows quick and direct contact between job seekers and employers, (2) along with the growth of the employer‘s reputation, it contributes to the brand, the visibility and the attractiveness of the business and motivates the candidate to contact, (3) together with transparency relationships, it contributes to increased trust, richer and more humane exchanges, far from job interviews, and (4) identifying specifically the proposed job data, which conducts to a gradual ranking of candidates according to individual and fair criteria. On the other hand, social networks also create a form of snatching and uncertainty that makes it hard to follow and master the flows of talent (Kumar et al., 2018; Mas and Gómez, 2020).

The attracting employees are the target of employer branding through cultivating unique and compelling perceptions of a company in the potential candidates' minds (Mandhanya & Maitri, 2010). Some authors (Michaels et al., 2001, p. 1) show the "war for talent," in which battles between companies are to recruit skilled candidates. Now, the trend of candidates who often switch jobs during their careers makes this war seriously (Verma & Ahmad, 2016). This tendency could lead to a situation in which battle for the best candidates will be as intense as that for clients (Sehgal & Malati, 2013).

To cope with the challenges of attracting a limited number of talented employees, companies need to conduct employment marketing activities in multichannel systems. Social media is one of the most effective and newest channels for employment marketing (Simon, Anne, Robbert, Mariët, 2021); Dimitri, Jan, 2019; Kayla, Jaclene, Kate, 2018; Kaur, Sharma, Kaur, & Sharma, 2015).

An electronic recruitment flyer was made with appropriate study information consisting of the study's purpose, eligibility criteria, expected timetable, and contact information before either social media profile was created. The study flyer was posted on Facebook and Twitter. A link to the Qualtrics survey from social media platforms such as Facebook and Twitter was clicked by potential candidates. After that, they were prompted to reply eligibility questions. If the latent candidates are suitable for the criteria, they were then automatically forwarded to the online approval form (Kayla, Jaclene, Kate, 2018).

A recruitment strategy for research used the social media is a new recruitment approach because social media is a new technological environment. Some authors have successfully applied these media as a recruitment tool in caregivers of persons with cancer (Pohlig et al., 2017; Gage-Bouchard et al., 2017), diabetes (Scarton et al., 2017), dementia disorders (Bateman & Brady, 2017; Dam, Van Boxtel, Rozendaal, Verhey, & Vugt, 2017) as well as family caregivers (Kayla, Jaclene, Kate, 2018).

2.1. Recruitment of high quality students

Freshman recruitment for all universities in the world is a very important topic. This recruitment process includes those activities and practices conducted by the universities or independent organization. Its main target is attracting potential candidates (Winter & Melloy, 2005). The international student recruitment management was studied elsewhere. The international student recruitment was investigated from considered institutional elements and an institutional perspective that can have an effect on recruitment (Ross, Heaney, and Cooper, 2007). The global trend was studied in recruiting engineering and technology freshman (Islam, 2003). This study‘s purpose is to persuade and entrain best students to enter on technology and engineering specialities. The related target areas have been identified such as: to have an effect on the candidates to technology and engineering vocation in the K-12 level, to modify the admission standards, to investigate the global accreditation need of technology and engineering programs, to kick off special drive to be attractive for underrepresented groups as well as solving employment opportunities and social status. The recruitment of undergraduate Geographers was studied in Enland and Wales (Croot and Chalkley, 1999). Besides a national-level evaluation, the streams of applications and enrolments between localities were also identified and discussed in this study. Some important components was found such as interested subject, prestigious course, job opportunities, teacher advice and etc that is very important for students in making decision concerning on selection of courses or university (Maringe, 2006).

3. Method

3.1. Data sample and measures

To analyze the effectiveness of the recruitment marketing process on Facebook, we selected a survey of freshmans of the National Economics University, Vietnam. We chose this university because it is a top famous university in Vietnam specializing in the fields of economics, management and business administration. The study was conducted online from

October 8th, 2020 to November 14th, 2020. This study period was the first time that freshman learnt offline at university after entrance admission. This investigation aimed to explore the students' decision-making regarding collecting recruitment marketing process on Facebook. The covering criteria of the study were measured by self-report.

3.2. Survey instrument

A self-completed, cross-sectional, nameless online survey was designed in the google form. Freshman entered the survey through scanning QR code or a direct link to the google form included on a formal Fanpage designed for the study. The Member Information Declaration became visible in the first line of survey before any survey questions were seen, and notified contributors that fulfillment of the questionnaire was considered as agreement to join. In addition, this declaration strenthened that this survey was nameless as well as did not collect any identifying data.

3.3. Data collection and analysis

The data were directly downloaded as an Excel file from Goole form data. The obtained data were preliminarily processed through Microsoft Excel. After that, secondary data were run on SPSS 22.0 software. The demographic characteristics of the sample and their use of Facebook were illustrated by descriptive statistics.

4. Results

Among all participants, the number of female students accounted for more than 70%. This is a fact that most female students prefer to study economics, management and business administration. The survey results show that the majority of freshmen have a birth year of 2002 (95.60%), which means they have just graduated from high school. There are 11 students going to school before their required age, accounting for 0.17%. The rest are students born in 2001 or earlier (table 1). The results in table 1 also showed that the number of students from towns accounted for the largest proportion with 33.55%. After that, students from rural areas took second place with 29.28%. The third place belongs to students from big cities with 25.25%. The rest are students from other regions.

There are 4021 (76.2%) students responding that the major they are studying is right for their interest. In contrast, 1446 (23.8%) respondents said that the current major is not their original interest.

Table 1. Sample demographics

		Frequency	Valid Percent	Cumulative Percent
Gender				
	Male	1873	29.23	29.23

	Female	4503	70.27	99.50
	Unknown	28	0.50	100.00
	Total	6404	100.00	
Year of Birth				
	1995	1	0.02	0.02
	1997	3	0.05	0.07
	1999	7	0.11	0.18
	2000	33	0.52	0.70
	2001	227	3.54	4.24
	2002	6122	95.59	99,83
	2003	11	0.17	100
	Total	6404	100	
Living area of freshman before entering NEU				
	Rural area	1876	29.29	29.29
	Town	2148	33.54	62.83
	City	1618	25.27	88.1
	Mountainous area	643	10.04	98.14
	High mountainous area	90	1.41	99.55
	Border area	9	0.14	99.69
	Island	20	0.31	100
	Total	6404	100	

Since the Covid-19 pandemic broke out in Vietnam in early 2020, students in localities have been converted to e-learning. Therefore, students are facilitated to have access to the internet through different forms.

With the results of using the devices for entering the internet, the internet connection service also includes 4 main types. Wifi connection is the highest with 5596 options to use (87.33%); followed by 3G/4G networks with 618 options to use (9.64%); the wired network and Bluetooth are the rest.

In table 2, the device used accessing the Internet typically consists of 4 types including desktops, tablets, laptops, and smart phones. In which, smartphones are used frequently and with the greatest frequency. The number of respondents to the question of using smartphones is also the highest with 6269 students. 52.52% of respondents say that they have used smartphones very often. Besides, 40.48% of respondents say that they have often used smartphones to access the Internet. Using laptops seems to be less with 12.34% of respondents saying that they always use laptops to access the internet. The percentage of respondents who regularly and occasionally use laptops accounted for 35.49% and 36.49%, respectively. Meanwhile, the percentage of respondents who never and rarely use the desktop is 23.17% and 34.33%, respectively. This figure is higher with tablet usage rate of 43.30% and 27.95% respectively for never and rarely used. This shows that, in the era of rapidly developing technology, smartphones and laptops are two devices that are applied a lot to serve the work daily activities of individuals. Today, desktops and tablets are no longer common. Desktops do not have many conveniences such as not being able to carry them to work, bulky size, etc. Tablets are also inconvenient during use, although their functionality is not much different from smartphones and laptops. According to this result, during the COVID-19 pandemic, smartphones are mainly used by students for e-learning as well as Internet access due to low price, their popularity and easier internet connection. This is consistent with the results of using e-learning devices, smartphones and laptops, mainly using wifi and 3G/ 4G connection services. In addition, wifi is used more generally because of their convenience such as high capacity, high-speed lines and cheap prices, while 3G / 4G networks have higher usage fees and they are often limited in the capacity of internet connection per day. Besides, desktops use wired networks. Although internet connection used a wired network is faster, easier and more stable, it is not possible for students to install this system during the unexpected COVID-19 outbreak and it is also inconvenient to carry. The wifi network is considered to be a slower Internet connection than a wired network, but the flexibility of wifi allows students to access the internet from neighbors to serve their studies without having to install the cable.

Table 2. Devices employed for accessing the internet

		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	Wifi	5596	87.38	89.26	89.26
	Wired Network	49	0.77	0.78	90.05
	3G/4G	618	9.65	9.86	99.90
	Bluetooth	6	0.09	0.10	100.00
	Total	6269	97.89	100.00	
Missing		135	2.11		
Total		6404	100		

Smart phone	Never	43	0.67	0.69	0.69
	Rarely	130	2.03	2.08	2.76
	Occasionally	265	4.14	4.23	6.99
	Often	2535	39.58	40.48	47.48
	Always	3289	51.36	52.52	100.00
	Total	6262	97.78	100	
Missing		142	2.22		
Total		6404	100		
Laptop	Never	366	5.72	5.89	5.89
	Rarely	608	9.49	9.78	15.67
	Occasionally	2268	35.42	36.49	52.16
	Often	2206	34.45	35.49	87.66
	Always	767	11.98	12.34	100
	Total	6215	97.05	100	
Missing		189	2.95		
Total		6404	100		
Desktop	Never	1409	22.00	23.17	23.17
	Rarely	2088	32.60	34.33	57.50
	Occasionally	1672	26.11	27.49	84.99
	Often	673	10.51	11.07	96.05
	Always	240	3.75	3.95	100
	Total	6082	94.97	100	
Missing		322	5.03		
Total		6404	100		
Tablet	Never	2627	41.02	43.30	43.30
	Rarely	1696	26.48	27.95	71.25
	Occasionally	1095	17.10	18.05	89.30
	Often	449	7.01	7.40	96.70
	Always	200	3.12	3.30	100
	Total	6067	94.74	100	
Missing		333	5.26		
Total		6404	100		

Related to the obtained results, 20.39% and 33.87% of the sample is the percentage of students accessing Facebook for 1 hour and 2 hours per day, respectively (see Table 3). Meanwhile, 23.18% of the sample spends an average of 3 hours on Facebook. Furthermore, the percentage of students who are on Facebook for more than 4 hours accounts for 16.79%. Only 5.77% of students are on Facebook for less than 30 minutes a day. This result shows that the daily rate of students accessing Facebook for 1 hour or more is very high, accounting for 94.23%. Students reported spending a mean of 3.25 hours (SD 1.130) per day for accessing the Facebook. This is less than 4.5 hours per day that Taiwanese university students are on Facebook (Hong et al., 2014). However, related to the study by Thompson and Lougheed (2012), which set the indicator of Facebook addiction at usage of more than one hour, this would indicate that nearly 80% of university students have reached the behavioral standard for Facebook addiction.

Table 3. Time spent on Facebook

		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	<=30 minutes	363	5.67	5.77	5.77
	1 hour	1283	20.03	20.39	26.16
	2 hours	2131	33.28	33.87	60.04
	3 hours	1458	22.77	23.18	83.21
	>=4 hours	1056	16.49	16.79	100
	Total	6291	98.24	100	
Missing		113	1.76		
Total		6404	100		

According to the data in Table 4, 50.85% of the respondents chose the field of study according to their hobby. Meanwhile, up to 32.42% of respondents said that they chose their current major because they did not have enough points to enter the desired major. Only 6.91% and 3.20% of the respondents answered that their current major is advised by family members and teachers or friends, respectively. Furthermore, 6.63% of the respondents enrolled in their current major by chance. This is a fact because National Economics University (NEU) is a leading university in economics, management and business administration in Vietnam, so the annual entry points of students are often very high and are not the same between different majors. In addition, high school students can be enrolled in many different subjects at the same time for admissions department of NEU to consider.

Table 4. Reasons for choosing a major

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Hobby	3151	49.17	50.85	50.85
	Not enough points to enter the desired major	2009	31.35	32.42	83.27
	Family members' advice	428	6.68	6.91	90.17
	Teachers and friends' advice	198	3.09	3.20	93.37
	Random	411	6.41	6.63	100
	Total	6197	96.71	100	
Missing		211	3.29		
Total		6408	100		

As the leading university in Vietnam training in economics, management and business administration, this criterion plays the most decisive role in the students' choice (82.37%). Followed by the long tradition and reputation of NEU, the second decision comes to the student's choice (69.71%). Successful alumni network determines 51.05% of students' intention to choose a University. Other factors such as having many majors, easy to find a job, and the opportunity to have a high income only partly determine the tendency of students to choose a university with rates of 45.24%, 45.18% and 28.42%, respectively.

Table 5. Statistical data on the reasons for choosing NEU

Reasons for choosing NEU	Frequency	Percent (%)
Long tradition and reputation	4467	69.71
Successful alumni network	3271	51.05
Many majors	2899	45.24
Easy to find a job	2895	45.18
Have chance to earn high income	1821	28.42
Have chance to be leader	877	13.69
Many beautiful boys and girls	1627	25.39
Best university in economics, management and business administration in Vietnam	5278	82.37
My relatives study at NEU	729	11.38
Total	6404	100

Students' awareness of admissions information was assessed using a five-point Likert scale: strongly disagree, disagree, neither agree nor disagree, agree or strongly agree (Table 6). This study found that university students had the most access to NEU admissions information via Facebook with an average value of 4.33, followed by website of NEU and internet, with an average of 3.58 and 3.56, respectively. Besides, the average value of NEU-tour, In-person counseling sessions are held locally by NEU, leaflets, radio stations are all lower than 2.

Table 6. Summary of items to measuring students' awareness of NEU admissions information

	N	Min	Max	Mean		Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Std. Error	Statistic	Std. Error
Television	6404	1	5	2.61	.014	1.102	.335	.031	-.422	.061
Radio	6404	1	5	1.89	.013	1.052	1.015	.031	.319	.061
Internet	6404	1	5	3.56	.013	1.077	-.476	.031	-.403	.061
Facebook	6404	1	5	4.33	.011	.849	-1.351	.031	1.625	.061
Teachers and classmate	6404	1	5	3.48	.012	.961	-.312	.031	-.286	.061
Website of NEU	6404	1	5	3.58	.014	1.128	-.452	.031	-.553	.061
Leaflets	6404	1	5	1.93	.013	1.067	.956	.031	.140	.061
Family members	6404	1	5	3.10	.014	1.091	-.151	.031	-.591	.061
Admission counseling sessions of previous years	6404	1	5	2.56	.015	1.212	.342	.031	-.802	.061
Admission counseling session organized by Tuoi Tre Newspaper in 2020	6404	1	5	2.06	.015	1.193	.908	.031	-.166	.061
In-person counseling sessions are held locally by NEU	6404	1	5	1.97	.015	1.237	1.062	.031	-.022	.061
NEU tours	6404	1	5	1.53	.012	.981	2.008	.031	3.423	.061
Valid N (listwise)	6404									

Table 7. Summary of items to measuring student evaluation concerning on the importance of admission counseling via Facebook

	N	Min	Max	Mean		Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Std. Error	Statistic	Std. Error
Increase direct reply on enrollment news	6243	1	5	1.61	.009	.705	1.179	.031	2.101	.062
Run admission information advertisement	6205	1	5	2.62	.012	.944	.222	.031	.073	.062
Increase enrollment information sharing	6229	1	5	1.83	.010	.799	.871	.031	.967	.062
Strengthen news, introduction to the field of study	6228	1	5	1.59	.009	.731	1.281	.031	2.078	.062
Increase news and articles on job opportunities after graduation	6200	1	5	1.67	.010	.785	1.127	.031	1.370	.062
Increase news on NEU activities	6208	1	5	1.78	.010	.764	.870	.031	.969	.062
Enhancing the beautiful images of students of NEU	6205	1	5	2.16	.011	.873	.432	.031	.021	.062
Increased introduction of typical students	6213	1	5	2.15	.011	.849	.405	.031	.043	.062
Increased introduction of typical alumni	6203	1	5	2.11	.011	.847	.465	.031	.114	.062
Enhance the introduction of arts, sports and extracurricular activities	6206	1	5	1.94	.010	.814	.713	.031	.644	.062
Increased introduction of scientific research activities	6198	1	5	1.97	.010	.812	.649	.031	.511	.062
Increased introduction of students' internship activities	6206	1	5	1.72	.010	.772	1.059	.031	1.495	.062
Valid N (listwise)	5963									

Evaluation of students related to the importance of admission counseling via Facebook was rated using a five-point Likert scale: strongly agree, agree, neither agree nor disagree, disagree or strongly disagree (Table 7). We inverted the scale of the question in this table from the questions in table 6 to make sure that students read the question carefully before answering. All items have an average mean of less than 2.7. In which, the items with average value below 2.0 are Strengthen news, introduction to the field of study, Increase direct reply on enrollment news, Increase news and articles on job opportunities after graduation, Increased introduction of students' internship activities, Increase news on NEU activities, Increase enrollment information sharing, Enhance the introduction of arts, sports and extracurricular activities and Increased introduction of scientific research activities. Strengthen news, introduction to the field of study and Increase direct reply on enrollment news are the two items rated as the most important by students with values of 1.59 and 1.61, respectively. This shows that students want to find more information about their majors as well as receive direct answers from the admissions department on the Facebook platform.

4. Conclusion

In the current period, the young generation in Vietnam is regularly using social networks, typically Facebook. The average time they spend on Facebook 3.25 hours (SD 1,130) per day. Therefore, educators or those who work in the admissions department of universities should pay more attention to the issue of enrollment counseling through this social network in order to recruit best students. In addition, those who work as administrators of University's fanpage need to research and enhance the information that students are most interested in, in order to be able to meet the requirements of students.

5. References

1. Aiman, E., Adrienne, K., Cathy, S., Nijina, M.N., Maria, L. (2021). Children's services for the digital age: A qualitative study into current procedures and online risks among service users. *Children and Youth Services Review,* 122, 105872.

2. Arteaga Sánchez, S., Cortijo, V., Javed, U. (2014). Students' perceptions of Facebook for academic purposes. *Computer & Education*, 70, 138-149.

3. Bateman, D. R., & Brady, E. (2017). Comparing crowdsourcing and friendsourcing: A social media-based feasibility study to support Alzheimer disease caregivers. *JMIR Research Protocols,* 6(4), e56.

4. Carrillat, F.A., d'Astous, A., Morissette Gr´egoire, E., 2014. Leveraging social media to enhance recruitment effectiveness: a facebook experiment. *Internet Research*, 24 (4), 474–495, 10.1108/IntR-07-2013-0142.

5. Croot, D., & Chalkley (1999). Student recruitment and the geography of undergraduate geographers in England and Wales. *Journal of Geography in Higher Education*, 23(1), 21–47.

6. Dam, A.H., Van Boxtel, M.J., Rozendaal, N., Verhey, F.J., & de Vugt, M.E. (2017). Development and feasibility of Inlife: A pilot study of an online social support intervention for informal caregivers of people with dementia. *PLoS ONE*, 12(9), 1–17.

7. Dholakia, U. M., Bagozzi, R. P., & Pearo, L. K. (2004). A social influence model of consumer participation in network- and small- group based virtual communities. *International Journal of Research in Marketing*, 21, 241-263.

8. Dimitri, G., Jan H. S. (2019). Influence of company Facebook activities on recruitment success. *Journal of Business Research*, 104, 161–169.

9. Faliagka, E., Tsakalidis, A., Tzimas, G. (2012). An integrated e-recruitment system for automated personality mining and applicant ranking. *Internet Research*, 22 (5), 551–568, 10.1108/10662241211271545.

10. Gage-Bouchard, E. A., LaValley, S., Mollica, M., & Beaupin, L. K. (2017). Communication and exchange of specialized health-related support among people with experiential similarity on Facebook. *Health Communication*, 32(10), 1233–1240.

11. Hong F. Y., Huang, D. H., Lin, H. Y., Chiu, S. L. (2014). Analysis of the psychological traits, Facebook usage, and Facebook addiction model of Taiwanese university students. *Telematics and Informatics*, 31, 597-606.

12. Internetworldstats (2021), Usage and Population Statistic. Retrieved from https://www.internetworldstats.com/asia.htm#vn.

13. Isaiah, T. A., Mark, P., Tijana, V. (2019). Facebook group in the learning design of a higher education course: An analysis of factors influencing positive learning experience for students. *Computer & Education*, 129, 106-121.

14. Islam, R. (2003). Exploring the global trend in recruitment for engineering and technology freshmen: Current challenges and suggested solutions. *American Society for Engineering Education: Staying in Tune with Engineering Education*, 1206.

15. Kayla, H., Jaclene, A. Z., Kate, H. H. (2018). Facebook or Twitter?: Effective recruitment strategies for family caregivers. *Applied Nursing Research*, 41, 1-4.

16. Kaur, P., Sharma, S., Kaur, J., & Sharma, S. K. (2015). Using social media for employer branding and talent management: An experiential study. *The IUP Journal of Brand Management*, 12(2), 7–20.

17. Kumar, N., Qiu, L., Kumar, S. (2018). Exit, voice, and response on digital platforms: an empirical investigation of online management response strategies. *Information System Research*, 29 (4), 849–870, 10.1287/isre.2017.0749.

18. Laura, A., Genevieve, A.D., Beth, O., & Matthew, J.G. (2020). Young adults' sexual health in the digital age: Perspectives of care providers. *Sexual & Reproductive Healthcare, 25*, 100534.

19. Madge, C., Meek, J., Weellens, J., & Hooley, T., (2009). Facebook, social integration and informal learning at university: it is more for socializing and talking to

friends about work than for actually doing work. *Learning, Media and Technology,* 34(2), 141-155.

20. Mandhanya, Y., Maitri, S. (2010). Employer branding: A tool for talent management. *Global Management Review*, 4(2), 43–48.

21. Maringe, F. (2006). University and course choice: Implications for positioning, recruitment and marketing. *International Journal of Education Management,* 20(6), 466–479.

22. Mas, J.M., Gómez, A. (2020). Social partners in the digital ecosystem: will business organizations, trade unions and government organizations survive the digital revolution? *Technololycal Forecasting and Social Changes,* 162, 120349, 10.1016/j.techfore.2020.120349.

23. Mazman, S. G., & Usluel, Y. K. (2009). Adoption of Web 2.0 tools in distance education. *Procedia Social and Behavioral Sciences*, 1(1), 818-823.

24. Phua, J., Jin, S. V., & Kim, J. J. (2017). Uses and gratification of social networking sites for bridging and bonding social capital: A comparison of facebook, twitter, instagram, and snapchat. *Computers in Human Behavior,* 72, 115-122.

25. Pohlig, F., Lenze, U., Muhlhofer, H. M. L., Lenze, F. W., Schauwecker, J., Knebel, C. et al. Herschbach, P. (2017). IT-based psychosocial distress screening in patients with sarcoma and parental caregivers via disease-specific online social media communities. In Vivo, 31(3), 443–450.

26. Prensky, M. (2010). *Teaching digital natives: Partnering for real learning.* London: Sage Publishers.

27. Reynol, J. (2012). The relationship between frequency of facebook use, participation in facebook activities, and student engagement. *Computer & Education,* 58, 162-171.

28. Ross, M., Heaney, J.-G., & Cooper, M. (2007). Institutional and managerial factors affecting international student recruitment management. *International Journal of Educational Management*, 21(7), 593–605.

29. Ryan, T. & Xenos, S. (2011). Who uses facebook? An investigation into the relationship between the big five, shyness, narcissism, loneliness, and facebook usage. *Computers in Human Behavior*, 27.5, 1658-1664.

30. Selwyn, N. (2009). Faceworking: exploring students' education-related use of Facebook. *Learning, Media and Technology*, 34(2), 157-174.

31. Seo, M., Kim, J., & Yang, H. (2016). Frequent interaction ad fast feedback predict perceived social support: Using crawled and self-reported data of Facebook users. *Journal of Computer Mediated Communication*, 21(4), 282-297.

32. Shihui, F., Yip, K. W., Lai, Y. W., Liaquat, H. (2019). The internet and facebook usage n academic distraction of college students. *Computer & Education,* 134, 41-49.

33. Silvia, C., Giulia, F. (2018). Why narcissists are at risk for developing Facebook addiction: The need to be admired and the need to belong. *Addictive Behaviors*, 76, 312-318.

34. Simon, S. S., Anne, L., Robbert, S., Mariët, H. (2021). Recruiting participants for an international mHealth study via Facebook Ads: Experiences from the Untire App RCT. *Internet* Interventions, 23, 100362.

35. Scarton, L.J., Bakas, T., Miller, W.R., McLennon, S. M., Huber, L.L., & Hull, M.A. (2017). Development and psychometric testing of the diabetes caregiver activity and support scale. *The Diabetes Educator*, 43(5), 465–475.

36. Statista (2021). Global digital population as of January 2021. Retrieved from https://www.statista.com/statistics/617136/digital-population-worldwide/.

37. Statista (2021). Leading countries based on Facebook audience size as of January 2021. Retrieved from https://www.statista.com/statistics/268136/top-15-countries-based-on-number-of-facebook-users/.

38. Statista (2021). Distribution of Facebook users worldwide as of January 2021, by age and gender. Retrieved from https://www.statista.com/statistics/376128/facebook-global-user-age-distribution/.

39. Stone, S., & Logan, A. (2018). Exploring students' use of the social networking site WhatsApp to foster connectedness in the online learning experience. *Irish Journal of Technology enhanced Learning*, 3(1).

40. Syed, A. R., Wasim, Q., Nida, S., Muhammad, A. Q., Shahzad, Q. (2020). Drivers of intensive Facebook usage among university students: An implication of U&G and TPB theories. *Technology in Society*, 62, 101331.

41. Thompson, S.H., Lougheed, E. (2012). Frazzled by Facebook? An exploratory study of gender differences in social network communication among undergraduate men and women. *College Student Jounal*, 46 (1), 88–99.

42. Thompson, P. (2013). The digital natives as learners: Technology use patterns and approaches to learning. *Computer & Education*, 65(1), 12-33.

43. Valenzuela, S., Park, N., & Kee, K. F. (2009). Is there social capital in a social network site? Facebook use and colledge students' life satisfaction, trust, and participation. *Journal of Computer Mediated Communication*, 14(4), 875-901.

44. Verma, D., Ahmad, A. (2016). Employer branding: The solution to create talented workforce. *The IUP Journal of Brand Management*, 13(1), 42–56.

45. Winter, P. A., & Melloy, S. H. (2005). Teacher recruitment in a school reform. *Educational Administration Quarterly*, 41(2), 349–372.

THE IMPACT OF TOURISM SUPPORT APPLICATIONS ON MOBILE DEVICES (TOURISM APPS) ON TOURISTS' INTENTION TO VISIT A TOURIST DESTINATION

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Abstract

The prevalence of science and technology and its application in life has attracted the attention of academia over the years in technology applications. However, there is still no research on the impact of mobile applications on the destination choice behavior of tourists. This study aims to find out the impact of travel apps on tourist destination choice behavior in Ho Chi Minh City. The results show that 5 factors: perceived ease of use, perceived usefulness, perceived flexibility, subjective standards and diversity of mobile applications have a positive impact on the decision to choose a tourism application affects the intention to visit the tourist destination. The study shows that the efforts of technology companies and leaders to raise people's awareness about the application of technology for tourism will contribute to the intention to choose a destination in the future.

Keywords: *Mobile application, Perceived ease of use, Subjective standards, Tourist destination, Tourism support application.*

1. Introduction

1.1. Introduction

Currently, there are still many difficulties for tourists when deciding on a tourist destination. Inconvenience for even the most basic and essential needs such as choosing a destination, motel, restaurant, etc. For example, it is very difficult to carry a backpack to China because of the language barrier, in addition to that, people here cannot use popular search engines, namely Google, Youtube, etc. The rapid development of mobile applications (technology applications) has helped users, especially tourists easily search information to travel. Therefore, it is more necessary than ever to bring technology applications to social launch on mobile devices to support the travel needs of tourists.

As society becomes more easily connected, the internet becomes more popular through the use of mobile devices, the basic activities of today's society are being transformed by the emergence of mobile applications. The use of technology and the tourism sector is no exception to that change. Nowadays, mobile phones have become extremely popular among all social. Mobile devices generally refer to mobile phones, smartphones, or tablets. Depending on the context, the term may include laptops or other portable electronic products.

1.2. Literature Review

Previous studies have shown a number of important factors affecting the intention to use mobile applications, thereby affecting the intention to visit the destination of tourists such as:eWOM, environment, etc. E - Servicescape (Kuo et al., 2019) ; Perceived usefulness (PU), perceived ease of use (PEU) (Kim et al., 2017; Chung & Koo, 2015; Kuo et al., 2019); Social norms (SN) (Oanh & Uyen, 2017). However, studies often focus on only one or two influencing factors according to the theoretical technology acceptance model (TAM) - focusing on attitude or satisfaction leading to intention. This paper combines both the theory of the TPB Planned Behavior Model and the theory of tourist destination choice. Technology acceptance model (TAM) to further analyze the influencing factors of mobile applications for tourism, thereby influencing tourists to choose destinations, and at the same time exploiting new influencing factors to perfecting the scale.

1.3. Definitions of Construct

Mobile applications: According to Islam & Mazumder (2010) mobile applications consist of software/set of programs that run on mobile devices and perform certain tasks for the user. Mobile Application is a new and rapidly growing Segment of Global Information and Communication Technology. The mobile app is easy to use, user-friendly, inexpensive, downloadable, and can run on most mobile phones including entry and entry-level phones. The mobile application has many functions for its wide operating area such as calling, messaging, web browsing, chatting, social networking, audio, video, games, etc.

Tourism Destinations: According to Beirman (2003), a tourist destination is a city, town, or other areas that depend to a substantial extent on revenue from tourism, or "a country, state, region, city or town is sold or marketed as a place for tourists to visit.

The tourist destination is a place for tourists to visit and stay, be it a country, state, region, or city - often due to cultural values or its natural (Piechotka et al., 2017). It is a place or area that offers a collection of tourism-related products and attractions, providing a travel experience for individuals or groups traveling away from home or their place (Jalis, 2019).

1.4. Definition Of Theories

Theory of Planned Behavior (TPB): Theory of Planned Behavior (TPB) (Ajzen, 1985, 1991) is an extension of the theory of reasoned action (TRA) (Ajzen & Fishbein, 1980), made necessary by the latter model's inability to deal with behaviors over which individuals have incomplete volitional control. According to TPB, an individual's performance of a certain behavior is determined by his or her intent to perform that behavior. For TPB, attitude towards the target behavior, subjective norms about engaging in the behavior, and perceived behavior control are thought to influence intention and internet purchasing behavior (George, 2002; Jarvenpaa & Todd, 1997; Khalifa & Limayem, 2003; etc)

Technology Acceptance Model (TAM) (Davis, 1989) or TAM proposes specifically to explain the determinants of information technology enduser's behavior towards information technology (Saade et al., 2007). In TAM, (Davis, 1989) proposes that the influence of external variables on intention is mediated by perceived ease of use (PEU) and perceived usefulness (PU). TAM also suggests that intention is directly related to actual usage behavior (Davis et al., 1989). TAM acknowledged that the acceptance using the product or service information is determined by the intended use (BI) and BI is determined by the attitude towards the use (Attitude - A) under the influence of two factors: perceived usefulness (PU) and perceived ease of use (PEU). The service how is dependent on external factors (such as system quality, installation service, training service, or various concepts in the system used) as a worldview that influences the person's perception.

1.5. Some Previous Research

The research ***Adoption of mobile applications for identifying tourism destinations by travellers: an integrative approach*** (Chung & Koo, 2015) is to provide an assessment of both how consumers adopt mobile tourism apps and how consumers use those apps to orient customer intentions to visit tourism destinations. Perceived ease of use and perceived usefulness tend to be moderators of the effects of the e-servicescape environment and e-word-of-mouth communication on attitudes towards using apps. The results may be important references to conduct further validations, and critical for marketing managers when designing specific criteria to enhance mobile apps and their adoption.

The research ***The impact of mobile tour information services on destination travel intention*** (Kim et al., 2017) is to provide functions of mobile tour information services are important and how mobile tour information services affects tourists' intention to travel to a destination. According to the results of the analysis, system quality, history and cultural knowledge quality, and interface design quality, which are major functions affecting mobile tour information services, had significant effects on tourists' continuance intention to a travel destination. In addition, this study empirically showed that as tourists' expectations of the performance of these functions are confirmed, they form perceived usefulness and satisfaction with mobile tour information services in forming continuance intention to a travel destination.

The research ***Factors influencing the intention to use mobile commerce services of consumers in An Giang province*** (Oanh & Uyen, 2017) aims to measure factors influencing the intention to use mobile commerce services of consumers in An Giang province. The research result shows five factors affecting the intention to use mobile commerce services of consumers in An Giang province namely (1) Mobility, (2) Variety of services, (3) Perceived usefulness, (4) Perceived trust, and (5) Perceived ease of use. In particular, Mobility is the most influential factor towards consumers' intention to use mobile commerce services. Mobility is the most influential factor towards consumers' intention to use mobile commerce services. This research has contributed and improved the measurement of consumers' intention to use mobile commerce services in Vietnam. It also confirms the necessity to extend the traditional Theory of Reasoned Action and Technology Acceptance Model. In addition, this research provides some managerial implications for telecommunications companies, mobile commerce companies and marketers to shape their marketing strategies and improve their mobile commerce services.

1.6. Theoretical Model And Hypothesis Development

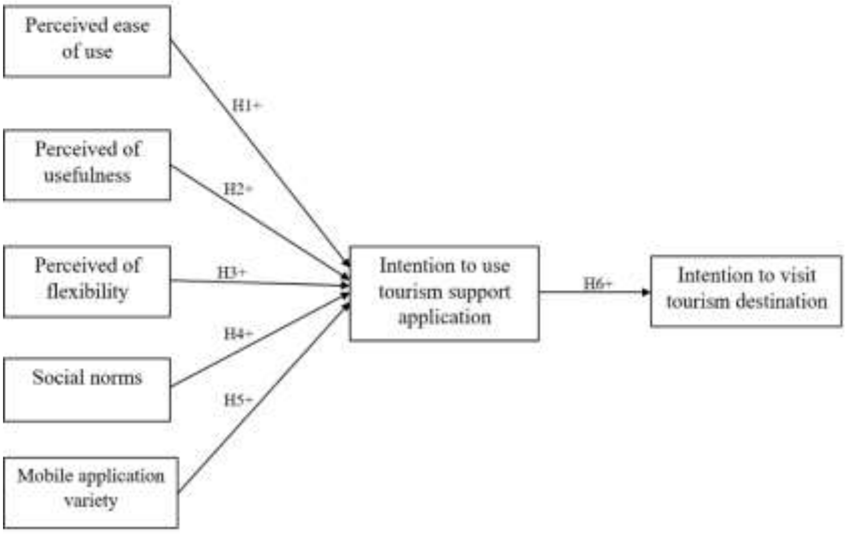

Figure 2: Conceptual model

Hypothesis Development:

Perceived Ease of Use (PEU): Perceived ease of use (PEU) has been identified as an important external factor that can influence a users' intention to adopt technology (Davis, 1989). PEU refers to "individuals" who believe that using a particular product/service will make an effort (Davis, 1989)**.** Applying the same concept in the context of Application technology, PEU is understood as the extent to which users perceive the ease of interaction with the Application allowing them to receive relevant and useful information they need.

H1: Perceived ease of use (PEU) will have a positive effect on intention to travel-enabled apps.

Perceived Usefulness (PU): Perceived usefulness (PU) relates to the degree to which a person believes that using a particular system will enhance their job performance (Davis et al., 1989). Research by Kim; Park; Morrison (2008) applied the TAM technology acceptance model and showed that perceived usefulness (PU) affects the intention to use mobile devices in the travel context. Applied in mobile commerce, research by Oanh & Uyen

(2017) also proves that the higher the perceived usefulness (PU), the higher the intention to use mobile commerce services.

H2: The perceived usefulness (PU) has a positive effect on the intention to use tourism support applications (IU).

Perceived of Flexibility (PF): Consumers can now connect to the WWW on their mobile phones through a standalone piece of software commonly known as mobile applications (Hoehle & Venkatesh, 2015). Mobile apps lead to a higher level of convenience, as consumers can use the software to compare prices, get discounts, perform specialized research on products and services, and locate store location, access timeline information, restaurants, traffic, local activities and share information on social networks (H.-Y. Wang & Wang, 2010). According to Kalinić & Marinković, 2016, as technologies on mobile devices increasingly meet the needs of flexible mobility in consumers' lives, the independent use of time and space is increasingly become important to both consumers and service providers.

H3: The perceived of flexibility (PF) has a positive effect on intention to use tourism support applications (IU).

Social Norms (SN)/ Social influence: Social norms (SN) or social influence is a person's perception of social pressure to perform or not to exhibit behavior (Fishbein & Ajzen, 1975). Social influence can be understood as the influence of an individual's social or environmental circle including reference groups, family, friends, and colleagues on their intention to adopt applications. tourism support applications on smartphones (Zhou et al., 2010). Similarly, social influence was found to be a significant predictor of behavioral intentions in different contexts including: mobile payments (Oliveira et al., 2016), intention to use mobile apps (Hew et al., 2015), mobile wallets (Madan & Yadav, 2016), mobile banking (Sok Foon & Yin-Fah, 2011) and mobile applications in tourism (Tan et al., 2017), etc.

H4: Social norms (SN)/ social influence has a positive effect on the intention to use tourism support applications (IU).

Mobile application variety (MAV): Research (Chong et al., 2012) indicates that e-commerce services provided to consumers today still have many limitations aspects compared to e-commerce. Mobile commerce provides custom-designed service apps that bring a lot of different benefits such as social media, listening to music, watching videos, and games, but providing "increased" values like e-banking. , mobile shopping is limited (Wang et al., 2006). In addition, (Kurgun et al., 2018), pointed out that the use of internet technology applications to advertise a destination is seen as an important motivation to go to that destination.

H5: The mobile application variety (MAV) has a positive effect on the intention to use tourism support applications (IU).

Intention to use tourism support applications (IU): According to Tran & Thanh (2017), intention to use (IU) is an individual conscious plan to make an effort to purchase a product of a brand. Intention to use (IU) is an important indicator of consumer behavior, representing the degree or likelihood that consumers will be willing to use it. In the field of tourism, information technology applications are successful and highly effective in identifying consumers and their intentions to visit destinations through tourism support applications.

H6: Intention to use tourism support applications (IU) has a positive effect on intention to visit tourism destination (IV).

2. Method

The data collection for this study aims to research and propose valuable solutions in determining the influence of technology applications on tourists' destination choice behavior, thereby helping tourism businesses business in Vietnam can improve service quality adapting with the current trends to attract tourists through media promotion on tourism applications

Data collection lasted from January 2021 to May 2021. Including 600 (Including 200 paper surveys and 400 online surveys). After eliminating inappropriate answer sheets such as respondents who participated in a number of similar surveys about tourisml apps within the past 3 months or there are family members who work in some professions related to the company or tourism organizations, or work related to the field of journalism, market research companies, etc., The number of samples remaining for analysis was 500.

Official research is carried out by a quantitative research method, conducted through the survey. The research sample is carried out through the convenience sample method (non-probability).

The research focuses on Vietnamese people and international tourists to Vietnam. The obtained results show that the majority of respondents aged 18-22 years old (49%), most of the respondents are students (42.4%), and the income level below 5 million also accounts for the largest part, 32.6%), and most of the respondents are of Vietnamese nationality (84.6%).

The results from this sample can be applied since most of young people aged 18-22 have a higher demand for tourism-entertainment at present. However, with a low budget, it is very useful for them to refer to tourism destinations or other information such as hotels, means of transport, etc on mobile applications.

The obtained data were coded and quantitatively analyzed to test the scale by Cronbach's Alpha analysis, Exploratory Factor Analysis (EFA), Model Compatibility, hypothesis testing, and evaluate impact assessment by running a Structural Equation Modeling (SEM).

3. Results

The reliability of the scale is assessed by Cronbach's Alpha analysis (Table 1) on the preliminary survey sample and the overall Cronbach's alpha coefficient is 0.890 and the Cronbach's alpha if item deleted coefficient is between 0.565 and 0.778. The final results show that the value scales of the groups of factors are reliable and the data correlation is consistent with the built scales, satisfying the criteria and can be used for EFA which helps to assess the convergence and distinguish the value of the scale. The KMO and Bartlett test in the 1st EFA testing show that the hypothesis of correlation between variables can be rejected (Sig.= 0.000). The KMO coefficient = 0.936 (> 0.5) indicates that EFA can be used.

Analyzing factors according to Principal components with Promax rotation. The results showed that 31 observed variables were initially grouped into 5 groups. Total value of variance extracted = 61.863% > 50%: passed; then it can be said that these 5 factors explain 61.863% of the variability of the data. The Eigenvalues of the factors are all high (>1), the fifth factor has the lowest Eigenvalues of 1,956 > 1.

After removing 3 factors with factor loading less than 0.5. The results show that 29 observed variables are grouped into 05 groups. Total value of variance extracted = 60.751% > 50%: satisfactory. This proves that 60.751% of the variation of the data is explained by 5 factors. The Eigenvalues of all factors are high (>1), the 5th factor has the lowest Eigenvalues of 1,799 > 1. The factor loading coefficients of 29 observed variables are all greater than 0.5 and there is not any variable that uploads both factors at the same time with a load factor close to each other, so the factors are guaranteed to have convergent values and differentiated in EFA analysis.

Table 4: Table to check the reliability of the scale

Factors	Cronbach's Alpha	Correlation Coefficient	Variable type
Perceived easy of use (PEU)	0,867	0,725-0,738	0/5
Perceived of Usefulness (PU)	0,911	0,722-0,777	0/6
Perceived of flexibility (PF)	0,928	0,652-0,778	0/9
Social Norms (SN)	0,864	0,647-0,688	0/5
Mobile application variety (MAV)	0,891	0,666-0,731	0/6
Intention of using (IU)	0,821	0,626-0,715	0/3
Intention of visiting (IV)	0,778	0,565-0,641	0/3

Bartlett's test is significant (Sig. < 0.05), and it can be used for Confirmatory Factor Analysis (CFA). The research team obtained the results after analyzing CFA illustrated with the Table 2 below:

Table 5: Model Fit Rating Index

	Index	Rate
Chi-square/df (CMIN/DF)	1,594	Acceptable (<2)
RMSEA	0,034	Good (<0,06)
CFI	0,969	Good (>0,9)
GFI	0,912	Very good (>0,9)
PCLOSE	1,0000	Good (>0,05)

The results show that Chi square/df= 1.594 (< 2) is good; TLI = 0.966; CFI = 0.969, GFI = 0.912; RMSEA= 0.034 (<0.06). It can be said that the model is appropriate to the research data. The authors execute the analysis of Structural Equation Modeling (SEM) to analyze multidimensional relationship between dependent and independent variables in the model, the obtained result are show in Figure (2) and Table (3).

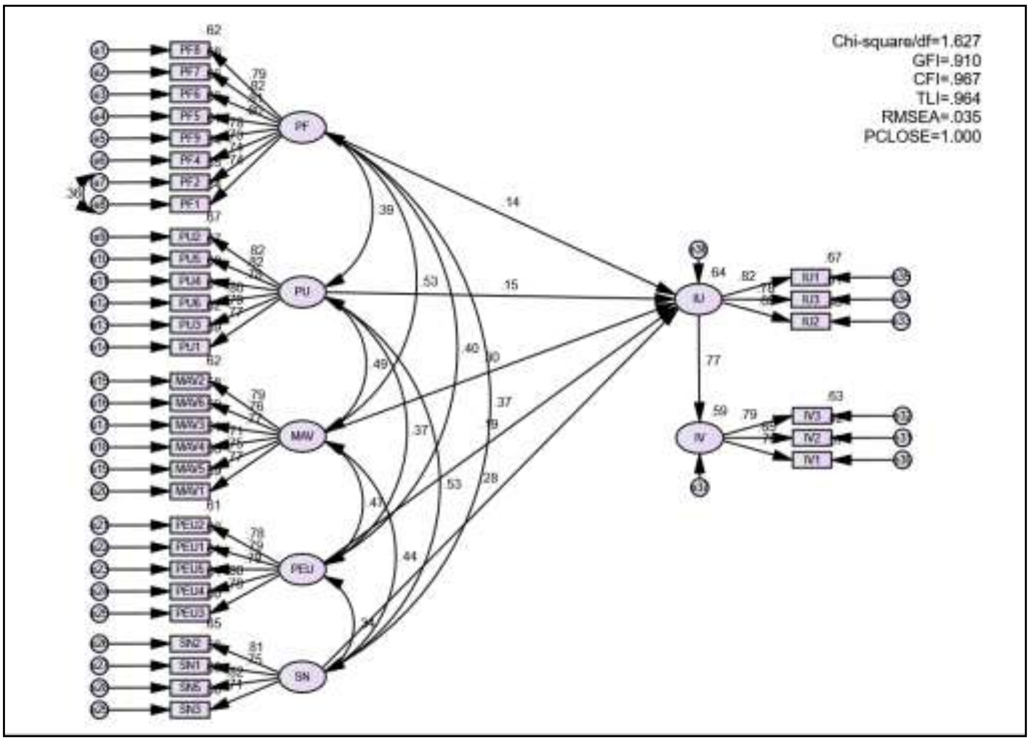

Figure 3: Final Standardized SEM Model

The factors "Perceived Ease of Use"; "Perceived Usefulness"; "Perceived of Flexibility"; "Social Norms"; "Mobile Application Variety" positively affects the factor "Intention of using"; The factor "Intention of using" has a positive influence on the factor "Intention of visiting". All relationships have p<0.05.

Thus, it can be concluded that the above relationships are statistically significant, or accepted at the 95% statistical reliability.

Table 6: Summary of Test Results

Hypo thesis		Estimate	P-Value (Sig)	Result
H3	Intention of using <--- Perceived of Flexibility	0,100	0,002	Accept
H2	Intention of using <--- Perceived of Usefulness	0,107	0,002	Accept
H5	Intention of using <--- Mobile application variety	0,221	0,000	Accept
H1	Intention of using <--- Perceived Ease of Use	0,148	0,000	Accept
H4	Intention of using <--- Social Norms	0,193	0,000	Accept
H6	Intention of visiting <--- Intention of using	0,851	0,000	Accept

The independent variable “Mobile application variety” (MAV) has the strongest impact on the dependent variable, followed by the independent variable “Social Norms” (SN) and finally the variable “Perceived Ease of Use” (PEU). In fact, it is only those who have the need to visit tourist attractions that they intend to find and use mobile applications. Research results show that it is necessary to propose more solutions to help mobile applications meet more needs. The role of mobile applications affects a significant part of tourists' decision to choose a destination, so there need to be many improved solutions for businesses operating mobile applications to attract tourists. People intend to visit more tourist attractions. And reach people who intend to visit at tourist sites through mobile applications.

The R2 value of the dependent variable IU, executed based on SEM analysis, is 0.639. Thus, the independent variables explain 63.9% of the variation of the IU variable. The R2 value of the dependent variable IV is 0.587. Thus, the independent variable IU explains 58.7% of the variation of variable IV.

4. Discussion and Conclusion

Combined model of TPB and TAM (Taylor & Todd, 1995), the authors propose a model of six influencing factors of tourism support applications to tourists' behavior of visting destination: Perceived Ease of Use (PEU); Perceived Usefulness (PU); Perceived of Flexibility (PF); Social Norms (SN); Mobile Application Variety (MAV) and Intention to Use tourism support application (IU).

According to the analysis results from the SEM model, the factor "Mobile Application Variety (MAV)" is the factor having the strongest impact on the Intention of Using tourism support applications (IU) to select destinations. come. At the same time, the results also test the influence of the factors on the Intention to Visit tourism destinations (IV) according to the equation below:

$$\mathbf{IV = 0.851IU + 0.193SN + 0.148PEU + 0.221MAV + 0.107PU + 0.100PF}$$

From there, the authors make four priority recommendations as below:

Firstly, mobile-commerce companies should regularly update new versions for tourism applications. In addition, in order to catch up with the current trend, mobile commerce companies should apply more diverse and intelligent technologies to technology applications.

Secondly, the enterprises should pay more attention to the user's feelings in the journey of using mobile applications, regularly have customer loyalty programs, remind customers about the application.

Thirdly, the enterprises that need to design a website and mobile application interface for tourism that is friendly, easy to understand, and easy to use for users.

Last, the enterprises should promote the promotion of outstanding features of tourism applications for consumers such as helping customers save their time, convenience for booking hotel, train tickets, air tickets. At the same time, special attention should be paid to compatibility so that the application can operate smoothly on different mobile devices.

When the Covid-19 pandemic is strictly controlled, the authors expect to expand the survey objects, especially foreign tourists and continue to develop and research complementary topics such as "Factors affecting tourists' intention to visit destinations in Vietnam", to correct shortcomings or points that the group's main topic has not explored. The authors hope that the results of this study will be applied in practice, as a reference for other topics in the future, and contribute to the development and launch of tourism support applications in the future.

5. References

1. Ajzen, I. (1985). *From Intentions to Actions: A Theory of Planned Behavior BT - Action Control: From Cognition to Behavior* (J. Kuhl & J. Beckmann (eds.); pp. 11–39). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-69746-3_2

2. Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/https://doi.org/10.1016/0749-5978(91)90020-T

3. Beirman, D. (2003). Book Review: Tourism and the Media. *Journal of Vacation Marketing*, *9*(1), 101–103. https://doi.org/10.1177/135676670200900108

4. Chong, A., Chan, F. T., & Ooi, K. (2012). Predicting consumer decisions to adopt mobile commerce: Cross country empirical examination between China and Malaysia. *Decis. Support Syst.*, *53*, 34–43.

5. Chung, N., & Koo, C. (2015). The use of social media in travel information search. *Telematics and Informatics*, *32*(2), 215–229. https://doi.org/https://doi.org/10.1016/j.tele.2014.08.005

6. Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, *13*(3), 319–340. https://doi.org/10.2307/249008

7. Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science*, *35*(8), 982–1003. https://doi.org/10.1287/mnsc.35.8.982

8. Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behaviour: An introduction to theory and research* (Vol. 27). https://www.jstor.org/stable/40237022

9. George, J. (2002). Influences on the Intent to Make Internet Purchases. *Internet Research*, *12*, 165–180. https://doi.org/10.1108/10662240210422521

10. Hew, J.-J., Lee, V.-H., Ooi, K.-B., & Wei, J. (2015). What catalyses mobile apps usage intention: an empirical analysis. *Industrial Management & Data Systems, 115*(7), 1269–1291. https://doi.org/10.1108/IMDS-01-2015-0028

11. Hoehle, H., & Venkatesh, V. (2015). MOBILE APPLICATION USABILITY : CONCEPTUALIZATION AND INSTRUMENT DEVELOPMENT 1. *MIS Quarterly, 39*(2), 435–472. https://doi.org/10.25300/MISQ/2015/39.2.08

12. Icek Ajzen; Martin Fishbein. (1980). *Understanding Attitudes and Predicting Social Behavior*. Prentice-Hall.

13. Islam, D. M. D. R., & Mazumder, T. (2010). Mobile application and its global impact. *International Journal of Engineering & Technology*, *10*, 72–78.

14. Jalis, M. (2019). *Marketing and Branding Initiatives for Local Food and Tourism Identity of Terengganu, Malaysia* (pp. 1–22). https://doi.org/10.4018/978-1-5225-7253-4.ch001

15. Jarvenpaa, S. L., & Todd, P. A. (1997). Consumer Reactions to Electronic Shopping on the World Wide Web. *International Journal of Electronic Commerce*, *1*(2), 59–88. http://www.jstor.org/stable/27750810

16. Kalinić, Z., & Marinković, V. (2016). Determinants of users' intention to adopt m-commerce: an empirical analysis. *Information Systems and E-Business Management*, *14*. https://doi.org/10.1007/s10257-015-0287-2

17. Khalifa, M., & Limayem, M. (2003). Drivers of Internet Shopping. *Commun. ACM*, *46*, 233–239. https://doi.org/10.1145/953460.953505

18. Kim Dae-Young; Park Jungkun; Morrison Alastair. (2008). A Model of Traveller Acceptance of Mobile Technology. *International Journal of Tourism Research, 10*, 393–407. https://doi.org/10.1002/jtr.669

19. Kim, J. Y., Chung, N., & Ahn, K. M. (2017). The impact of mobile tour information services on destination travel intention. *Information Development*, *35*(1), 107–120. https://doi.org/10.1177/0266666917730437

20. Kuo, T.-S., Huang, K., Thang, N., & Nguyen, P. (2019). Adoption of mobile applications for identifying tourism destinations by travellers: an integrative approach. *Journal of Business Economics and Management*, *20*, 860–877. https://doi.org/10.3846/jbem.2019.10448

21. Kurgun, H., Kurgun, O., & Aktas, E. (2018). What does Web 4.0 Promise for

Tourism Ecosystem? A Qualitative Research on Tourism Ecosystem Stakeholders' Awareness. *Journal of Tourism and Hospitality Management, 6*. https://doi.org/10.15640/jthm.v6n1a6

22. Madan, K., & Yadav, R. (2016). Behavioural intention to adopt mobile wallet: a developing country perspective. *Journal of Indian Business Research, 8*, 227–244. https://doi.org/10.1108/JIBR-10-2015-0112

23. Oanh, N., & Uyen, P. (2017). Factors affecting consumers' intention to use mobile commerce services in An Giang province. *Journal of Science - Ho Chi Minh City Open University*.

24. Oliveira, T., Thomas, M., Baptista, G., & Campos, F. (2016). Mobile payment: Understanding the determinants of customer adoption and intention to recommend the technology. *Computers in Human Behavior, 61*, 404–414. https://doi.org/https://doi.org/10.1016/j.chb.2016.03.030

25. Piechotka, A., Lukasik, N., Ostrowska-Tryzno, A., Piechotka, M., & Sawicka, K. (2017). *Holistic Technical Solutions to Enhance Accessible Tourism in the UNESCO World Heritage Sites*. https://doi.org/10.4018/978-1-5225-1054-3.ch001

26. Saade, R., Nebebe, F., & Tan, W. (2007). Viability of the "Technology Acceptance Model" in Multimedia Learning Environments: A Comparative Study. *Journal of ELearning and Learning Objects, 3*, 175–184. https://doi.org/10.28945/392

27. Sok Foon, Y., & Yin-Fah, B. (2011). Internet banking adoption in Kuala Lumpur: An application of UTAUT model. *International Journal of Business and Management, 6*, p161. https://doi.org/10.5539/ijbm.v6n4p161

28. Tan, G.W.-H., Lee, V.H., Lin, B. and Ooi, K.-B. (2017). Mobile applications in tourism: the future of the tourism industry? In *Industrial Management & Data Systems* (Vol. 117, Issue 3, pp. 560–581). https://doi.org/10.1108/IMDS-12-2015-0490

29. Tran, N., & Thanh, M. (2017). The impact of social network advertising on customers' perchase intention in Can Tho city. *Journal of Science - Can Tho University, 48*, 66–76. https://doi.org/10.22144/ctu.jvn.2017.631

30. Wang, H.-Y., & Wang, S.-H. (2010). Predicting mobile hotel reservation adoption: Insight from a perceived value standpoint. *International Journal of Hospitality Management*, *29*(4), 598–608. https://doi.org/https://doi.org/10.1016/j.ijhm.2009.11.001

31. Wang, Y.-S., Lin, H.-H., & Luarn, P. (2006). Predicting consumer intention to use mobile service. *Information Systems Journal*, *16*(2), 157–179. https://doi.org/https://doi.org/10.1111/j.1365-2575.2006.00213.x

32. Zhou, T., Lu, Y., & Wang, B. (2010). Integrating TTF and UTAUT to explain mobile banking user adoption. *Comput. Hum. Behav.*, *26*, 760–767.

FOMO - FEAR OF MISSING OUT AND ITS IMPACTS ON PURCHASE INTENTION DURING SALES PROMOTIONAL EVENTS IN E-COMMERCE PLATFORM: A CASE STUDY FOR UNDERGRADUATES IN HANOI

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Abstract

This paper examines the Fear of Missing Out (FOMO) and its influences on purchase intention of Hanoi undergraduates during sales promotional events on E-commerce platforms. The research findings show that FOMO is determined by anticipated elation, anticipated envy, comforting rationalization and herd behavior. The research also finds the positive impact of FOMO on consumers' purchase intent. Thereby, implications are given to marketers in order to take full advantage of FOMO marketing appeals when it comes to applying on sales promotional events.

Keywords: *E-commerce, Fear of Missing Out, FOMO, purchase intention, sales promotion.*

1. Introduction

As Vietnam adapts to the “new normal”, consumers have steadily altered their buying patterns from face-to-face transactions to online purchases via e-commerce platforms. This trading platform, which has become a major way of supporting social life, is one of the digital economy's pioneering industries, adding to corporate competitiveness (VECOM, 2020). Given this scenario, firms operating on e-commerce platforms must constantly have unique plans in place to build and strengthen trade promotion activities that will help them establish competitive advantages for their products. The most common method is for firms to provide consumers with particular perks when they purchase their items - this is known as promotional activities (Truong Hoang Len, 2018). Currently, promotional events on special occasions such as 11/11 or Black Friday are among the most successful ways to boost sales and attract consumers. As a result, businesses must upgrade their conventional marketing strategies and, in particular, utilize psychological effects to meet Industry 4.0 in order to trigger clients' purchase requirements right at the moment of visiting the boot, among which FOMO (Fear of Missing Out) is one psychological effect that can be made use of. In the scope of this research, FOMO is identified as a factor that boosts customers' purchasing intent. The effective use of FOMO in promotional events has been proved to result in a significant increase in revenue. Furthermore, as the Internet has grown in popularity, individuals have begun to check their mobile devices on a daily basis to ensure that they do not miss any important information or events taking place around them. The utilization of social media utilities has made it simpler than ever to learn about the variety of online and offline social activities one may participate in, which has increased the Fear of Missing Out, particularly among millenials (Przybylski et al, 2013). Despite the fact that FOMO is a well-known phenomena in modern society and the popular press throughout the world, it hasn't been fully explored, leveraged and exploited in Vietnam. As a result, the goal of this study was to conduct an in-depth research on FOMO in the context of Vietnam in order to provide a deeper understanding of this psychological effect. Based on the process of assessing and synthesizing prior studies, this research focuses on analyzing and demonstrating the factors affecting consumers' Fear of Missing Out, as well as the impact of FOMO on purchase intention. Implications, thereby, are given in order for marketers to fully exploit FOMO marketing appeals when it comes to applying on sales promotional events.

2. Literature Review

2.1. Previous studies

Many different studies regarding FOMO and the effects of FOMO on human intentions and behavior in numerous aspects have been conducted up till 2020. Those studies, on the other hand, have mostly concentrated on understanding the mechanism of formation and development of a FOMO scale depending, for example, people attending events, concerts, and addiction to cell phones and social media. The association between FOMO and purchase intention or behavior has mostly been described in terms of luxury products or services. Przybylski et al (2013) published "Motivational, emotional, and behavioral correlates of fear of missing out," which effectively developed 10 scales for FOMO and demonstrated the relation between FOMO and emotional, behavioral, and demographic aspects. However, there has not been much research on the impact of FOMO on purchase intent in the context of common-goods at promotional events. Moreover, up to now, few studies relating to the influence of FOMO on purchases on e-commerce platforms are found, which are currently prominent issues.

As far as the authors know, there is presently no formal research on FOMO in

Vietnam. The majority of them are brief or superficial articles published in newspapers, magazines, or personal blogs, whose theories are mostly translated from foreign research and secondary data sources drawn from those studies. As a result, the writers have a strong incentive to do the research.

2.2. Literature review

In this article, the term FOMO refers to an individual's anxiety about missing out on purchase opportunities during sales promotional events on an e-commerce platform that other people are taking part in. An in-depth analysis of the definition of FOMO shows three main stages of FOMO: Stage One – Awareness of Opportunities (major promotional event); Stage Two – Arousal of emotions (excitement, fear of missing out); Stage Three – Alleviating the negative tension (by forming purchase intention and then purchase behavior) (Zi Cheng Wesley Lim, 2016).

In the case of online shopping, a sales promotion is a form of substantial discount provided for a short period on e-commerce websites for certain items (Kaaviya R, n.d). An online flash sale, for example, is a mix of the following four principles: (1) Well-known brands at deeply discounted prices, (2) a limited number of products, (3) for a limited time, and (4) making exclusive offers to website members (Ayadi et al, 2013). As a result, the tendency of FOMO of consumers is examined in this study in light of two different scarcity messages: limited supply scarcity and limited time scarcity.

Purchase intention is indicated as a measure of customer's willingness to purchase a product (Ajzen, 1991) or defined as what a person thinks they will buy (Tirtiroglu & Elbeck, 2008). According to Javadi et al (2012), the intention of making an online purchase is based on external factors from which consumers synthesize, evaluate, choose and decide whether or not to buy such products from sellers on the Internet (electronics stores). This paper focuses on purchase intent during significant promotional events on e-commerce platforms. Accordingly, purchase intent is defined as a state of awareness about promotional events and the desire to make a purchase at these events due to the impact of FOMO.

This paper determines and assesses four factors affecting customers' fear of missing out: (1) Anticipated Elation (AE), (2) Anticipated Envy (AEnvy), (3) Comforting Rationalization (ComRat), and (4) Herd Behavior (HB), and examines the link between FOMO and purchase intention. In specific, anticipated elation, anticipated envy and herd behavior are believed to positively influence FOMO, whereas comforting rationalization is believed to negatively influence FOMO. In addition, both FOMO and herd behaviour have a positive influence on the purchasing intention of consumers in big promotional events on e-commerce platforms.

(i) Anticipated Elation (AE)

Anticipated elation is a euphoric emotion associated with assessment of the value of an imaginary transaction (Brandstatter & Kriz, 2001). In this case, anticipated action might stimulate excitement in the next event (e.g., purchasing things at a discounted price during a large promotional event) (Mandel & Nowlis, 2008). Similarly, an invitation with the implication of a FOMO-laden appeal creates positive expectations about experiencing an event while simultaneously suggesting the possibility of missing out on that event, which will cause anxiety regarding FOMO and other states to consumers (Mandel & Nowlis, 2008). Accordingly, in this study, the fact that an individual feels excited about the promotional event on an e-commerce platform will likely increase the fear of missing out on attractive discounts.

(ii) Anticipated Envy (AEnvy)

Subjective conjecture in interpersonal relationships leads to envy, which manifests as worry, fear, grief, and acute anxiety (Baker et al. 2016; Elhai et al. 2016). FOMO is a syndrome characterized by feelings of envy, worry, self-doubt, and a gnawing sensation of inadequacy (Tomczyk and SelmanagicLizde 2018). In addition, consumers make decisions in order to maximize benefits or boost their self-esteem (Yen et al., 2013). Therefore, "envy" from others is one of the significant aspects in helping customers fulfil that demand of benefit optimization and increase in self-esteem (Good & Hyman, 2020). Inducing envy in others, such as through consumption, may also promote purchase intent (Hyman et al., 2002; Van de Ven et al., 2011). Anticipating the envy from others or jealousy of others' accomplishments can increase FOMO when consumers consider buying during the big promotional event in which a lot of people are participating at that moment. Based on the research model of Megan C. Good and Michael R. Hyman (2020), the authors propose that FOMO will increase when customers believe they will be envied by others whenever considering purchasing at a big promotional event attended by a large number of people.

(iii) Comforting Rationalization (ComRat)

Comforting rationalization is comforting arguments that refer to "events and experiences you are afraid to miss out on that don't really matter." Comforting rationalization in the context of FOMO entails adopting a pessimistic attitude and doing a cost-benefit analysis in order to minimize enjoyment while accepting other alternatives in order to obtain satisfaction (Megan C. Good & Michael R. Hyman, 2020).

(iv) Herd Behaviour (HB)

In this study, herd behavior is examined on two aspects: Normative Herd Behavior and Informational Herd Behavior (Inwon Kang et al., 2020). Consumers are positively impacted by others' interests and behaviors in terms of obtaining information, comprehending reality, maintaining relationships, and developing their own values (Wood & Hayes, 2012). Furthermore, Zi Cheng Wesley Lim (2016) outlined the moderating function of the two components "informational" and "normative" in consumer susceptibility to interpersonal influence (also referred to as herd behavior) when validating the relationship between tendency towards FOMO and purchase intention. The research also found that one's purchase intention and behavior or brand preference are influenced by purchase decisions from those around him/her.

3. Method

The study employs qualitative and quantitative methods to accomplish the research objectives. While the qualitative method is used to explain the feasibility of applying the research model in Vietnam, the quantitative method is used to test the research hypotheses. Primary and secondary data are both used in this study.

3.1. Research model and hypotheses

Based on the research model of Megan C. Good & Michael R Hyman (2020) together with the theoretical synthesis of related previous studies, as well as the consultation of experts conducted by qualitative interviews, the research model and hypotheses are proposed

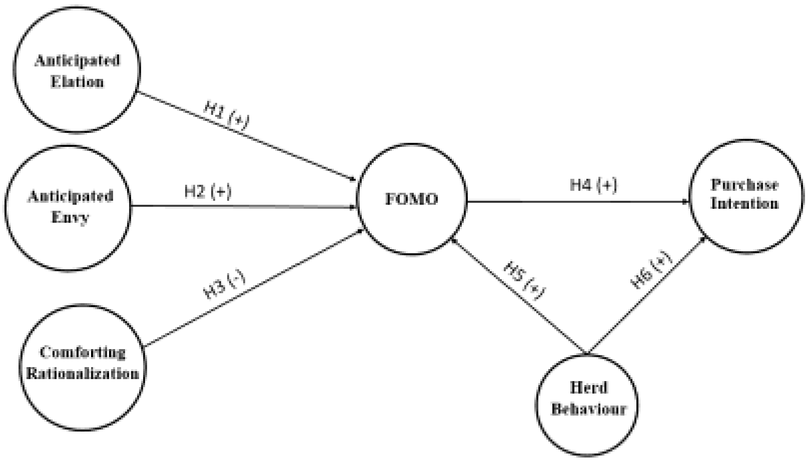

Figure 3.4 - Proposed research model

Source: Authors, 2021

as follows:

The impacts on FOMO in the context of big promotional events on e-commerce platforms:

H1: Anticipated elation has a positive effect on FOMO when customers make online purchases during big promotional events on e-commerce platforms.

H2: Anticipated envy has a positive effect on FOMO when customers make online purchases during big promotional events on e-commerce platforms.

H3: Comforting rationalization has a negative effect on FOMO when customers make online purchases during big promotional events on e-commerce platforms.

H4: Herd behavior has a positive effect on FOMO when customers make online purchases during big promotional events on e-commerce platforms.

The impacts on purchase intention in the context of big promotional events on e-commerce platforms:

H5: FOMO has a positive effect on purchase intention when customers make online purchases during big promotional events on e-commerce platforms.

H6: Herd behavior has a positive effect on purchase intention when customers make online purchases during big promotional events on e-commerce platforms.

3.2. Procedures

First, the authors carried out a qualitative research through two interviews: (1) interviewing marketing experts and e-commerce experts in person by giving related questions which helped show the rationality of the variables and develop the research hypotheses; (2) in-depth group interviews about the direct research subjects related to 06 topics with the goal to assess the relevance of the research variables and scales.

Next, the authors conducted quantitative research by collecting primary data through an online questionnaire survey with the interviewees who are the undergraduates at universities in Hanoi. After 17 days (from February 18 to March 6, 2021), the authors collected 503 online responses with 472 qualified responses for further analysis. The objective of the quantitative research is to test the research model and hypotheses as well as determine the reliability of the variables that are measured.

3.3. Data collection and analysis

Secondary data for the study were collected from research papers, academic theses, and journals officially published nationally and internationally. Based on these materials, the authors analyzed, researched, compared and synthesized to establish the proposed research model and the scale for the variables.

Primary data were collected from both qualitative and quantitative research with the aim of identifying variables and testing the model. Due to the impact of the COVID-19 pandemic, primary data collection was mainly done through online questionnaire surveys on social networking platforms such as Facebook and Zalo. The authors also sent the questionnaire surveys to experts and posted them on forums in which there were potential candidates from a number of universities in Hanoi. Then, the collected data were processed using SPSS 22.0 and SmartPLS 3.0. Cronbach's Alpha reliability test, exploratory factor analysis, SEM analysis techniques were used to test the data, determine how the variables are measured and the relevance of the research model and hypotheses.

4. Results

Cronbach's Alpha Reliability Test

Analysis results of internal consistency is presented in Table 4.1. Values of Cronbach's Alpha range from .817 to .893, meaning that the internal consistency is good. In other words, indicators in each variable reflect the same underlying entity.

Table 4.1 Analysis of Internal Consistency

Variables	Cronbach's Alpha	Number of items
Anticipated Elation (AE)	0,856	5
Anticipated Envy (AEnvy)	0,861	3
Comforting Rationalizations (ComRat)	0,893	4
Fear of Missing Out (FOMO)	0,872	5
Herd Behavior (HB)	0,817	4
Purchase Intention (PI)	0,822	3

Source: Authors, 2021

Exploratory Factor Analysis

The results of exploratory factor analysis (EFA) stop at the first rotation. The analysis results show that the factor loading of all factors are greater than 0.5. Kaiser-Meyer-Olkin measure of sampling adequacy is 0.898. P-value of Bartlett's test of Sphericity is 0.000. Total variance extracted is 62.536%. Therefore, all variables are kept and qualified for further analysis.

Table 4.2 KMO and Bartlett's Test of Sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.898
Bartlett's Test of Sphericity	**Approx. Chi-Square**	5953.975
	df	276
	Sig.	.000

Source: Authors, 2021

Structural Equation Modeling

Test of measurement model shows that composite reliability coefficients (CR) are greater than 0.7 and the average variance extracted (AVE) is greater than 0.5 with anticipated elation (AE) having the least value of 0.638. The VIF values are less than 5 in the collinearity test with the greatest value of 2.692. Test of structural model shows that Chi-square coefficient is 895.448 and the p-value is 0.000. Moreover, according to Hulland (1999), the model is regarded to be in agreement with the data if SRMR is less than 0.1. As a result, the research model is found to be acceptable for the study area in Hanoi, with SRMR of 0.061.

Regression test 1: the influence of Anticipated Elation (AE), Anticipated Envy (AEnvy), Comforting Rationalizations (Comrat) and Herd Behavior (HB) on Fear of Missing out (FOMO).

Table 4.3 Model Summary of regression test 1

Model	**R Square**	**Adjusted R Square**
	0.467	0.462

Source: Authors, 2021

Table 4.4 Coefficients of regression test 1

Model	**Unstandardized Coefficients**		**t**	**Sig.**
	Beta	**Standard Deviation (STDEV)**		
AE → FOMO	0.349	0.046	7.494	.000
AEnvy → FOMO	0.171	0.040	4.357	.000
ComRat → FOMO	-0.290	0.036	7.668	.000
HB → FOMO	0.272	0.044	6.326	.000

Source: Authors, 2021

The results of hypothesis test through SEM analysis show that R-square is 0.467, indicating that the factors in the study account for 46.7% to the change of FOMO. The Beta coefficients of AE, AEnvy, Comrat and HB to FOMO are 0.349, 0.171, -0.290 and 0.272 respectively with independent variables in the study model statistically significant at the level of 5%.

Regression test 2: the influence of Fear of Missing out (FOMO) and Herd Behavior (HB) on Purchase Intention (PI).

Table 4.5 Model Summary of regression test 2

Model	**R Square**	**Adjusted R Square**
	0.342	0.339

Source: Authors, 2021

Table 4.6 Coefficients of regression test 2

Model	Unstandardized Coefficients		t	Sig.
	Beta	Standard Deviation (STDEV)		
FOMO → PI	0.460	0.041	11.337	.000
HB → PI	0.210	0.054	3.495	.000

Source: Authors, 2021

The results of hypothesis test through SEM analysis show that R-square is 0.342, indicating that the factors in the study account for 34.2% to the change of PI. The Beta coefficients of FOMO and HB to PI are 0.460 and 0.210 respectively with independent variables in the study model statistically significant at the level of 5%.

In summary, results of regression analysis are shown in **table 4.7.**

Table 4.7 Summary of overall findings

Hypothesis		Unstandardized Coefficients	t-test	P-value	R-quare	Results
H1	AE → FOMO	0,349	7,578	0,000	46.7%	Supported
H2	AEnvy → FOMO	0,171	4,269	0,000		Supported
H3	ComRat → FOMO	-0,290	7,977	0,000		Supported
H4	HB → FOMO	0,272	6,159	0,000		Supported
H5	FOMO → PI	0,460	11,252	0,000	34.2%	Supported
H6	HB → PI	0,210	3,905	0,000		Supported

Source: Authors, 2021

Based on the finding analysis, the authors are able to prove (1) Anticipated elation has a positive effect on FOMO when customers make online purchases during big promotional events on e-commerce platforms; (2) Anticipated envy has a positive effect on FOMO when customers make online purchases during big promotional events on e-commerce platforms; (3) Comforting rationalization has a negative effect on FOMO when customers make online purchases during big promotional events on e-commerce platforms; (4) Herd behavior has a positive effect on FOMO when customers make online purchases during big promotional events on e-commerce platforms; (5) FOMO has a positive effect on purchase intention when customers make online purchases during big promotional events on e-commerce platforms; and (6) Herd behavior has a positive effect on purchase intention when customers make online purchases during big promotional events on e-commerce platforms.

5. Discussion and Conclusion

The researchers introduced a framework that shows the impact of FOMO on purchase intention of discounted items on e-commerce platforms in Vietnam. The implementation of the research review and the actual survey of the author's team has shown and proved (1) Anticipated elation, anticipated envy, comforting rationalization, and herd behavior have positive/negative impacts on Fear of Missing Out; and (2) Fear of Missing Out and herd behavior have positive influences on purchase intention.

This paper will go through two groups of hypotheses in the study as follows.

Group 1: The relationship between Anticipated elation, Anticipated envy, Comforting rationalization, Herd behavior and FOMO.

The research findings show that anticipated elation, anticipated envy, and herd behavior have multiple regression results on FOMO of 0.349, 0.171, and 0.272 respectively. These findings prove that the three factors have positive and significant impacts on FOMO. Comforting rationalization, on the other hand, has the multiple regression result on FOMO of -0.290. This finding prove that this factor has a negative and significant impact on FOMO.

Anticipated elation, as the most direct factor influencing FOMO according to this research's findings, can be properly understood and leveraged by marketers by: (1) promoting the enjoyment of the experience rather than the products themselves; (2) creating striking images and messages; and (3) convincing customers to predict positive future consumption outcomes.

Although anticipated envy is the lowest among the four factors affecting FOMO ($\beta = 0.171$), that consumers predict themselves will make others jealous when owning a product at an affordable price with accompanied gifts also urges them not to miss out the opportunity to purchase the product. Marketers can (1) arouse consumers' competitiveness and self-expression, (2) publish a specific number of people who have won the opportunity to buy a good product at a good price, or the number of people who have a desire to own that product, (3) encourage customers to share the "results" they have obtained in each promotional event on their personal social networks.

According to the findings, comforting rationalization, with the coefficient of -0.290, reducing the effect of fear of missing out. Although this factor can be harmful to businesses when using FOMO marketing strategies, if marketers know how to use them effectively and control them appropriately, they can still elicit purchase intentions from customers by (1) reducing alternatives and (2) emphasizing the value that customers can receive when they participate in the promotional event.

Group 2: The relationship between FOMO, Herd behavior and Purchase intention.

The research findings show that FOMO and herd behavior have multiple regression results on purchase intention of 0,460 and 0,210 respectively. These findings prove that the two factors have positive and significant impacts on purchase intention.

The research shows that FOMO positively influences Purchase intention, which coincides to the findings of the previous studies (Zi Cheng Wesley Lim, 2016; Good &

Hyman, 2020). The authors, however, are able to prove the direct impact of FOMO to purchase intention.

The results showing the impact of herd behavior on purchase intent do not demonstrate a strong influence purchase intention as compared to the other factors. This may be because when asking others about a product, individuals will have more knowledge about it. However, this does not necessarily lead to the customer's purchase intention because information about the product can be either positive or negative.

Thereby, based on FOMO, marketers can (1) convey scarce messages about time and product availability, (2) emphasize what customers are about to miss, and (3) design an e-commerce website as a social network. Based on herd behavior, marketers can (1) encourage customers to comment or recommend the purchased products, (2) build functions on the e-commerce platform to inform about purchasing status of customers' friends, however, when taking this measure, businesses need to be careful in using consumers' private information, and (3) ncrease the credibility of herd behavior by ensuring product quality, which means product quality must coincide to the advertisement.

Further research can expand the scope of the study to include other types of customers so that differences in psychology and in the relationship between FOMO and purchase intent, if any, can be easily compared. Future research should also focus on specific industries, such as luxury goods, or broaden the scope of the study beyond the commercial context. Furthermore, herd behavior should be taken into account and measured as a moderating variable that influences the relationship between FOMO and purchase intent.

6. References

1. Ajzen, I. (1991), "The theory of planned behavior", Organizational Behavior and Human Decision Processes, 50.

2. Ayadi, N., Giraud, M., Gonzalez, C., 2013. An investigation of consumers'self-control mechanisms when confronted with repeated purchasetemptations: Evidence from online private sales. J. Retail. Consum. Serv. 20 (3),272–281.

3. Baker, Z. G., Krieger, H., & LeRoy, A. S. (2016). Fear of missing out: Relationships with depression, mindfulness, and physical symptoms. Translational Issues in Psychological Science, 2(3), 275–282. http://doi.org/10.1037/tps0000075.

4. Brandstatter, E., & Kriz, W. C. (2001). Hedonic intensity of disappointment and elation. Journal of Psychology, 135(4), 368–380. https://doi.org/10.1080/00223980109603705.

5. Elhai, J. D., Levine, J. C., Dvorak, R. D., & Hall, B. J. (2016). Fear of missing out, need for touch, anxiety and depression are related to problematic smartphone use. Computers in Human Behavior, 63, 509–516.

6. Hyman, M. R., Ganesh, G., & McQuitty, S. (2002). Augmenting the household affluence construct. Journal of Marketing Theory and Practice, 10(3), 13–32. https://doi.org/10.1080/10696679.2002.11501917.

7. Javadi et al (2012). An Analysis of Factors Affecting on Online Shopping Behavior of Consumers, International Journal of Marketing Studies.

8. Kaaviya R (n.d.), Influential Factors on Customers' Purchase Intension During a Flashsale on An E-Commerce Website: A Study in the Indian Context, Amrita School of Business, India.

9. Kang, I., He, X., & Shin, M. M. (2020). Chinese Consumers' Herd Consumption Behavior Related to Korean Luxury Cosmetics: The Mediating Role of Fear of Missing Out. Frontiers in Psychology, 11. doi:10.3389/fpsyg.2020.00121.

10. Lim, Zi Cheng Wesley. (2016), 'Tendency towards the Fear of Missing Out', doctoral thesis, Curtin Business School, Curtin University, Perth, Australia.

11. Mandel, N., & Nowlis, S. M. (2008). The effect of making a prediction about the outcome of a consumption experience on the enjoyment of that experience. Journal of Consumer Research, 35(1), 9–20. https://doi.org/10.1086/527339.

12. Megan C. Good & Michael R. Hyman (2020): 'Fear of missing out': antecedents and influence on purchase likelihood, Journal of Marketing Theory and Practice, DOI: 10.1080/10696679.2020.1766359.

13. Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates of fear of missing out. Computers in Human Behavior, 29(4), 1841–1848. DOI: http://doi.org/10.1016/j.chb.2013.02.014.

14. Tirtiroglu, E., & Elbeck, M. (2008). Qualifying Purchase Intentions Using Queueing Theory. Journal of Applied Quantitative Methods, 3, 167–78.

15. Tomczyk, Ł., & Selmanagic-Lizde, E. (2018). Fear of missing out (FOMO) among youth in Bosnia and Herzegovina — Scale and Youth Services Review, 88, 541–549.

16. Trường Hoàng Lên (2018), 'Pháp luật về bảo vệ quyền lợi NTD trong hoạt động khuyến mại của doanh nghiệp qua thực tiễn tại Kiên Giang và một số giải pháp hoàn thiện', luận văn thạc sĩ, Trường đại học Trà Vinh.

17. Van de Ven, N., Zeelenberg, M., & Pieters, R. (2011). The envy premium in product evaluation. Journal of Consumer Research, 37(6), 984-998.

18. Vecom (2020), Báo cáo chỉ số Thương mại điện tử Việt Nam 2020, available at https://vecom.vn/bao-cao-chi-so-thuong-mai-dien-tu-viet-nam-2020 (accessed March 14, 2021)

19. Wood, W., & Hayes, T. (2012). Social Influence on consumer decisions: Motives, modes, and consequences. Journal of Consumer Psychology, 22(3), 324-328.

20. Yen, C.-H., Hsu, M.-H., & Chang, C.-M. (2013). Exploring the online bidder's repurchase intention: A cost and benefit perspective. Information Systems and e-Business Management, 11 (2), 211–234. https://doi.org/10.1007/s10257-012-0201-0.

FACTORS AFFECTING THE APPLICATION OF HUMAN RESOURCE MANAGEMENT (HRM) SOFTWARE IN VIETNAMESE INSURANCE ENTERPRISES

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Abstract

HRM (Human Resource Management) is the human resource management software in enterprises. HRM is considered an important and necessary tool for integration, but so far, the use of this software in Vietnamese insurance enterprises is still very low. With 170 valid questionnaires, the author conducted Cronbach's Alpha analysis for the scale. The results of multivariate regression and ANOVA show that all four components: Trust, perceived usefulness, perceived ease of use, and implementation cost affect the intention to use HRM software in Vietnamese insurance enterprises. The research team has also determined that these factors have a positive impact on the intention to use HRM in enterprises at different levels. The analysis results have served as a basis for proposing recommendations such as raising awareness about HRM software, changing the mindset of the leadership, or focusing on training human resources to use software that should be given top priority.

Keywords: *Insurance enterprises, intention, HRM, Vietnam,*

1. Introduction

Management and development of high-quality human resources in insurance enterprises are facing two difficulties: shortage of qualified human resources, and ineffective talent retention policies and methods. The recruitment of non-professional human resources, in addition to incurring many costs such as knowledge training cost and soft skills development cost, has a lower attachment likelihood of employees who work in different fields than their majors compared to those who work in the fields similar to their majors.

The situation in which qualified and highly appreciated human resources in insurance enterprises change their jobs after a period of attachment is quite common nowadays. Development of a fair remuneration and capacity assessment mechanism for human resources is one of the effective measures in management and also an urgent issue that needs to be implemented in enterprises. Human resource management (HRM) software applies technology that helps enterprises manage their human resources comprehensively and professionally, from building organizational structure, managing HR records, recruiting, training, to assessing human resources through KPIs… HR information is shown specifically through specific reports to help HR departments and enterprise owners have appropriate strategies for their enterprises. Although HRM brings many benefits in human resource management, so far, many insurance enterprises have not yet put this support tool into serving human resource management at their enterprises. So, what factors affect the application of HRM software in Vietnamese insurance enterprises today?

2. Literature Review

2.1. Theoretical foundations

Today, the role of human resource management is increasingly important because of the fierce competition and the increasing skills level of employees. Gray matter, knowledge, and experience of these employees will be a decisive factor for the competitiveness of enterprises and also a challenge for managers to create favorable conditions and environment for this team to develope and devote. Along with the development of information technology, HRM software was born to better support enterprises in managing enterprise resources. HRM provides basic functions such as developing human resource strategy, recruiting the right people, for the right positions, managing, evaluating and rating employees, building, developing and retaining talented people, complying with labor laws and handling labor disputes. Recognizing the advantages of HRM software, many Vietnamese enterprises have applied and achieved many positive results. Although the benefits of using a HRM software solution have been proven in many enterprises, the implementation of HRM software depends on many factors. In addition to the implementation costs such as operation and user training, the application degree of enterprises also greatly affects the royalty fee. Furthermore, there is an influence of the users themselves, for example, they do not want to absorb new applications or have not attached great importance to the development of information technology.

In 1989, Davis introduced the Technology Acceptance Model (TAM) under the influence of perceived ease of use and perceived usefulness of technology on attitudes towards technology use. TAM is based on the Theory of Reasoned Action (TRA) described by Fishbien & Ajzen (1975) and the Theory of Planned Behavior (TPB) proposed by Ajzen (1991). To apply the technology acceptance model in research, we need to consider whether the components are suitable or not. According to Davis, perceived usefulness is the degree to which a person believes that using a particular technology would enhance his/her job performance. Accordingly, he also divided these statements into three groups: efficiency, productivity, and the importance of system to job. Next, the perceived ease of use factor is defined as the degree to which a person believes that using a particular technology would be free from effort, and he also identified it through three groups of factors including physical effort, mental effort, and expectation about personal experience that enables ease of use of the system.

HRM system is a kind of management software solution and an electronic technology product. Therefore, it is appropriate to apply TAM to study the factors affecting the application of HRM software in Vietnamese insurance enterprises. According to Davis, the intention that shapes the use of a technology product is based on trust, perceived usefulness, and perceived ease of use. The degrees of impact and proposed hypotheses are as follows:

Impact of trust. According to Yousafzai et al. (2003) in their study of e-trust model, the higher the trust, the lower the perceived risk, and users will have a positive view of the electronic system. If users does not have the trust, the use of HRM software will not occur. The first hypothesis (H1) is proposed as follows: When trust is assessed to increase or decrease, the intention to use HRM software in Vietnamese insurance enterprises will increase and decrease correspondingly.

Impact of perceived usefulness. Davis argues that perceived usefulness is the degree to which a person believes that using a particular technology would enhance his/her job performance. The second hypothesis (H2) is proposed as follows: When perceived usefulness is assessed to increase or decrease, the intention to use HRM software in Vietnamese insurance enterprises will increase and decrease correspondingly.

Impact of perceived ease of use. According to Davis, perceived ease of use is the degree to which a person believes that using a particular technology would be free from effort. The third hypothesis (H3) is proposed as follows: When perceived ease of use is assessed to increase or decrease, the intention to use HRM software in Vietnamese insurance enterprises will increase and decrease correspondingly.

In addition, the author proposes one more hypothesis, which is the implementation cost. The major problem that still exists in enterprises today is the funding problem. The implementation of HRM software, in addition to large funds, requires enterprises to have appropriately trained human resources. All of these factors require funding. The fourth hypothesis (H4) is proposed as follows: When the implementation cost is assessed to increase or decrease, the intention to use HRM software in Vietnamese insurance enterprises will increase and decrease correspondingly.

2.2. Scale development

Based on the Technology Acceptance Model (TAM) and additional hypothesis, the author has designed a survey questionnaire to assess the impact of the four factors: trust, perceived usefulness, perceived ease of use, and implementation cost on the intention to use HRM software in Vietnamese insurance enterprises. The scale, after being adjusted according to professional advice of experts implementing HRM software and opinions of surveyed enterprises, includes 16 observed variables. The scale uses 5-point likert with 5 being completely agree, and 1 being completely disagree. The symbol and content of each variable are synthesized by the research team and shown in Table 2.1.

Table 2.1: Observed variables of factors affecting the application of HRM software in Vietnamese insurance enterprises

Scale and symbol	Observed variable name
Trust (TT)	
TT1	HRM is a software that has good security and users do not have to worry about business data leaks
TT2	Using HRM software brings better efficiency in human resource management of enterprises
TT3	HRM helps enterprises develop sustainably
Perceived usefulness (NTHI)	
NTHI1	HRM software helps enterprises manage all human resource operations
NTHI2	HRM software helps enterprises arrange human resources in the most efficient way
NTHI3	Using HRM software helps increase operational efficiency of enterprises
Perceived ease of use (DSD)	
DSD1	Employees can learn how to use HRM software easily
DSD2	Modules on HRM are clear and easy to understand
DSD3	Departmental employees can quickly master functional components of HRM
DSD4	Employees can master the use of HRM software when they see others using it
Implementation cost (KP)	
KP1	Enterprises focus on investing in quality management of human resources
KP2	Enterprises always prioritize funding to implement enterprise human resource management software
KP3	Do you think that the funding for information technology development in enterprises ensures these activities
Intention to use (YD)	

YD1	HRM software meets the requirements of enterprises' human resource management
YD2	I will use HRM software in enterprise human resource management
YD3	I will recommend HRM software to other enterprises

Source: Construction research team

3. Method

3.1. Data collection methods

Survey samples are taken by convenience method. Primary data is mainly collected by survey method, in which the first part is personal information that will be kept confidential during synthesis and processing, the second part is evaluation and scoring questions, and the last part is open-ended questions for enterprises participating in the survey about ideas to help enterprises apply HRM software. The questions are adjusted to accommodate the content of the study. In parallel with collecting primary data, in order to assess the difficulties and shortcomings in the implementation of HRM software in Vietnamese insurance enterprises, the research team also combines the secondary data collection method. The main sources of information are obtained from the enterprises' website about the application of software in business management.

3.2. Methods of analyzing collected data

Literature review method: Theoretical contents are selectively inherited from research results of published scientific works on contents related to the Technology Acceptance Model (TAM) and human resource management software in HRM enterprises.

Method of analysis and synthesis: The author analyzes and synthesizes data collected from primary and secondary data sources. The article applies quantitative research method. To test the theoretical foundations stated, the study conducted a survey of Vietnamese insurance enterprises. The study used descriptive statistical analysis software SPSS 22.0 to process the collected information.

Scale reliability testing: Based on the Cronbach's Alpha coefficient to detect unreliable indicators in the research process.

Exploratory factor analysis (EFA) aims to dissect and arrange indicators measuring latent concepts and variables.

Multivariate regression analysis and ANOVA aim to evaluate the role of each component in the model.

Processing of data calculating relative numerical indicators aims to specify the factors affecting the application of HRM software in Vietnamese insurance enterprises.

4. Results

4.1. Current status of application of human resource management (HRM) software in Vietnamese insurance enterprises

Currently, on the commercial insurance market nationwide, as of December 31, 2019, there are 66 insurance enterprises (including 30 non-life insurance enterprises, 18 Vietnamese insurance enterprises, 02 reinsurance enterprises and 16 insurance brokerage enterprises) and 01 branch of a foreign non-life insurance enterprise. Insurance is an industry with a high growth rate compared to other industries, with the average growth rate of the non-life and life sectors of about 15%/year and 20%/year, respectively (According to statistics of the Insurance Association of Vietnam). In addition to the inevitable development due to the stable income of the people and the increasing demand for protection, the development of insurance industry is resulted from the increase of economic, environmental and epidemic instability. Because of the increasing development trend of the market, the problem of human resources working in the fields similar to their majors has not yet been solved, which is becoming increasingly difficult. There is a shortage of qualified and skilled human resources in insurance enterprises more than ever. Technology application in human resource management is an inevitable trend for integration, especially in the era of industrial revolution 4.0. The enterprises that have used HRM in Vietnam are mainly large enterprises and joint ventures or 100% foreign-owned enterprises. The application of HRM software in human resource management is considered an important and necessary tool for sustainable development, but it is still not properly understood and appreciated in insurance enterprises. According to the survey questionnaire results, less than 10% of insurance enterprises use HRM software. The research results presented below will show the impact of each factor on the intention to use HRM software in Vietnamese insurance enterprises.

4.2. Research results

4.2.1. Scale reliability testing

Cronbach's alpha reliability testing is the first step to carry out exploratory factor analysis (EFA). Through processing the survey data, the author synthesized and made a table of scale reliability coefficient testing results. The data in Table 4.1 show that the minimum total variable correlation of the components of the scale ensures the level >0.5 which is suitable for the research purpose. Data on Cronbach's alpha coefficient, if eliminating (the largest) variable, is smaller than the Cronbach's alpha coefficient, ensuring concurrently satisfying both conditions for keeping the observed variables for the following analyses. With the data satisfying the requirements of the above reliability analysis, all variables included in the Cronbach's alpha analysis are kept for the following analyses.

Table 4.1. Scale reliability coefficient testing results

No.	Scale	Initial observed variable	Cronbach's Alpha	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Remaining observed variable
1	TT	3	0.909	0.798	0.891	3
2	NTSHI	3	0.929	0.815	0.927	3
3	DSD	4	0.876	0.676	0.862	4
4	KP	3	0.777	0.577	0.740	3
5	YD	3	0.903	0.799	0.869	3

Source: Survey data processing results

4.2.2. Exploratory factor analysis (EFA)

The author performed exploratory factor analysis for each component scale. Table 4.2 Synthesized results of exploratory factor analysis (EFA) for each scale show that the KMO (Kaiser-Meyer-Olkin) coefficient is >0.5 for all scales. Next, we can see the value Sig is < 0.05, which ensures the standard for all the scales of the independent variable components, the total variance explained is greater than 50% as prescribed and all converge on a single common factor, with all factor loadings being greater than 0.5. After completion of step one of the exploratory factor analysis, we obtain all the observed variables that are eligible to be included in the exploratory factor analysis.

Table 4.2. Synthesized results of exploratory factor analysis (EFA) for each scale

Scale	KMO coefficient	Sig	Total variance explained	Number of factors eliminated	Number of converging factors
TT	0.752	0.000	85.069	0	1
NTSHI	0.753	0.000	87.512	0	1
DSD	0.759	0.000	72.857	0	1
KP	0.696	0.000	69.264	0	1
YD	0.754	0.000	83.806	0	1

Source: Survey data processing results

The research has conducted factor rotation, showing that 13 observed variables of the independent variable converge on 4 factors including trust, perceived usefulness, perceived ease of use, and implementation cost. The dependent variable is the intention to use HRM software in Vietnamese insurance enterprises with all factor loadings being greater than 0.5.

4.2.3. Research model and hypothesis testing

To evaluate the connection and impact direction of the group of components including trust, perceived usefulness, perceived ease of use, and implementation cost, the study uses regression analysis method supported by SPSS software. The equation used in this study is a multivariable regression equation, aiming to determine the important role of each component in assessing the relationship between factors and the intention to use HRM software in Vietnamese insurance enterprises.

Table 4.3. Linear regression results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.780[a]	.609	.600	.65899	.609	64.248	4	165	.000

a. Predictors: (Constant), KP, TT, NTHI, DSD

b. Dependent Variable: YD

Source: Survey data processing results

Based on the linear regression results in Table 4.3, Adjusted R square = 0.6 (>0.5) shows that 4 components have an impact on the intention to use HRM software in Vietnamese insurance enterprises. Looking at the regression analysis results, we see that the preconditions for the regression analysis are satisfied. Thus, we can consider the regression analysis results to be reliable. However, this goodness of fit is only true for the sample data. To test whether the model can be inferred for the real population, we must test the model's goodness of fit:

Table 4.4: ANOVA testing

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	111.604	4	27.901	64.248	.000[b]
	Residual	71.655	165	.434		
	Total	183.258	169			

a. Dependent Variable: YD

b. Predictors: (Constant), KP, TT, NTHI, DSD

Source: Survey data processing results

The ANOVA testing results show that the F-test value reaches 64.248 at the significance level sig = 0.000 < α = 0.1. Thus, we reject hypothesis H0, accept hypothesis H1, that is, 4 components of independent variable including TT, NTSHI, DSD, KP, and dependent variable YD have relationship with each other. Therefore, the model fits the data set and can be generalized to the population.

Table 4.5: Results of multivariate regression model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.177	.244		.727	.468		
	TT	.169	.071	.149	2.382	.018	.606	1.649
	NTHI	.369	.063	.399	5.902	.000	.518	1.930
	DSD	.238	.077	.211	3.101	.002	.513	1.949
	KP	.248	.069	.203	3.615	.000	.749	1.334

a. Dependent Variable: YD

Source: Survey data processing results

The table of regression results shows that the regression coefficients of the factors TT, NTHI, TDSD, and KP all have positive signs and R = 0.780> 0 showing that the components including trust, perceived usefulness, perceived ease of use, and implementation cost have a positive impact on the intention to use HRM software in Vietnamese insurance enterprises. At the same time, the table of regression results also shows that the variance inflation factor VIF is <2, which meets the best conditions, proving that we do not have the problem of multicollinearity in this study. Thus, the regression equation for standardized Beta coefficients is as follows:

$$YD = 0.149TT + 0.399NTSHI + 0.211DSD + 0.203KP \quad (1)$$

Based on the equation (1), we see that the intention to use HRM software of Vietnamese insurance enterprises depends on four factors: trust, perceived usefulness, perceived ease of use, and implementation cost. The results also show that the biggest influencing factor is perceived usefulness. Perceived usefulness increases by 1, then the intention to use increases by 0.399. The second biggest factor influencing the intention to use HRM software is perceived ease of use with a beta coefficient of 0.211. Implementation cost ranks third with a beta coefficient of 0.203, and the last is trust with a beta coefficient of 0.149.

5. Discussion and Conclusion

The development of information technology is pushing enterprises that want to stand firm to constantly enhance the quality of management and improve the production process. HRM is the most comprehensive human resource management tool and solution available today. Therefore, the implementation of HRM in Vietnamese insurance enterprises is absolutely necessary. Based on the survey data results and the assessment of the impact of each factor on the intention to use HRM software in Vietnamese insurance enterprises, the author proposes some recommendations as follows:

First, enterprises providing and consulting HRM need to promote their consultation and introduction to raise awareness and understanding of the HRM system for enterprise leaders and users, helping them understand the benefits of the application of HRM in human resource management. The results from the multivariate regression model also show that the component that has the greatest impact on the intention to use HRM software in enterprises is perceived usefulness. It can be seen that the survey respondents all said that HRM software has not brought many benefits to enterprises, or in other words, the implementation cost does not bring commensurate efficiency. When enterprises provide software that helps customers realize the real benefits of the application, the intention to use HRM software in Vietnamese insurance enterprises will increase significantly.

Second, it is necessary to change the mindset of enterprise leaders. Due to the short establishment and development time, Vietnamese insurance enterprises lack a lot of things from finance, technology to people. It is these things that make enterprises not choose to invest in information technology first, even though it brings many benefits to enterprises. Currently, these enterprises mainly follow the traditional direction with each department having different software. Therefore, to solve this problem, it needs the determination of the business leadership team. By applying methods such as organizing exchanges on business forums or directly visiting enterprises that have successfully applied HRM software, it will help the leadership team of Vietnamese insurance enterprises have new awareness and thinking about the application of HRM software in management.

Third, it is necessary to train human resources to use HRM proficiently. User training is the most important factor affecting the successful implementation of HRM system in Vietnamese insurance enterprises. Typically, for most software projects, user training is often the last thing to be considered and often one of the first items to be cut down when a project starts to fall behind schedule; however, for HRM projects, enterprises need to avoid this. All users must be trained to take full advantage of the system's capabilities. It is important that users receive training early and regularly throughout the project. If possible, users should also participate in the HRM system commissioning

Fourth, implementation cost. Although this factor does not have a great impact on the intention to use HRM software in Vietnamese insurance enterprises today, it is also a positive factor. Therefore, the cost-benefit optimization should also be considered. Enterprises need to clearly define the necessary modules when surveying and implementing HRM in enterprises. Accordingly, implementing enterprises should choose a suitable HRM provider that can provide a HRM system with maximum flexibility and ease of customization. In such cases, time and costs can be minimized.

6. References

1. Ajzen I., Fishbein M. (1975). *Belief, Attitude, Intention and Behavior: An Introduction to theory and research*. Addition-Wesley, Reading, MA.

2. Davis, F. D. (1989). *Perceived usefulness, perceived ease of use, and user acceptance of information technology*. MIS Quarterly, 13(3), 318-330.

3. Insurance Association of Vietnam (2020), *Vietnam insurance market data for the first 9 months of 2020*, Insurance Association of Vietnam, Hanoi, Vietnam

4. Insurance Supervisory Authority (2019), *Vietnam Insurance Forum and Exhibition 2019*, Insurance Supervisory Authority, Ministry of Finance, Hanoi, Vietnam.

5. Ministry of Finance (2020), *Insurance market overview in 2020, Ministry of Finance*, Hanoi, Vietnam Ministry of Finance (2020), *Insurance market overview in 2020*, Ministry of Finance, Hanoi, Vietnam

6. Ministry of Finance (2020), *Insurance market overview in 2020*, Ministry of Finance, Hanoi, Vietnam

METHOD OF CONTENT CLASSIFICATION BASED ON SUPERVISED MACHINE LEARNING IN ONLINE COMMENT MINING OF CUSTOMER

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Abstract

The study aims to apply the supervised machine learning method to the classification of product review content in online customer comment mining. The entire study was conducted automatic data collection with 2,241 customer reviews on products on Lazada.vn, then trained with Supervised Machine Learning models to find the most suitable model with the training dataset and apply this model to predict the reviews content for the dataset. The results show that the machine learning methods, those are Support Vector Machines (SVM), Decision Tree (DT) and Neural Network (NN) have the best performance with classifying customer comments in Vietnamese. The research results have reference value for applications of comment mining in the field of online business.

Keywords: *Content classification, Comment classification, Using supervised machine learning.*

1. Introduction

With the advancement of information technology has changed the way communication makes it easy for customers to access information and exchange content about products and services on a large scale in real time. The advent of social networks and e-commerce websites allows customers to evaluate products online through comments, such as: Lazada.vn, shopee.vn, tiki.vn, etc (Ochilbek Rakhmanov, 2020). With the explosion of Big Data, the comment of the online community needs to be collected and exploited automatically, allowing merchants to track shopping customer behavior, detect customer preferences and support customers to buy products and services in the best way (MehdiGolzadeh & et al, 2021).

Content classification is an important step in machine learning to research and exploit online customer comments. Currently, there are many authors who have studied the method of content classification at different levels. From results of domestic and foreign studies, the author finds that there are two approaches to classifying online comment contents by machine learning method: (1) Supervised Machine Learning and (2) Unsupervised Machine Learning (Sun & et al, 2017). Research direction, the method of exploiting customer comment contents is not newest, however, each method has its own advantages and disadvantages, no method is considered to be absolutely accurate. This study applies a supervised machine learning method to classify online customer comment contents with automatically collected data sources, including 2,241 customer comments about products on the Lazada.vn website.

2. Literature Review

2.1. Exploit the customer comments

Exploiting customer comments is a field of research to analyze and evaluate customers' opinions on objects such as products, services, organizations, individuals, events, topics and their properties (Pang & Lee, 2008; Liu, 2012). A customer comment mining process typically consists of three main steps: (1) Comment Retrieval, (2) Content Classification, and (3) Comment Summarization (K.M. Kavitha & et al, 2020; Kumar & Reddy, 2016). In which, content classification is considered as the most important step for the purpose of classifying comment according to the following levels: Positive; Negative; and Neutral. According to Liu (2012), customer comments mining is divided into three levels: (1) Document Level, at this mining level, it is assumed that each document represents the comment content about a single entity. Therefore, the analysis will not be applicable to documents that cover many subjects; (2) Sentence Level, at this mining level, it is assumed that each sentence represents the content of an object, however, the analysis will ignore the sentences with many clauses, each of which represents comments on different subjects; and (3) the entity/aspect level, instead of exploiting the comment according to the linguistic structure (document, sentence, clause...), this level of analysis looks at the content in target, the target of the comment can be an object or an aspect (attribute) of the object. Today, with the explosion of Big Data, the exploitation of customer comments has become a great concern of businesses, especially companies with websites that allow users to respond on the internet. Customer comments mining can also be added to Recommender Systems to recommend products with positive comment and not recommend product categories that receive a lot of negative comment (Özlem & Tutku, 2021; Pang & Lee, 2008).

2.2. Customer comment contents classification using Supervised Machine Learning

Supervised Lachine Learning is a Computer Science technique for constructing a function from training data. The training data consists of pairs of input objects (usually vectors), and desired outputs. The output of a function is to predict a label for an object (Reynaldo & et al, 2019).

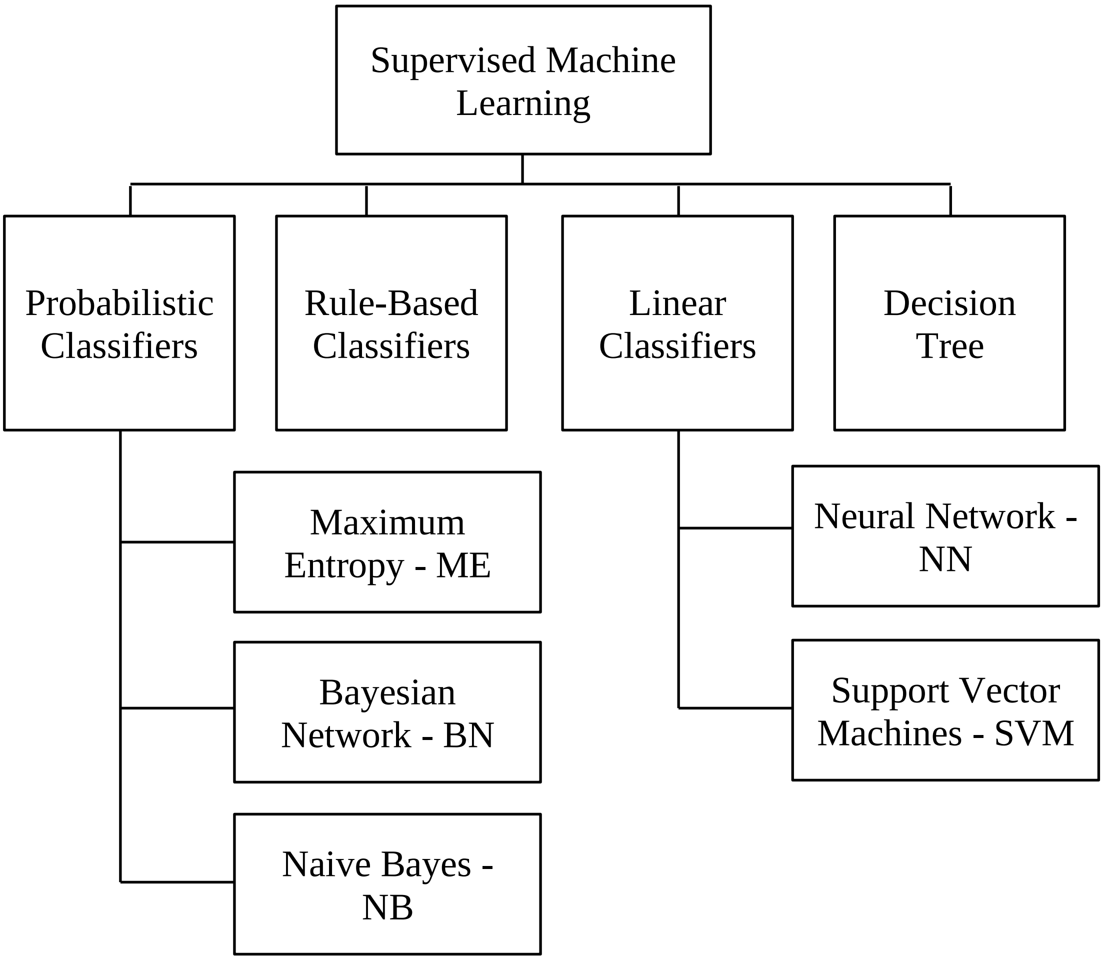

Figure 1: ***Customer comment contents classification using Supervised Machine Learning***

2.3. Some tools to support classification

No.	**Tool name**	**Uses**	**Reference resource**
1	Natural Language Toolkit (NLTK)	For text processing, coding classification, Stemming, tagging, parsing, and easy-to-use interface with more than 50 word and content resources vocabulary.	http://www.nltk.org/
2	GATE	Useful in developing a pipeline. Language analysis modules for different languages are contributed by developers. They are available to be used integrated into the pipeline.	https://gate.ac.uk/

3	CoreNLP	Perform the most common natural language processing tasks, such as: Part-of-Speech Tagging, Named Entity Extraction, Chunking and Co-Reference.	http://nlp.stanford.edu/software/ corenlp.html
4	OpenNLP	This is a JAVA library for natural language processing, supporting common tasks, including: encoding, sentence decomposition, word type labeling, object recognition, parsing.	https://opennlp.apache.org
5	WEKA	Algorithms data mining, data preprocessing, classification, clustering, regression, association rules, visualization.	http://www.cs.waikato.ac.nz/ml/weka/
6	VnTokenizer	This is a specialized tool to separate words, assign word categories to Vietnamese, developed by Le et al (2008). VnTokenizer is written in JAVA, can be used as Tools Command Line or Programming.	http://mim.hus.vnu.edu.vn/ phuonglh/softwares/vnTokenizer
7	Underthesea - Vietnamese NLP Toolkit	An open source set of Python modules, datasets and tutorials that support research and development in Vietnamese Natural Language Processing.	https://underthesea.readthedocs.io

3. Method

This study was conducted according to the method of knowledge mining from Knowledge Discovery in Databases - KDD. The steps in the research process are carried out as shown in Figure 2. The experimental environment is installed in Python programming language with the support of Python Vietnamese Toolkit (for Vietnamese language) and other tools available library.

Step 1. Data collection and preprocessing

The study was conducted to collect data by an automatic program, the data was taken from Lazada.vn website. This is a method of automatically collecting content from HTML pages of any internet resource by special programs or scripts. With the object and scope of the research aimed at the Vietnamese language, the data only uses customer comment in Vietnamese. Next, the study carried out data preprocessing by removing the missing data, the responses do not contain the necessary information to proceed to the next processing step.

Step 2. Data Labeling

This step is to prepare a labeled (or classified) dataset large enough to be used as a training data set. Usually for studies applying machine learning methods, this dataset will be built manually. However, in this study, after randomly reviewing the content of the collected comment dataset and based on the results of the rating scores (the rating field in the dataset), this study found that the comment with rating score less than 7.0 has negative meaning (Negative), and conversely, comment with rating score greater than 7.0 has positive meaning (Positive). Therefore, the training dataset was determined to have 2,241 comments, of which 81 were negative (labelled 0) and 2,160 comments were positive (labelled 1).

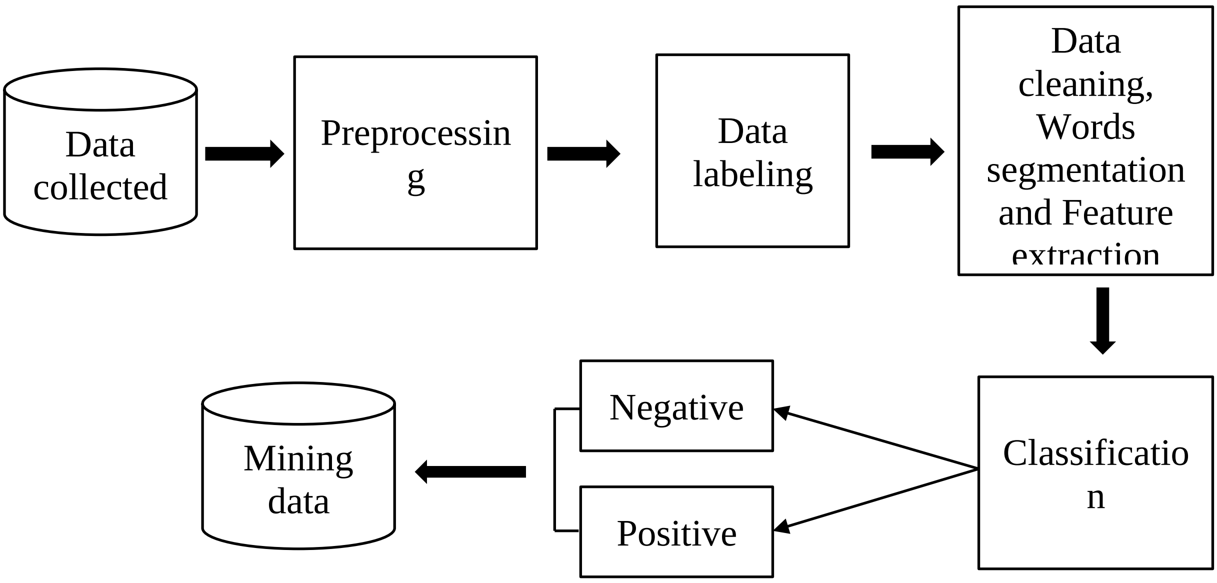

Figure 2: Research process

Step 3. Data cleaning, Words segmentation and Feature extraction

Data Cleaning: This step conducts data cleaning before starting processing on the dataset, including some natural language processing steps such as removing stop words, or checking spelling, etc.

Words Segmentation: This step is very important in natural language processing, and especially for Vietnamese language because there are many compound words, separating words in different ways can cause semantic ambiguity. This study inherits the separated library from Python Vietnamese Toolkit.

Feature Extraction: This step will select the typical features (keywords) that are representative of the data set as input for the classification algorithm. This study selects keywords according to TF-IDF method (Term Frequency/Inverse Document Frequency), the TF-IDF value of a keyword is a number obtained through statistics showing the importance of this keyword in a comment. The TF-IDF of the keyword w_i in the response d is calculated using the following formula:

$$if\_idf_{id} = f_{id} \times log\frac{N}{n_i}$$

With f_{id}: The frequency of occurrence of the keyword w_i in the comment d

N: Total number of the comment

n_i: Number of the comment where the keyword w_i appears

Comment classifier model training: This phase aims to determine whether a customer comment is Positive or Negative. This study applies the classification algorithms belonging to the group of supervised machine learning which is considered to be the best, they are Naive Bayes, Support Vector Machines, Neural Network and Decision Tree algorithms. Based on the combined results from previous studies related to the topic, to find the most suitable model for the dataset, which is the classified comments, and then to make predictions for the data unclassified comments or new comments data generated without retraining. The training process is carried out by the K-fold method, randomly dividing the data into K non-intersecting subsets. For each experiment (out of K times), one subset is used as the test data, and (K-1) the remaining subset is used as the training data. This study was conducted with K=5.

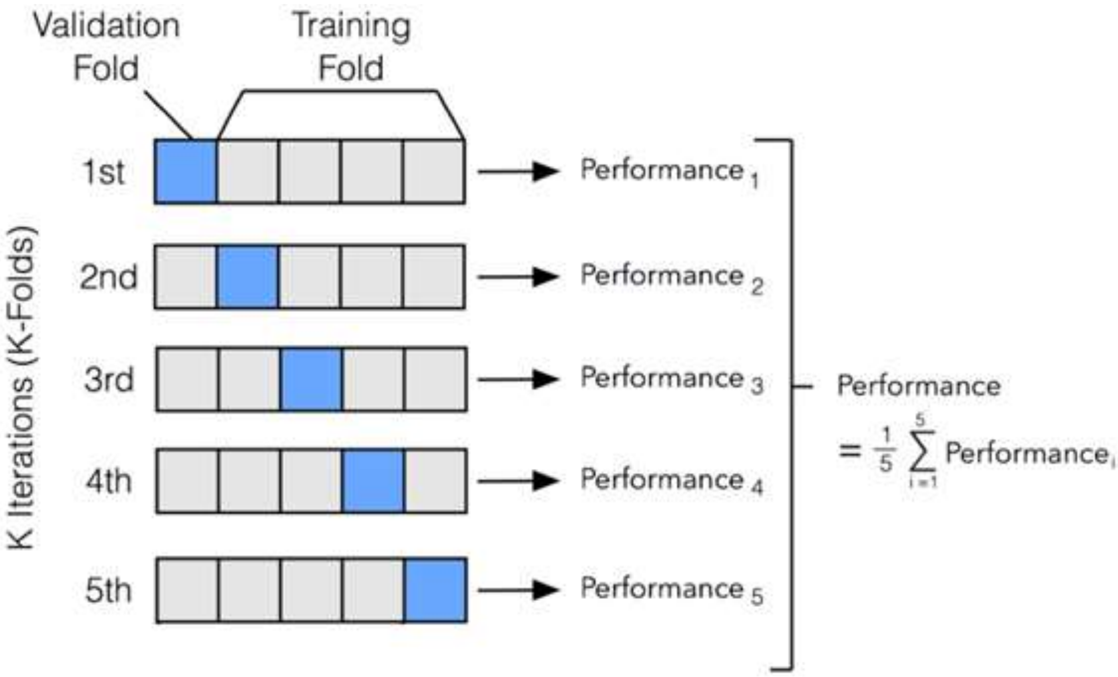

Figure 3: K-Fold method

With Performance: An average performance of 5 experiments

K Iterations: To repeat K times

Validation Fold: The dataset is used for testing

Training Fold: The dataset is used for training

Step 4. Evaluation of classification efficiency

The study used the method of evaluating the classification model which is based on the calculated indexes in the Confusion Matrix as Table 1.

Table 1: Confusion Matrix

	Reality: Positive	**Reality: Negative**
Predict: Positive	True Positive (TP)	False Negative (FN)
Predict: Negative	False Positive (FP)	True Negative (TN)

The effectiveness of the comment classification model is evaluated based on 4 indicators: Accuracy, Precision, Recall, and Average value of harmonics (F1). In addition, this study also considers the training time factor (Time) of each model.

With in:

$$Accuracy = \frac{TN + TP}{TN + TP + FP + FN}$$

$$Precision = \frac{TP}{TP + FP}$$

$$Recall = \frac{TP}{TP + FN}$$

$$F1 = \frac{2 \times Precision \times Recall}{Precision \times Recall}$$

4. Results

4.1. Results of data collection and preprocessing

The results of data collection were 2,241 customer comments on products in Vietnamese of 15 items across 5 stores. The data is distributed as shown in Table 2.

Table 2: Results of data collection and preprocessing

No.	Products	Amount	Number of comments	Medium
1.	Television	14	173	12.4
2.	Fridge	6	93	15.5
3.	Air conditioning	9	196	21.8
4.	Jeans	3	12	4.0
5.	T-shirt	4	54	13.5
6.	Man swimwear	3	45	15.0
7.	Iphone 12	2	246	123.0
8.	Iphone 11 pro max	2	198	99.0
9.	Iphone 10	4	74	18.5
10.	Samsung Galaxy A32	3	297	99.0
11.	Samsung A52	3	157	52.3
12.	Samsung A72	2	65	32.5
13.	OPPO Watch	5	289	57.8
14.	OPPO Reno5	4	32	8.0
15.	OPPO A53	4	310	77.5
Total		68	2.241	

Table 3: Training results by K-Fold (K=5)

No.	Method name	Average accuracy	Standard deviation	Training time (seconds)
1	Naive Bayes (NB)	0.48	0.05	16.02
2	Support Vector Machines (SVM)	0.80	0.02	4.33
3	Neural Network (NN)	0.79	0.03	312.29
4	Decision Tree (DT)	0.70	0.03	315.56

The training results showed that the SVM, NN and DT models have the best accuracy (0.80, 0.79 and 0.70). Meaning these models were relatively suitable for the training dataset. However, if considering the factor of training time, only the NB and SVM models were the best. Therefore, subsequent applications could use two these models as a tool to classify comments for unclassified comment data or newly generated comment data without retraining. The results of this study helped determine the appropriate method and tool for classifying comments.

5. Conclusion

This study has conducted a review of the theoretical basis of the comment classification method and proposed the application of a supervised machine learning method for automatic comment content mining. Experimental results show that Neural Network, Decision Tree and Support Vector Machines methods are the best in training methods. This study has a reference value for applications of comment mining in the field of online sales. Online businesses can use the results to automatically assess which items are the best rated by many customers, thereby increasing the number of items in stock, increasing the frequency of suggestions and marketing that product to prospective customers for increasing sales. And the items that have many negative customer reviews are an opportunity for businesses to consider what factors inside the company or outside lead to that. If the product is not good, the enterprise considers reducing the number of such items. However, this study still has many limitations, which can be continued in the future or in future studies: Firstly, in terms of data collection, this study only collects data that is the customer comment on items on Lazada.vn website. The study can extend to collecting customer comment on any products or services on e-commerce websites or social networking sites; Secondly, about the scale, this study only classifies customer comment on a scale of 2 levels: Positive, and Negative. The next research direction can use a scale of more levels (for examples, a 5-level Likert scale); Third, about the comment content classification technique, this study only uses the supervised machine learning method, if combined with the semantic-based lexical method, it may give better results.

6. References

15. K.M. Kavitha & et al, (2020), *Analysis and Classification of User Comments on YouTube Videos,* International Workshop on Artificial Intelligence for Natural Language Processing (IA&NLP 2020), Vol 177, pp. 593-598.

16. Kumar, S., & Reddy, B, (2016), *An analysis on opinion mining: Techniques and tools*, Indian Journal of Research, 5(8), pp. 489–492.

17. Le, N. M., Do, B. N., Nguyen, V. D., & Nguyen, T. D, (2013), VNLP: *An open source framework for Vietnamese natural language processing*, In Proceedings of the Fourth Symposium on Information and Communication Technology, 88–93.

18. Liu, B, (2012), *Sentiment analysis and opinion mining*, Synthesis Lectures on Human Language Technologies, 5(1), pp. 1–167.

19. MehdiGolzadeh & et al, (2021), *A ground-truth dataset and classification model for detecting bots in GitHub issue and PR comments*, Journal of Systems and Software, Vol 175 pp. 110-125.

20. Ochilbek Rakhmanov, (2020), *A Comparative Study on Vectorization and Classification Techniques in Sentiment Analysis to Classify Student-Lecturer Comments*, Procedia Computer Science, Vol 178, pp. 194-204.

21. Özlem & Tutku, (2021), *Classification of rare diseases: A comment on 'atlas of esophageal atresia'*, Journal of Pediatric Surgery.

22. Pang, B., & Lee, L, (2008), *Opinion mining and sentiment analysis*, Foundations and Trends in Information Retrieval, 2(1-2), pp. 1–135.

23. Reynaldo & et al, (2019), *Gender Demography Classification on Instagram based on User's Comments Section*, 4th International Conference on Computer Science and Computational Intelligence 2019 (ICCSCI), 157, 64-71.

24. Sun & et al, (2017), *A review of natural language processing techniques for opinion mining systems*, Information Fusion, 36, 10–25.

CURRENCY MANAGEMENT UNDER THE CONTEXT OF DIGITAL TRANSFORMATION IN VIETNAM

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Abstract

Digital transformation has led to the significant changes in many of sectors in Vietnam in recent years including monetary control. Under the context of digital economy, Vietnam's monetary regulation is affected by fintech development, the available of cashless payment services and financial openness. Based on applying VAR model for monthly data for 1/2013 to 1/2020, this paper examined the impact of factors representing the digital economy on the transmission channel of monetary policy. We found that digital economy in general and cashless economy transformation in particular having resulted in positive effects to monetary control and reduced the lag of monetary policy immediately.

Key words: *digital economy, monetary policy.*

1. Introduction

In Vietnam, The Law on the State Bank in 2010 stipulates: "National monetary policy is the monetary decision making at the state level by the competent state agency, such as stabilizing the value of the domestic currency expressed by the inflation target, determining the use of tools and measures to achieve the planned goals". The ultimate goal of monetary policy is to control inflation, stabilize the exchange rate, supporting the economic growth, reducing the unemployment rate…The main channels of Vietnam's monetary transmission include interest rates, exchange rates and credit channels. The interest and credit transmission channel are the focus of monetary policy, related to reducing interest rates through increasing money supply or promoting credit growth also through increasing money supply. The exchange rate transmission channel involves an increase in the volume of the money supply leading to a devaluation of the VND. A depreciation of the local currency is expected to increase net exports and thereby increase the real GDP of the economy. Vietnam's economic growth therefore depends a lot on exports, so like the interest rate channel, the exchange rate channel also plays a very important role.

The term "digital economy" was previously mentioned prior to the concept of

Industrial Revolution 4.0. However, only when Industry 4.0 appears, the digital economy will be mentioned more and become a development trend, because of its link with modern technologies such as artificial intelligence, big data, digital assets... Monetary regulation in the digital economy in Vietnam is significantly influenced by three factors such as (i) Fintech development, (ii) Development of electronic payment (also called cashless payment) and (iii) Financial openness and economic globalization.

The study examined the influence of factors on money management under the context of the digital economy. Particularly, our focused on assessing the impacts of technology and digitalization applied to financial services on the effectiveness of monetary management in Vietnam. Evaluating how electronic money (e-money) and electronic payments affect the replacement of cash in the economy. The efficiency of monetary policy depends on monetary policy transmission mechanism which connects policy tools and policy outcomes. Therefore, the study also analyzes the implications for the transmission mechanism and effectiveness of monetary management. This study understood that electronic payment (e-Payment) is a type of payment carried out electronically by financial intermediaries, both financial and non-financial institutions. Electronic money is a digital alternative to cash which allows users to make cashless payments with money stored on card or a phone or over the internet (EC, 2009).

2. Literature Review

Factors affecting monetary management under the context of the digital economy

Currently, the number of quantitative studies evaluating the impact of digital economy such as digital currencies and/or new payment use on money control focuses on cash substitution effect or effect of electronic payments on money demand. Money growth is usually based on analysis of the money demand function. Understanding this issue will allow policymakers to develop an appropriate monetary policy and adjust the equivalent increase in the money supply. The stability of money demand will provide a key link in the monetary policy transmission mechanism through the interest rate channel. This is an important basis for effective monetary policy implementation (Laumas, 1978), (Mohsen Bahmani-Oskooee & Yongqing Wang, 2007). Foreign studies showed that there was not constant finding of the relationship between electronic payments and cash demand. (Amromin, G., and S. Chakravorti, 2007) found their negative relation. Using panel estimation techniques to analyze the change in transaction demand for cash resulting from greater usage of debit cards in 13 countries from 1988 to 2003, this research found that both consumers and merchants generally prefer debit cards over other payment alternatives. By grouping cash into three denomination categories, they also found that electronic alternatives to cash will reduce the demand for cash of certain denominations. Clearly, demand for low-denomination notes and coins decline as debit card usage increases, but demand for high-denomination coins is generally less affected. Additionally, the general demand for cash will continue to grow strongly in the future because of cash's anonymity and store of value. (STIX, 2004) analyzed the withdrawal behavior of Austrian individuals based on surveys from 2003 and 2004 to assess how EFT-POS payments and ATM withdrawals affect purse cash demand. The results revealed that purse cash demand was significantly affected by debit card usage and that there were significant differences in cash demand for individuals with different debit card usage frequencies. The study of (Anderson-Reid, 2008) uses an error correction model (ECM) to estimate the impact of the use of these alternative means of payment on the demand for currency in Jamaica during the period April 2003 to June 2008. The results suggested that the volume of ATM transactions increases the currency stock while both the volume of EFTPOS transactions and the number of cards negatively influence the demand for currency. As a consequence, payments media such as EFPOS machines are not readily available in some areas of the country and where they are available some consumers might still chose not to use them given the associated charges.

Unlike the above studies, (Bech, M., Faruqui U., Ougaard F., and Picillo C., 2018); (Kartika V. and Nugroho A., 2015) showed that the demand for cash remains high despite the growing use of electronic payments worldwide. These studies covered developed and emerging economies. They focused on three motives of holding cash: transaction, precautionary and speculative (or portfolio). The results after conducting the panel data regression showed that developed countries saw an increasing demand for cash after the global financial crisis of 2008-2009 due to a lack of confidence in the payment system and low cost of cash holdings. Reports of the death of cash were greatly exaggerated. In fact, cash in circulation has not decreased for most countries, only few countries were considered cashless or less cash economies. Demand for cash is particularly noticeable in advanced economies and may be driven by store-of-value motives rather than payment needs. The expansion of large and small denominations suggests that cash is increasingly used as a store of value rather than for payment motives. Over the decades, the demand for large denomination notes has exceeded the demand for smaller denominations. In fact, some countries (such as Korea and Russia) have seen the decline in demand for smaller denominations and the increase in demand for larger denominations. By examining the impact of modern technology on money demand, Tehranchian et. al, (2012) examines the impact of modern technology including credit cards, ATM and electronic funds of transfer at the Point-Of-Sale (POS) on money demand for Iran. Using seasonal data over the period of 2001-2008, this study showed that the long-run impact of modern technology on demand for money is strongly greater than short-run in Iran. They used cross-sectional data and autoregressive distributive lag model in their analysis in which they found that by increasing the number of ATMs and credit cards, the demand for currency increased in both short and long runs. The long-run impact of modern technology on demand for money is strongly greater than short-run.

In addition to studies assessing the alternative effects of new payment services, many of studies evaluated the influence of electronic payments and digital money on monetary policy. (Thitima Chucherd, Thosapon Tonghui, Acharawat Srisongkram, Natta Piyakarnchana, 2018) used GMM and Factor VAR models to study impacts of digitalization in financial services for monetary policy in Thailand by investigating whether the widespread use of e-Payment has contributed to a decelerating trend of cash in circulation in the Thai economy. Cash in circulation (CIC) was a dependent variable to represent money demand. They indicated e-Payment usage including total retail e-Payment, card payment, internet and mobile banking (called e-Money). The period of study covers data from 2010 to 2018. Their model found that e-Payment in Thailand significantly substitutes cash especially card payment as well as internet and mobile banking. This paper also conducted the empirical study of monetary policy transmission mechanism due to employing the Factor VAR model. The empirical study showed that e-Payment supports monetary policy transmission in several channels. (1) The interest rate channel has no impact. This is partly because adjustment in the interest rate channel also depends on other factors, such as commercial banks' financial structure, sensitivity of deposit and loan amounts to policy rate adjustment, and competition in banking industry. (2) The credit channel is slightly more effective partly owing to more loans extension with better loan pricing strategies based on risk profiles of each borrower. (3) The asset price channel is more effective. People can easily reallocate assets due to lower transaction costs that could consequently impact their wealth. The estimation also find that money demand depends on economic growth, short-run interest rates, stock market index, and e-Payment usage. (4) The exchange rate channel is expected to be more effective as e-Payment could reduce cross-border transaction costs, partly shown by a large volume of capital flows especially in the capital market. However, there is no apparent impact on the exchange rate. According to (Al Laham M., Abdallat N., Al Tarawneh H., 2009), the impact of electronic currency on monetary policy could mostly be expected in the following aspects: (i) Reduced the Central bank's control over the money supply. The extent to which the central bank's control over the money supply would be reduced according to the substitution of money in circulation for e_money. This would result in difficulties in measuring and regulating the money supply by the Central Bank. (ii) Increase the velocity of money. With the use of e-money, transactions are relatively cheaper and convenient because transactions will take place in real time across thousands of miles. Theses lead to increase the number of transactions and increase the speed of money. Generally, it will be useful in the case that the central bank can control or measure monetary aggregates. (iii) Exchange rate fluctuations. Due to the ease of transfer of these funds, electronic money denominated in a stronger currency could be preferred and therefore would cause “exchange rate instability, not only giving rise to instability in the financial system but also working as a factor limiting the influence of monetary policy. Electronic money breaks down the barriers between countries and could one day lead to a universal currency backed by a commodity based basket of goods and services with universal price set in an auction market. Decreased ability to control cross country currency exchanges lowers the central bank’s control of the money supply. (iv) The change in the currency multiplier is an important indicator. The money multiplier is directly affected by the increased use of electronic money as a replacement for conventional currency. When electronic money is introduced, currency decreases and deposit money increases as the private propensity to retain cash goes down. Therefore, the currency ratio is reduced, the money multiplier becomes larger, and the volume of money supply created from the supply of fix reserve money is amplified. This shows that electronic money will directly affect the money multiplier through the currency ratio.

3. Method

Empirical method

In the next section, the study analyzed the influence of some factors representing the digital economy on (i) the effectiveness of money management represented by the target inflation (measured by consumer price index) and (ii) monetary policy transmission mechanism. Based on the studies of B. Bernanke, ECB (2002), Sarno and Taylor (2001), Frederic S. Mishkin (1996), Aleem (2010)…This study examined the impact of factors representing the digital economy on the transmission channel of monetary policy through credit and money supply _ M2 (called broad money, the sum of M1 and time and savings deposits), interest rate and the exchange rate. The factors related to the monetary policy transmission channel could be divided into two groups: domestic factors and foreign factors. Domestic factors including credit, prices, money supply, short-term interest rates, exchange rates represent transmission channels of monetary policy and variables representing digital economy. World oil prices and US interest rates represent the foreign factors.

We applied VAR (Vector Auto Regression) model according to the studies of Starr (2005), Hericourt (2005), Mohanty and Turner (2008)…to test the above relation. The VAR model is useful for identifying economic shocks and the interaction of factors arising from these shocks, especially existing co-coordinated relationship among variables. VAR not only identifies monetary policy shocks but also measures the influence. Furthermore, VAR can also reduce the severity of endogeneity that can make the results less reliable. With the VAR model, the model has the form as follow:

$$Y_t = AY_{t-1} + BX_t + v_t$$

Where: Y_t is the vector of endogenous variables, X_t is the vector of the exogenous variables, and v_t is the vector of error. The A matrix is the coefficient matrix representing the relationship among the endogenous variables. The B matrix including parameters represents the relationship between endogenous variables and exogenous variables.

Data

We used monthly data for 1/2013 to 1/2020. Data are taken from the General Statistic Office of Vietnam, the International Monetary Fund's International Financial Statistics (IFS), and the State Bank of Vietnam. Details of data sources and variable definitions are given in the following table:

Table 1: List of variables expected to be used in the model

Groups of Variables	Name of variables	Notation	Description
Domestic endogenous variables	Logarithm of the CPI	Cpi	Log of price index
	Growth of credit	Credit_growth	Credit growth rate
	Growth of M2	M2_growth	M2 growth rate
	Short-term interest rate (%)	R	Overnight lending rates on the interbank market
	Logarithm of the exchange rate	Ex	Log of average interbank exchange rate at the end of the quarter
Foreign exogenous variables	Logarithm of world oil price	Oil	Log of world oil prices
	Federal Funds rate (%)	R_US	Overnight lending rates on the US interbank market
Domestic endogenous variables representing the digital economy's characteristics	Logarithm of the number of ATMs, POS/EFTPOS/EDC	ATM_POS	Log of the number of ATM, POS/EFTPOS/EDC
	Logarithm of the number of accounts	Account	Log of the number of payment deposit accounts
Foreign exogenous variables representing the digital economy's characteristics	Logarithm of the transaction value through ATM, POS/EFTPOS/EDC	ATM_POS_amount	Log of transaction value through ATM, POS/EFTPOS/EDC
	Logarithm of the average account balance	account_amount	Log of average balance in demand deposit account

The two variables including the world price of oil and the overnight interest rate in the U.S interbank market (U.S Federal Fund Rate) represent foreign shocks (mentioned by S.Kim, N.Roubini, 2000). The U.S has been one of the Vietnam's strategic partners and Vietnam's important export market. Therefore, the volatility in the U.S market results in a profound effect on Vietnam. Besides, fluctuations in oil prices also lead a great influence on the Vietnam's economy where is a crude oil exporter and importer of petroleum as well. Gasoline is also an important input to production. Fluctuations in world prices of oil affects both consumers and producers. Besides, world oil prices also was considered to affect inflation expectations.

Unlike previous studies on monetary policy transmission channels, the study added a group of variables representing the digital economy related to technological innovation, the digital transformation such as the number of ATMs and POS/EFTPOS/EDC, the number of payment deposit accounts, the transaction value through these channels and the average demand deposit account balance.

4. Results

Data description

In order to gain reliable results, we removed seasonal effects from the time series data and conducted stationary test prior to modelling. The data series being used here was the monthly series so it might contain 12-month trends in a year. After testing for seasonality, the results identified that credit_growth and M2_growth data repeat every months. For the two variables showing the monthly trend, we adjusted these variables and received the variables after the seasonal adjustment including creditgrowth_adj and M2growth_adj. To test the stationarity of the variables, the study used the Augmented Dickey-Fuller Test.. Among the above group of variables, only three variables were stationary at the original value and the remaining 8 variables were stationary at the first difference.

Variables correlation

CPI is highly correlated with Ex, ATM_POS, Account, ATM_POS_amount, account_amount, R_US. CPI and oil price carried a low negative correlation. CPI and R_US carried zero correlation (no statistical significance at the 10% level). The credit_growth carried a high positive correlation with the ATM_POS, Account, account_amount and a high negative correlation with the oil price. M2 growth had a low correlation with the rest of variables and was mostly negative. The Ex had a high positive correlation with R, R_US, ATM_POS, Account, account_amount, ATM_POS_amount and negatively correlated with the oil price. Existing a low correlation between R and remaining variables and a positive correlation between ATM_POS_amount and R_US.

Testing for cointegration using the Johansen methodology

According to Johansen test using to test cointegrating relationships, there are no cointegration. Therefore, the VAR model is a suitable model.

Optimal lag selection

The result of optimal lag selection show that the lag (p=1) is selected by three criteria. However, when the serial autocorrelation test (LM test) for VAR(1) is performed, the result shows the autocorrelation at the lag 1 and 3 (months). To address the autocorrelation, the lags 1 and 3 are included in the VAR model. The serial autocorrelation test for the model VAR(1,3) show the result of accepting Ho (no autocorrelation). The result of the lag exclusion test agrees that the lags 1 and 3 are significant in all equations (with p-value < 0.05) except in the equations of creditgrowth_adj and ex. Hence, the lags of 1 month and 3 months are chosen. This is also of economic meanings that the interactions between economic variables have a lag of 1 month and 1 quarter.

Estimation results of VAR (1,3)

The stability test shows that the model satisfies the stability requirement with all eigenvalues inside the unit circle. Then, to check the significance of the variables representing the digital economic conditions such as Account, ATM_POS, account_amount, ATM_POS_amount in the model, the study uses Wald test for each variable. According to the results, all these exogenous variables are significant. Next, the Granger causality test checks whether one variable can be used to improve the prediction for another variable. In the Granger test, the hypothesis H0 is no relationship.

According to the test results, the growth rate of accounts d.Account and interest rate R are the causes of the change in inflation d.cpi at 5% significance level (dX is the first difference of X). In the equation of credit growth, the percentage change in the exchange rate d.Ex and interest rate are significant in explaining the change in credit growth. For the growth of money supply M2growth_adj, there are many factors explaining the fluctuation of this variable including: inflation (d.cpi), credit growth (d.creditgrowth_adj), interest rate (R), the number of ATMs and POSs (ATM_POS). For exchange rate, only inflation (d.cpi) is significant in explaining changes. Interest rate is influenced by credit growth. Meanwhile, the number of ATM_POS is influenced by the growth of money supply M2growth_adj.

Impulse Response Functions (IRF) and Forecast Error Variance Decomposition (FVD)

The general VAR(p) model has many parameters, and they may be difficult to interpret due to complex interactions and feedback between the variables in the model. As a result, the dynamic properties of a VAR(p) are often summarized using various types of structural analysis. The two main types of structural analysis summaries are (1) impulse response functions (IRF); and (2) forecast error variance decompositions (FVD). Main purpose of IRF is to describe the evolution of a model's variables in reaction to a shock in one or more variables along a specified time horizon in VAR model. Predictive variance decomposition, often referred to as variance decomposition, is another way to describe the dynamics of a VAR model. While the IRF determines the effect of one shock on other endogenous variables, the VDF separates the variability of an endogenous variable according to the different shocks in the VAR model. Thus, the VDF allows us to assess the relative time importance of each shock to the variability of the variables in the model. The results of the analysis of the response function and the decomposition of variance will be analyzed in the following sections.

Impulse Response Function (IRF)

The results of the IRFs of the endogenous variables to a one standard deviation shock on the number of ATM_POS. The results show that the marginal response of endogenous variables to the shock increases to the peak and then decrease gradually over time. The strongest impact is seen in the first 5 months (reaching peak after 2 or 3 months). Among the variables of monetary policy, the shock to the number of ATMs and POSs has the strongest positive impact on the money supply growth M2_growth. The impact of the shock peaks after 3 months and then decreases. After 5 months, the impact is no longer statistically significant. The cumulative effect over time of the shock is in positive and statistically significant. This can be explained through money multiplier. An increase in the number of ATMs and POS represents the growth of cashless payment. A decrease in the demand for cash increases money multiplier and then increase the money supply for the economy. For exchange rate and credit growth variables, the shock from ATM_POS has a positive impact on these two variables in the first two months, but these effects are not statistically significant at the 5% level. In contrast, with inflation, the shock has an opposite effect, but this effect is also not significant at 5% level.

The results of the response of endogenous variables to a one-standard deviation shock on the growth of the number of account d.Accounts. The shock to the growth of the number of checking accounts has a negative and statistically significant effect on inflation after 1 month and 2 months at a 5% significant level. For other variables, the impact from the shock is not statistically significant. The explanation for this relationship comes from the fact that when an increase in the number of accounts represents the gradual shift of habits from using cash to using cashless payment methods. This helps the regulator to control the money supply as well as to better predict the impact of monetary intervention, helping policymakers come up with appropriate monetary policies. In other words, an increase in the opening and use of current accounts helps monetary management become more efficient and then realize the ultimate goal of monetary policy, which is to control inflation.

Forecast Error Variance Decomposition (FVD)

Appendix below shows the variance decomposition of the impact of shock on ATM_POS and d.Account on other endogenous variables of the model. The results shows that up to 10% of the variation in the error of the variable M2growth_adj is explained by the shock to ATM_POS. The explanatory power of shock to d.Account for the variation of errors of other endogenous variables is not significant.

The impacts of exogenous variables representing the digital economy

According to the VAR model estimation results, when the average account balance d.account_amount increases, the d.Ex exchange rate decreases. This effect is statistically significant at the 10% level. This can be because when the balance of the current account increases, people more believe in the financial system and the value of VND. Furthermore, maintaining higher current account balance represents a shift in payment behavior from cash to non-cash forms. This helps the monetary authorities better manage the financial sector, increase efficiency, reduce the delay of monetary policies, enhance macroeconomic stability and thus increase the value of VND.

Current deposit balance also has a negative effect on short-term interest rate and this effect is statistically significant at 5% significance level. As the account balance increases, short-term interest rates tend to decrease. This can be explained by increasing average balance of account combined with money multiplier, which increases the money supply and reduces short-term interest rates accordingly. This effect is periodical and immediate.

The average transaction value through ATM and POS (d.ATM_POS_amount) has a positive effect in the same period on short-term interest rates and this effect is statistically significant at 5% significance level. This comes from the fact that nowadays ATM transactions are mainly cash withdrawal transactions. The number of ATMs increase and the coverage is large, creating convenience for people to withdraw spendable cash. Then cashflows out of the banking system affect the money supply (in a downward direction) as well as the efficiency of money management, leading to an increase in short-term interest rates.

5. Discussion and Conclusion

Under the context of digital economy in general and cashless economy transformation in particular has resulted in positive effects to monetary control and reduced the lag of monetary policy (immediate impact or peaking quickly within a quarter). This situation led to the decline in inflation and stabilization of the value of the local currency. In Vietnam, develop and diversify non-cash payment services, especially through mobile devices; encouraging entities in the open economy, maintaining balance and making payment transactions to purchase goods and services, etc. through demand accounts is not only the direction chosen and is being implemented by the government. It is also an important solution to maintain transactions and promote business activities under the context of social distancing due to the Covid-19 pandemic.

Based on the results of the above model combined with the actual context of Vietnam, the study makes some recommendations to promote the positive impact of the digital economy, specifically in this study, payment. not using cash to effectively manage money in the near future. (i) *Regarding the legal regulation*: develop criteria measuring the rate of using non-cash payment means; promulgate regulations on management of financial technology (fintech) companies, e-wallets, mobile money; complete and update the national scheme on non-cash payment (with a mechanism to encourage and enforce non-cash payments, ...). In addition, it is necessary to have regulations on information and data sharing; mechanism to recognize the results of appraisal and mutual authentication among credit institutions, to build a national database of personal identification; the study of digital banking licensing…(ii) *Regarding the population's habit of using cash*: organizing demand-stimulating programs, refunding money on electronic transactions, freeing small transactions; building an integrated electronic tax system e_tax; building a prompt Pay money transfer system that allows you to use no bank account but a national identification code and mobile phone number...At the same time, service providers need to actively propagate, create attractive products and services for people to increase transactions over the Internet. (iii) *About safety and security:* Payment service providers need to increase investment in security infrastructure, ensure the smoothness of payment activities of banks and simplify registration procedures and processes. Specifically, developing and perfecting the Tokenization system (a secure process that automatically encodes the customer's card number) and the mobile payment switching infrastructure; develop security systems, fix security holes...

6. Reference

1. Al Laham M., Abdallat N., Al Tarawneh H. (2009). Development of the electronic money and its impact on the central bank role and monetary policy, . *Issues in Informing Science and Information Technology, Volume 6.*

2. Aleem, A. (2010). Transmission Mechanism of Monetary Policy in India. *Journal of Asian Economics, Vol. 21, No.2, pp. 186–197.*

3. Amromin, G., và S. Chakravorti. (2007). *Debit Card and Cash Usage: A Cross-Country Analysis.* Federal Reserve Bank of Chicago, FRB of Chicago Working Paper No. 2007-04.

4. Anderson-Reid, K. (2008). Estimating the Impact of the Alternative Means of Payment on Currency Demand in Jamaica. . *Bank of Jamaica Publications.*

5. B. Bernanke, M. Gertler. (1995). Inside the black box: The credit channel of monetary policy transmission. *Journal of Economic Perspective, 9,pp.27-48.*

6. Bech, M., Faruqui U., Ougaard F., và Picillo C. (2018). *Payments are a-changin' but Cash Still Rules.* Bank for International Settlements, BIS Quarterly Review March 2018.

7. Chi, M. (2019). Độ mở kinh tế lớn nhất thế giới, Việt Nam nên củng cố nội lực để tăng trưởng bền vững. *Dân trí*, https://dantri.com.vn/kinh-doanh/do-mo-kinh-te-lon-nhat-the-gioi-viet-nam-nen-cung-co-noi-luc-de-tang-truong-ben-vung-20190130101017746.htm.

8. EC. (2009). *E-money - Directive 2009/110/EC.*

9. ECB. (2002). *Recent Findings on Monetary Policy Transmission in the Euro Area.* Monthly Bulletin, October.

10. Héricourt, J. (2005). *Monetary Policy Transmission in the CEECs: Revisited Results Using Alternative Econometrics.* (Unpublished; Prais: University of Paris), Available at: ftp://mse.univparis1.fr/pub/mse/cahiers2005/Bla05020.pdf.

11. Kartika V. và Nugroho A. (2015). ANALYSIS ON ELECTRONIC MONEY TRANSACTIONS ON VELOCITY OF MONEY IN ASEAN-5 COUNTRIES. *Journal of Business and Management, Vol.4, No.9, 2015,* 1008-1020.

12. Laumas, G. (1978). A test of he stability of the demand for money. *Scottish Journal of Political Economy, Vol. 25 (3)*, 238-251.

13. Mishkin, F. S. (1996). The Channels of Monetary Transmission: Lessons for Monetary Policy.

14. Mohanty, M.S., & P. Turner. (2008). *Monetary Policy Transmission in Emerging Market Economies: What is New.* BIS Paper, No. 35, pp. 1-59.

15. Mohsen Bahmani-Oskooee & Yongqing Wang. (2007). How Stable Is The Demand For Money In China? *Journal of Economic Development vol. 32(1)*, 21-33.

16. S.Kim, N. (2000). Exchange rate a nomalies in the industrial countries: a solution with a structural VAR approach. *Journal of Monetary Economics,45(3),pp.561-586.*

17. Sarno, L., & M. P. Taylor. (2001). *Official Intervention in the Foreign Exchange Market: Is It Effective, and, If So, How Does it Work?* CEPR Discussion Paper, No. 2690.

18. Starr, M. (2005). Does Money Matter in the CIS? Effects of Monetary Policy on Output and Prices. *Journal of Comparative Economics, Vol. 33, No.3, pp. 441–461.*

19. STIX, H. (2004). How do debit cards affect cash demand? Survey data evidence. . *Empirica, 31*, 93-115.

20. Tehranchian, A. M., Samimi, A. J., & Yazdandoust, A. . (2012). The Impact of Modern Technology on Money Demand in Iran. *Iranian Economic Review, Vol.16, No.32* , 133-147.

21. Thitima Chucherd, Thosapon Tonghui, Acharawat Srisongkram, Natta Piyakarnchana. (2018). Monetary Policy Group, Bank of Thailand Digitalization on Financial Services and Implications for Monetary Policy in Thailand. *https://www.researchgate.net/*.

Appendix

Stationality of the series

Variable's name	Original variable	Difference in order 1
Cpi	Non – stationary	Stationary
M2growth_adj	Stationary	-
Creditgrowth_adj	Non – stationary	Stationary
R	Stationary	-
Ex	Non – stationary	Stationary
Oil	Non – stationary	Stationary
R_US	Non – stationary	Stationary
ATM_POS	Stationary	-
Account	Non – stationary	Stationary
ATM_POS_amount	Non – stationary	Stationary
account_amount	Non – stationary	Stationary

Correlation coefficients between variables

	cpi	credit~j	M2grow~j	Ex	R	ATM_POS	ATM_PO~t
cpi	1.0000						
creditgrow~j	0.3777*	1.0000					
M2growth_adj	-0.1661	0.1817*	1.0000				
Ex	0.9668*	0.5336*	-0.1740	1.0000			
R	0.1240	-0.0631	-0.2292*	0.1468	1.0000		
ATM_POS	0.8491*	0.6953*	0.0073	0.9024*	0.0222	1.0000	
ATM_POS_am~t	0.7926*	-0.0003	-0.3494*	0.7336*	0.3268*	0.3956*	1.0000
Account	0.9668*	0.5157*	-0.1142	0.9810*	0.1570	0.9248*	0.6864*
account_am~t	0.9631*	0.5426*	-0.1486	0.9817*	0.0797	0.9244*	0.6902*
oil	-0.3481*	-0.7448*	-0.0826	-0.5123*	-0.1000	-0.7130*	0.0543
R_US	0.9060*	0.2789*	-0.2293*	0.8886*	0.1894*	0.6834*	0.8676*

	Account	ac~mount	oil	R_US
Account	1.0000			
account_am~t	0.9675*	1.0000		
oil	-0.5456*	-0.5116*	1.0000	
R_US	0.8451*	0.8766*	-0.1662	1.0000

** Significance at 10%*

Results of Granger's test

Granger causality Wald tests

Equation	Excluded	chi2	df	Prob > chi2
D_cpi	D.creditgrowth_~j	.77005	2	0.680
D_cpi	M2growth_adj	.02988	2	0.985
D_cpi	D.Ex	2.6306	2	0.268
D_cpi	R	9.0196	2	0.011
D_cpi	ATM_POS	1.5044	2	0.471
D_cpi	D.Account	12.506	2	0.002
D_cpi	ALL	18.506	12	0.101
D_creditgrowth_~j	D.cpi	1.7501	2	0.417
D_creditgrowth_~j	M2growth_adj	.27591	2	0.871
D_creditgrowth_~j	D.Ex	5.442	2	0.066
D_creditgrowth_~j	R	4.7989	2	0.091
D_creditgrowth_~j	ATM_POS	1.1603	2	0.560
D_creditgrowth_~j	D.Account	.47892	2	0.787
D_creditgrowth_~j	ALL	10.647	12	0.559
M2growth_adj	D.cpi	8.9718	2	0.011
M2growth_adj	D.creditgrowth_~j	10.634	2	0.005
M2growth_adj	D.Ex	4.5637	2	0.102
M2growth_adj	R	5.7752	2	0.056
M2growth_adj	ATM_POS	20.882	2	0.000
M2growth_adj	D.Account	.25052	2	0.882
M2growth_adj	ALL	47.6	12	0.000
D_Ex	D.cpi	7.0082	2	0.030
D_Ex	D.creditgrowth_~j	.94609	2	0.623
D_Ex	M2growth_adj	2.2149	2	0.330
D_Ex	R	1.1417	2	0.565
D_Ex	ATM_POS	.49708	2	0.780
D_Ex	D.Account	.26127	2	0.878
D_Ex	ALL	10.489	12	0.573
R	D.cpi	.56758	2	0.753
R	D.creditgrowth_~j	5.068	2	0.079
R	M2growth_adj	2.9293	2	0.231
R	D.Ex	.28811	2	0.866
R	ATM_POS	1.0108	2	0.603
R	D.Account	2.9258	2	0.232
R	ALL	12.893	12	0.377
ATM_POS	D.cpi	3.0579	2	0.217
ATM_POS	D.creditgrowth_~j	.79884	2	0.671
ATM_POS	M2growth_adj	8.6077	2	0.014
ATM_POS	D.Ex	.80661	2	0.668
ATM_POS	R	3.3809	2	0.184
ATM_POS	D.Account	1.1376	2	0.566
ATM_POS	ALL	15.188	12	0.231
D_Account	D.cpi	.32072	2	0.852
D_Account	D.creditgrowth_~j	.59855	2	0.741
D_Account	M2growth_adj	.60702	2	0.738
D_Account	D.Ex	1.8723	2	0.392
D_Account	R	4.5823	2	0.101
D_Account	ATM_POS	4.2269	2	0.121
D_Account	ALL	11.861	12	0.457

HOW DO CONSUMERS TRUST THE SIGNALS IN E-COMMERCE MARKET - THE CASE OF COSMETICS PRODUCTS

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Abstract

Consumer trust is an important factor in consumer decision, especially in the market of credence good – the good that sellers know about its quality, but buyers do not. If the good is traded in E-commerce market, that information asymmetry can be even more amplified. This paper empirically studies how young consumers trust the signals provided by sellers (with a purpose of reducing the asymmetry) in the e-commerce market with the case of cosmetics. Cosmetics are the item chosen as a research object because it is a typical good for the group of goods – the group of goods that consumers can hardly distinguish the quality even after being used. In summary, we use a Rank Ordered Logit model for the surveyed data set to rank the importance of signals in customers' online cosmetic consumption decisions in conditions of asymmetric information of both markets and products. The signals include product quality signals, service signals, and operation signals. After controlling factors about customer characteristics, the authors find that signals such as "The store is a genuine agent", "the store is a booth on Shopee Mall", and "famous Beauty Bloggers review the store" receive the most trust from the customers. In addition, these signals also play an essential role in customer purchase intention. In contrast, stores respond to customers quickly and allow consumers to track orders as signals that are not so important to customers. Moreover, the higher the convenience of the rated site, the higher the level of trust in the signals will be. This result can be applied in categories including medicine, old electronics, and organic food.

Keywords: *Credence goods, E-commerce, ROL model*

1. Introduction and literature review

In the past few years, the e-commerce market has been increasingly active. Along with that, asymmetry in the e-commerce market in general and some items themselves have contained asymmetries, such as cosmetics, particularly a hot issue that receives the attention of both consumers and businesses. Because of the difference in information capture between consumers and businesses due to the "late" nature of transactions, inferior quality products and false signals are rampant in the market and even more alarming when they are processed more and more sophisticatedly. This asymmetry makes it almost impossible for consumers to distinguish between products and reliable signals from counterfeits. Therefore, this market also gradually gives customers a less sympathetic view and they remain loyal to the traditional shopping style even though online shopping brings many utilities.

The theory of information asymmetry between buyers and sellers was first mentioned by Akerlof [1]. He took into consideration the informational asymmetry in the product. Specifically, in the used car trading market, buyers are entirely disadvantaged compared to sellers when it is impossible to know in advance the quality of cars they bought before using them. The theory also points out that information asymmetry will direct the market away from its optimal level, and even extreme asymmetry can lead to the collapse of the market.

One theory developed from Akerlof's asymmetric information theory is the theory of signaling proposed by Spence. In asymmetric information, the theory is that suppliers of high-quality products must provide signals to consumers to help them distinguish their products from low-quality products. Signals can be in different forms, such as labeling, packaging and pricing.

Applying these two foundational theories to items containing asymmetric information, Stiglitz and his associates [3] studied asymmetry in the insurance market. In this market, customers or insurance buyers have more information than the sellers - the insurance companies. Insurers will categorize their customers by risk type by offering a wide range of insurance products to everyone and for customers to choose for themselves. For example, a low-premium, high-deductible health insurance policy will attract healthy customers while less attractive to customers with multiple health problems. Unhealthy customers are more likely to buy premium, low-discount policies. In this way, the market will lead to what the authors call a "Separating equilibrium" state, in another word, the market in which people's risk portfolios are determined by the type of insurance they have purchased. Stiglitz and Rothschild also point to certain conditions under which there will be no balance, and the market simply does not exist. In addition, he pointed out that asymmetric information and economic motivations are not merely academic abstractions but specific phenomena of far-reaching explanation in the analysis of institutions and market conditions in other developing economies.

Also, based on asymmetric theory (Akerlof) and signaling (Spence), some recent studies consider asymmetry and consumer confidence in the e-commerce market - an emerging and potential market.

In particular, the trim studies have reached certain conclusions. Z.liu [4] research on an online shopping app – Alibaba has discovered information asymmetry in e-commerce because of the difference between the time, space, and location of transactions. He has carried out the operational analysis, characteristics, and factors that influence the information asymmetry between buyers and sellers in the e-commerce market. Accordingly, during the transaction of the e-commerce market, the seller owns all the information about the store and the goods sold. However, because the seller pursues his interests, it maximizes the non-disclosure of its non-positive information or goods; information shared by both parties is unevenly distributed, causing problems of unfavorable selection and moral risks. Since then, Z.liu has analyzed the "game" made against the strategic choices of buyers and sellers in conditions of incomplete information. Finally, the study makes practical policies or proposals for analytical results, which reduces the level of information asymmetry in e-commerce so that Alibaba and other e-commerce platforms can achieve better development.

Another research trend that delivers more well-founded results is dosing studies, primarily using quantities of economic models and Machine Learning. Mavlanova and her associates' research uses a combination of Content analysis and K-means to compare signaling methods of online drug-selling websites. The study takes into account signaling in three aspects: the cost of signal s falsity, the ease of verification of the signal, and the time of signaling (before purchase, during purchase, and after purchase). Research shows that low-quality sellers display fewer signals than high-quality sellers, as well as low-cost and easy-to-verify signals such as "addresses," "communications." Meanwhile, signals such as "have a genuine agent", "have a seal from a third party" or "have a warehouse address" are high-cost and easy-to-verify signals that are only used by high-quality sellers. High-cost signals are not always profitable for low-quality sellers due to their initial cost because they often enter and exit the market quickly and re-appear with new domains. In contrast, high-quality sellers remain on the market and therefore benefit from the display of high-cost signals. Alternatively, research by Moriuchi [6] in Japan has pointed to the relationship between signaling and consumer trust. Research shows that their people are not willing to ignore product quality in exchange for discounted items or convenience in the online market. Instead, they are only willing to consume in the online market when they have confidence in product quality. For Japanese people, the trust when buying their goods comes from the belief in the product quality of the online shop, the supplier' coverage (for example, through advertising), fewer promotions, and finally, positive reviews of former consumers. These statements are concluded by analyzing the element - analyzing the original composition

(PCA) based on the data set surveyed by NTTCom Online Marketing Solutions Corporation (NTTCom) from customers who regularly shop online.

Studies of asymmetry in the e-commerce market combined with the asymmetry of credit items in Vietnam are pretty scarce, mainly dosing studies, or there is no combination of both issues. For example, Tran Ha Anh Quan and Tran Huy Anh Duc [7] study factors affecting customer trust in the e-commerce market. Although this study has found some specific factors that affect customer trust, it has not been intensely exploited in the asymmetry of markets and goods.

Summing up, studies show that, with items in the e-commerce market in general and credit items in particular, consumers often cannot evaluate the quality of products themselves before deciding to order and consume. Therefore, they must rely upon the signals given by businesses. In these signals, in addition to genuine and complex signals such as "genuine agents", "stores on Shopee Mall", ..., there are still unfounded and easily created signals such as "address", "communication method", "commitment to return", ... The above signals in Vietnam may not be reliable because the management mechanism is not as tight as in developing countries, so assessing the role of these signals for the Vietnamese market is essential and useful for both businesses and consumers. This will limit the information asymmetry between buyers and sellers when the buyer passively absorbs the business's signals. The results make consumer confidence in the e-commerce market decreasing and gradually shifting with traditional shopping. Therefore, to develop this market and build consumer trust, it is vital to stand as the underlying party for the accuracy of signals from state management agencies. In this study, we will be primarily interested in evaluating signals on the part of customers, namely the study of consumer confidence. In the situation that consumers cannot verify the quality of products before deciding to buy online, and even after receiving goods for typical items such as cosmetics, what signals will they rely on? It is the issue of top concern in this article, from which it is possible to make some recommendations for businesses, the state, and consumers. The selection of cosmetic items for research is based on two main reasons: Firstly, it is possible consider both asymmetry in the market and like the item – a combination that almost no research has mentioned; Secondly, cosmetics are an increasingly popular item for today's youth.

2. Method

Rank Ordered Logit (ROL) regression model.

To prove the quality of their products and prestige, or in other words, to minimize the asymmetry between buyers and cosmetic sellers, businesses need to give signals to attract consumer trust. However, besides the genuine signals, difficult to fake or need significant costs such as genuine agent certification, is the booth on Shopee Mall, ... then there are very easy to fake signals with the low cost such as communication methods and return commitments, ... So, what signals do consumers believe? Therefore, this section will evaluate what signals are important to consumers when they decide to buy cosmetics online, thereby showing the feasibility of the signaling policies of the business.

In the questionnaire, consumers will perform a rating of 9 signals of the business given according to the degree of importance gradually increasing from 1 to 9. Since dependent variables are rating variables, the appropriate resumable model is Rank Ordered Logit. The model was first introduced by Beggs [10]. The model can be concisely explained as follows:

For signal set from enterprises including J items; Random signals rated J by individual i (Ui), defined as:

$$U_{ij} = v_{ij} + \epsilon_{ij}$$

The defining part of v_{ij} the signal, which is the random component of ϵ_{ij} the signal, is assumed to be independent and follows the distribution of extreme values. As long as the random variables are independent and distributed identically, we have the following formula (Beggs and associates, 1981):

$$P\left(U_{i1} > U_{i2} > \cdots > U_{ij}\right) = P\left(U_{i1} > U_{ij} \mid j \geq 2\right) \ldots P\left(U_{i(j-1)} > U\left(r_{ij}\right) \mid j \geq j\right)$$
$$= \prod_{J=1}^{J} \frac{e^{v_{ij}}}{\sum_{k=1}^{J} \delta_{ijk} e^{v_{ik}}}$$

Therefore, the probability that the I rating signal 1 first, ..., the final J signal will be:

$$\mathrm{P}\left(\mathrm{U}_{\mathrm{i}1} > \cdots > \mathrm{U}_{\mathrm{ij}}\right) = \prod_{J=1}^{J} \frac{e^{v_{ij}}}{\sum_{k=1}^{J} \delta_{ijk} e^{v_{ik}}} \quad (1)$$

Moreover, it can be in which it can be in which: v_{ij}

$$\mathrm{v}_{\mathrm{ij}} = \mathrm{a}_{\mathrm{j}} + \sum_{i=1}^{J} \beta_j x_i \quad (2)$$

The indicators i sign the second person, and j are the corresponding signals; is a vector of the characteristics of the answer; x_iα, β are the numbers to estimate.

From (1) and (2), the probability function will be:

$$\mathrm{L}(\alpha, \beta) = \prod_{i=1}^{N} \prod_{j=1}^{J} \frac{e^{a_j + \sum_{i=1}^{N} \beta_j x_i}}{\sum_{k=1}^{J} \delta_{ijk} e^{a_k + \sum_{i=1}^{N} \beta_j x_i}} \quad (3)$$

According to Beggs and his partner (1981), the ability function to concave co-variables, so the first-tier condition is also eligible for the highest function. Therefore, the parameters (α, β) can be estimated by explained to the first-degree condition for the function (3).

Data

Research items are cosmetics – favorite items of young people. Therefore, the study carried out a randomized investigation from students of the National Economics University. The data collection is done as follows: The author's group goes to several random classes, gives questionnaires and funding to all students in the class, and collects questionnaires soon after. The questions are based on previous studies and after examining samples on 20 consumers and eliminating inappropriate factors. The result received a questionnaire of 15 questions/group of questions. The questionnaire was then investigated for the second time by 30 other random consumers to ensure the words used in the questionnaire were easy to understand and clear. The survey received 305 responses, of which 42 responses that had never used cosmetics were removed from the list, the set of data used for calculation and analysis in the remaining study of 263 responses.

Table 1. Basis statistics for demographic variables

Variable		In template (Person)	Percent (%)
Gender	south	120	39.47
	female	184	60.53
Age	2000	92	30.26
	2001	137	45.07
	2002	59	19.41
	1999	16	5.27
Area	rural	124	40.79
	urban	180	59.21

The data collected is exceptionally even in terms of gender as well as hometown. Meanwhile, students born in 2001 accounted for half of all observations in the sample.

According to the survey, 86.18% of respondents used to buy cosmetics online. Over 74% of consumers used cosmetics from mid-range to high-end brands, and 89% believed that the products received were of the right quality as advertised when buying online. The above figures show that consumers also have a certain confidence in the online market. However, the number of people who believe in the quality of products when buying traditionally still reaches a higher percentage (96%). The figure is pretty close to reality because, besides the utilities of online shopping, consumers face more risks.

After studying the properties and effects of cosmetics. As well as gaps in online cosmetic consumption from previous research articles such as Kim [8]. Since then, the topic has carried out a review of the level of apprehensive of customers on a scale of liker 5 from very unbelievable (1) to very confident (5) about the risks that can be encountered as follows:

Health risks when using cosmetics online: Suffering from dangerous diseases such as lead poisoning, skin cancer,...; Premature skin aging; Allergenic when used; Causes end noisy disorders.

Service risks when buying cosmetics online: Addresses and phone numbers provided on the web are misused; Account number took advantage of; The store does not give returns as committed; Cannot contact the store when the product has a problem; Do not receive goods after paying online via app.

Below is a brief description of customers' risk aversion when using online cosmetics through the author's survey.

Level of fear of risks of customers when consuming cosmetics in the e-commerce market

Table 2. Level of risk apprehensive of customers (unit: % by line)

Risk	Very unbelievable	Unbelievable	Medium news	Pretty trusting	Very trusting
Dangerous diseases	3.42	14.83	33.46	27.76	20.53
Aging skin	3.42	23.57	31.94	23.95	17.11
Allergy	3.42	23.95	30.04	27.38	15.21
End noisy disorders	4.56	23.95	30.80	28.14	12.55
Address, phone number misused	3.04	20.53	39.92	28.90	7.60
Don't give back	6.08	28.14	31.56	29.66	4.56
No contact	7.98	25.86	34.98	26.62	4.56
Account number being taken advantage of	5.32	29.66	36.50	24.33	4.18
Do not receive goods after payment	15.59	31.94	36.12	15.21	1.14

The majority of questioners were more concerned about health risks than service risks; the risk of dangerous diseases was the one that consumers were most concerned about (20.53%), followed by skin-related problems with 17.11% and endocrine disorders with 15.21%. In the survey, people were less interested in whether the account number was taken advantage of or did not receive the goods after paying online.

The e-commerce market in Vietnam is a new market with pretty a few loopholes in operation, which is why customers have a fairly high level of risk when trading in this market, especially with credit items such as cosmetics. Therefore, businesses need to send signals to attract and build trust with consumers.

Through previous research on consumer confidence such as Mavlanova [5], Morais [9], and through sample surveys about the signals that Vietnamese cosmetic consumers are interested in when buying cosmetics online. The authors' team has synthesized some of the following signals:

Signals to increase customer confidence in product quality: The store is a genuine agent; The store is a shop on Shopee Mall; Products reviewed by famous Beauty Bloggers; Stores regularly receive good customer feedback

Signals that show that the enterprise has a system that operates in a system and reliably: The store is a genuine dealer; The store is a store on Shopee Mall; Products are reviewed by famous Beauty Bloggers; The store often receives good feedback from customers

The following signals indicate that the enterprise has a system that operates systematically and responsibly: The store has a specific address; The store displays the contact method; The store responds to customers quickly; Stores allow consumers to track order; The store commits to return and exchange when detecting inferior quality products

So, do the signals given by businesses promote the effect of attracting and building trust with customers? This is a question that is always interested by brands because each signal requires certain costs.

Customer confidence in the signals issued by the business.

In the questionnaire, the answer will evaluate the above nine signals on a liker five scale from very unbelievable (1) to very confident (5).

Table 3. Consumer confidence in signals when shopping online (unit: % by column)

Trust level / signal	Very unbelievable	Unbelievable	Medium news	Pretty trusting	Very trusting
The store is a shop on Shopee Mall	0	2	29	40	30
The store is a genuine agent	0	1	25	47	27
Products reviewed by Beauty Blogger	1	10	40	36	14
Store with a specific address	0	6	47	40	6
Store receives good customer feedback	1	10	36	46	7
Store return commitments	1	13	36	41	9
Have communication methods displayed	0	14	52	30	4
Allow consumers to track orders	0	17	52	28	3
Store responds to customers quickly	3	19	57	20	2

In the above signals, considering the total percentage of customers who evaluate pretty confident, we find that the first 3 signals receive the most trust from customers with the percentage of trust: 70%; 74%; 50%. Realize that these 3 signals are official signals – certified and guaranteed information security help consumers have a basis for trusting the products they consume and the services they receive.

The signal group that receives a pretty high trust from customers is the 4th signal; 5; 6 according to table 3 with the percentage of customers trusting are 46%; 53%; 50%. Signals 5 and 6 have a fairly reliable and very trusting customer volume higher than signal 3. However, on the other hand, the number of customers is only half that of signal 3, so signal 3 is still more important. Considering that this signal group is intended to assert itself about the quality of its products, however, this information is difficult to verify, and no agency guarantees their accuracy.

The group that received the least customer trust was the last 3 signals with the corresponding percentage: 34%; 31%; 22%. These are signals about the service of the store and less correlation with the quality of the product.

So are the signals most trusted by customers important signals when consumers decide to buy cosmetics online? To answer this question, the authors continued to survey how important the signals are to respondents by ranking 9 signals on a scale of 1 to 9 with 1 being the least important and 9 as the most important. The results are as follows:

Ranked the top nine on a scale of 1 to 9.

From table 4, we consider the first signal (The store is a store on Shopee Mall) - this is the signal that many consumers rank highest when deciding to buy cosmetics online. For example, the number 47 in this line said 47% of the questioning people ranked this signal as the most important of the 9 indicators given.

Table 4. The importance of signals when consumers decide to buy online

(unit:% by line)

Signal \ Rank	1	2	3	4	5	6	7	8	9
The store is a shop on Shopee Mall	4	3	1	1	3	5	11	25	47
The store is a genuine agent	8	5	1	3	7	8	17	19	33
Products reviewed by Beauty Blogger	2	3	5	10	10	16	14	22	18
Store with a specific address	8	7	8	6	16	10	20	15	11
Store receives good customer feedback	6	6	9	10	16	14	19	12	9
Store return commitments	3	2	6	6	14	21	21	18	8
Have communication methods displayed	7	5	5	5	15	13	25	16	8
Allow consumers to track orders	5	8	10	8	16	16	19	13	6
Store responds to customers quickly	6	5	5	11	16	18	22	9	6

The ranking results from table 4 are pretty similar to table 3 in terms of reliability and importance of signals to customers. Accordingly, genuine signals such as the booth on Shopee Mall, which is a genuine agent and reviewed by the famous Beauty Blogger, are still the most important signals for customers and the most trusted signals for consumers.

Furthermore, customers are not too concerned about service signals such as order tracking and quick responses.

3. Results

The topic of performing a revoicing of 9 ranking signals of trust (Rank) to evaluate the contribution of each signal to trust. The signals include: Signal1 (Store with a specific address); Signal2 (Does the store leave a communication metho; Signal3 (The store is a genuine agent); Signal4 (The store is a shop on Shopee Mall); Signal5 (Products reviewed by famous Beauty Bloggers); Signal6 (Store responds to customers quickly); Signal7 (Stores regularly receive good feedback from customers); Signal8 (Stores that allow consumers to track orders); Signal9 (Store commits returning if the product has problems).

Control variables include: Risk_health (Level of health risk apprehensive); Risk_ser (Level of service risk apprehensive); Signal_health (Trust in product quality signals); Signal_ser (Trust in service signals); Conv (Feel the convenience of online shopping); Amount (Quantity of cosmetics purchased/year); Grow (The percentage of purchases increases as customers believe the product is of good quality).

In particular, Risk_health, Risk_ser, Signal_health, Signal_ser, Conv result from analyzing EFA factors of variables on the level of risk apprehension, trust in signals, and feeling convenience. This step is intended to avoid multi-line problems due to high correlated variables with each other. Moreover, variables like Amount, Grow are the quantities that the respondents answered with such numbers.

Scale model:

$$L(\alpha,\beta) = \prod_{i=1}^{N}\prod_{j=1}^{9}\frac{e^{\alpha_j + \sum_{i=1}^{N}\beta_j x_i}}{\sum_{k=1}^{9}\delta_{ijk}e^{\alpha_k + \sum_{i=1}^{N}\beta_k x_i}}$$

In which:

+ α_j is the blocking system

+ x_i vector of characteristic variables of the i person (including Risk_ser, Risk_health, Signal_ser, Signal_health, Conv, Amount, Grow)

+ β_j is the vector of the system corresponding to the j signal x_i

Table 5. ROL result

Var (1)	Coef. (2)	Std. Err (3)	z -value (4)	Pr(>|z|) (5)	Var (6)	Coef. (7)	Std. Err (8)	z - value (9)	Pr(>|z|) (10)
Intercept					Signal: Signal_health				
Signal2	-0.81	0.14	0.43	0.664	Signal2	-1.75	0.16	-11.05	0.000

Signal3	1.56	0.15	10.14	0.000	Signal3	-0.18	0.17	-1.07	0.287
Signal4	1.47	0.15	9.66	0.000	Signal4	-0.01	0.17	-0.04	0.972
Signal5	0.07	0.15	-5.64	0.000	Signal5	0.20	0.18	1.13	0.257
Signal6	-1.48	0.16	-9.38	0.000	Signal6	-1.30	.	.	.
Signal7	0.09	0.15	-6.06	0.000	Signal7	-0.15	0.17	-0.88	0.379
Signal8	-0.86	0.14	0.59	0.558	Signal8	-1.67	0.16	-10.61	0.000
Signal9	-0.10	0.14	-9.76	0.000	Signal9	-0.94	0.16	-5.85	0.000
Signal: Risk_ser					Signal:Conv				
Signal2	-0.40	0.16	2.52	0.012	Signal2	0,38	0,13	-2,9	0,004
Signal3	0.27	0.15	1.89	0.058	Signal3	0,32	0,14	-2,31	0,021
Signal4	0.24	0.14	1.65	0.099	Signal4	0,47	.	.	.
Signal5	0.01	.	.	.	Signal5	0,12	0,13	-0,89	0,371
Signal6	-0.24	0.16	-1.48	0.138	Signal6	0,31	0,13	-2,43	0,015
Signal7	0.08	0.15	0.53	0.599	Signal7	0,39	0,14	-2,72	0,007
Signal8	-0.41	0.16	2.64	0.008	Signal8	0,24	0,13	-1,89	0,058
Signal9	-0.27	0.15	1.8	0.072	Signal2	0,38	0,13	-2,9	0,004
Signal: Risk_health					Signal:Amount				
Signal2	0,37	0,14	2,66	0,008	Signal2	-0,04	0,02	-2,33	0,02
Signal3	0,47	0,14	3,28	0,001	Signal3	-0,03	0,02	-1,98	0,047
Signal4	0,39	0,15	2,67	0,008	Signal4	-0,02	.	.	.
Signal5	-0,13	0,14	0,88	0,381	Signal5	0,00	0,02	-0,13	0,895
Signal6	0,08	0,14	0,57	0,566	Signal6	-0,01	0,02	-0,35	0,728
Signal7	0,00	.	.	.	Signal7	0,00	0,02	0,2	0,839
Signal8	0,07	0,14	0,53	0,596	Signal8	-0,01	0,02	-0,54	0,589
Signal9	0,29	0,14	2,04	0,041	Signal9	-0,04	0,02	-2,23	0,026
Signal: Signal_ser					Signal: Grow				
Signal2	1.32	0.15	8.54	0.000	Signal2	0,01	0,02	0,59	0,556
Signal3	-0.16	0.17	-0.94	0.347	Signal3	0,03	0,02	1,45	0,146
Signal4	-0.51	0.17	-2.96	0.003	Signal4	0,00	.	.	.
Signal5	-0.27	0.17	-1.6	0.109	Signal5	-0,04	0,02	-2,19	0,029
Signal6	0.92	.	.	.	Signal6	-0,07	0,02	-3,3	0,001
Signal7	-0.03	0.17	-0.19	0.849	Signal7	-0,06	0,02	-2,45	0,014
Signal8	1.15	0.15	7.58	0.000	Signal8	-0,06	0,02	-2,86	0,004
Signal9	1.22	0.15	8.31	0.000	Signal9	-0,02	0,02	-1,02	0,307

From table 5 can explain the result as follows:

+ The above parameters compared to the reference category (Signal1 – store displays specific address).

+ Value - 0.81 in column 2, the first line shows the importance of signal 2 compared to signal 1 for customers. A few times, the respondents believed in signal 2 less than the 1-time $e^{0.81}$ signal. However, the corresponding P_value in the 4th column is 0.664, so this difference has no statistical significance.

+ Column 2 figures show that the difference between signal 3 (1.56) and signal 4 (1.47) is the largest, proving that these are the two most important signals for customers when buying cosmetics online. Moreover, signal 6 has the most negligible impact on consumer confidence (-1.48).

The following result is a difference in the ranking of how important the signals are to groups of customers who have a different level of trust in signals and varying degrees of risk apprehension. Again, the result of the number explained compared to the store shows the specific address.

After controlling variables such as trust in health and service signals as well as the level of fear of risks, convenience, ... we can see that trust in signals, level of risk apprehension, sense of convenience, the quantity of consumption, and growth of purchasing volume when ingesting different product quality affects the ranking of the importance of signals.

More specifically, first, we look at the group of customer service risk apprehensive levels (Risk_ser).

+ The above Risk_ser for Signal5, Signal6, Signal7 is not statistically significant. This implies that the percentage of customers who trust "products reviewed by well-known Beauty Bloggers", "stores that respond to customers quickly", "stores that receive good feedback from customers" compared to "stores that show specific addresses" is the same for those with different levels of service risk.

+ For Signal2, the Risk_ser-to-negative and statistically significant ratio demonstrates that the higher the level of risk apprehensive, the smaller the trust rate in the "store that displays the communication method" according to the "store that shows the specific address". In other words, those who are more afraid of service risks tend to believe in "specific addresses" than "communication methods."

+ Mathematically, the factor - 0.4 in signal2 implies that: When other factors are constant, if the level of fear of service risk increases by 1 unit, the ratio between customers believing to "store display communication method" compared to believe in "store showing specific address" decreases times.$e^{0.4}$

Similarly, we can explain the estimated values of the system to the group "level of apprehensive of product risks", "signals to help customers believe in service", "signals to help customers believe in product quality", "feel about convenience", ...

When controlled with the variable "sense of convenience" (Conv), the result is quite remarkable when the estimates are optimistic and almost statistically significant (column 7). This means improving the convenience of online shopping that can help increase the reliability of signals.

4. Discussion and Conclusion

This article evaluates the importance of the signals provided by businesses. The reason for the cosmetic products is chosen because these products inhibit information asymmetry at a high level. Furthermore, the market for the products is expanding rapidly.

Rank Ordered Logit results showed that the signals rated by consumers as the most important include: "The store is a genuine agent", "The store is a store on Shopee Mall", "The product is reviewed by the famous Beauty Blogger", "The store regularly receives good feedback from customers", and "The store has a commitment to return". Meanwhile, the least popular signals for customers include "Quick Customer Feedback Store", and "Store for Order Tracking".

Increasing the convenience of the website can increase consumer confidence in buying cosmetics online.

From here, the study makes some recommendations for businesses, the state, and consumers as follows:

+ Enterprises can set some policies to attract and increase customer trust such as publicity of business certificates and legal product quality certifications; legalization of return commitments; collaboration with famous Beauty Bloggers; actively ask for feedback from customers after use, to control and improve the quality of products and service quality of the company regularly.

+ Businesses need to regularly approach and update new utilities and features of online sales websites such as proposing items that are of frequent interest to customers; 3D product display makes it easier for customers to observe and evaluate products that minimize the information asymmetry of products, or in other words, increase customer trust in product quality; set up utility programs such as 2-hour delivery with customers in the same province/city as big websites (Shopee, Tiki) are implementing.

+ Signals that are not so important such as "Quick customer feedback" and "Let customers track orders" if they cost too much to operate, may consider not signaling.

+ On the stateside, to develop this market, the state needs to stand up to ensure the authenticity of the information provided by the store such as addresses, return commitments, certifications, ... make these information security factors a legal issue and provide appropriate penalties for fraud and information creation so that consumers have more basis to believe in the signals given by the business.

+ Customers can also rely on these signals to base their trust when deciding to buy cosmetics online because the people in our survey are all people who have bought cosmetics online and made an objective assessment.

5. References

1. Akerlof, G. (1970). *The market for 'lemons': Qualitative uncertainty and the market mechanism*. Quarterly Journal of Economics, 84, 488–500.

2. Beggs, S., Cardell, S., & Hausman, J. (1981). *Assessing the potential demand for electric cars*. Journal of econometrics, *17*(1), 1-19

3. de Morais Watanabe, E. A., Torres, C. V., & Alfinito, S. (2019). *The impact of culture, evaluation of store image and satisfaction on purchase intention at supermarkets*. Revista de Gestão.

4. Kim, J. H., & Ha, J. K. (2010). *Purchase behavior and risk perception in cosmetics purchases at online shopping malls*. Korean Journal of Human Ecology, 19(6), 1003-1012.

5. Moriuchi. E, I Takahash (2016), *Satisfaction trust and loyalty of repeat online consumer within the Japanese online supermarket trade*, Australasian Marketing Journal (AMJ), 2016

6. Spence, M. (1973). *Job market signaling. Quarterly Journal of Economics*, 87(3), 355–374.

7. Stiglitz, J., & Weiss, A. (1983). *Alternative approaches to analyzing markets with asymmetric information: reply*. The American Economic Review, 73(1), 246-249.

8. Tamilla Mavlanova, Raquel Benbunan-Fich & Marios Koufaris (2012), *Signaling theory and information asymmetry in online commerce*. Information & Management, 49(5), 240-247.

9. Troops, T. H.M., – Germany, T. H. A. (2020). *Factors affecting the trust of customers in e-commerce in Vietnam*. Journal of Economic Development,51-69.

10. Z Liu (2020), Research on *Information Asymmetry in C2C E-Commerce: Based on the Case of Alibaba*, 5th International Conference on Financial Innovation and Economic Development (ICFIED 2020)

THE ROLE OF CONSUMER TRUST AND PERCEIVED RISK IN PURCHASING INTENTION IN E-COMMERCE MARKET - THE CASE OF COSMETIC PRODUCTS

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Abstract

Consumers'perceived risk and consumers' trust are important in consumers' purchasing intention, especially in the market for credence good - the good of which qualitycannot be observed or assessed by consumers. This article empirically studies the role of trust and risk in consumers' intention of purchasing cosmetics online. Cosmetics are selected as the product is a typical credence good, which inhibits information asymmetry between the sellers and the buyers, that is the sellers know about the good quality but the buyers do not.. And the online- market may make the asymmetry even more serious. We apply K-means algorithm to segment customers and thenOrdered Logit regression models to evaluate the impact of consumer's trust in the signals, level of perceived risk , and behaviorsome other factors. The results show that all customer groups will increase consumption when the trust in the signals is high and the level of risk, aversion is low; Besides, we also find a positive impact of website convenience on customers' shopping behaviorintention. Another interesting result is that consumers who buy ordinary products have higher level of perceived risk than consumers who buy more pricey products..

Keywords: *Credence goods, E-commerce, K-means, Ordered Logit model*

1. Introduction and Literature Review

The rapid development of e-commerce recently results from the technological progress of the industrial revolution 4.0 and the spread of the covid 19 pandemics. However, this is a new market and contains high information asymmetry when suppliers and consumers do not directly trade with each other as in traditional markets. This asymmetry has created opportunities for some suppliers to launch fake signals and inferior quality products. On the consumer side, it is difficult for them to recognize the accuracy of the signal and the quality of the product before deciding to make a purchase. The asymmetric information is even more significant for credence items such as cosmetics, which used customers still cannot determine the quality of products. Therefore, the e-commerce market in Vietnam has not worked optimally when some parts of customers are afraid of the risks of this market but remain loyal to the traditional method of buying.

The "Theory of Reasoned Action - TRA" (1967) is one of the most well-known models in consumer behavior identification, revised since the early 1970s by Ajen and Fishbein (1980). Developed from TRA theory, TPB intended behavior theory was born to overcome the disadvantages of TRA by adding perceived behavioral control (PBC). In 1986, the TAM model proposed by Fed Davis was one of TRA's most optimal models, replacing many elements of TRA's attitudes with two elements that accept technology: Perceived Usefulness (PU) and Perceived Ease Of Use PEOU.

Based on these foundational theories, later studies have gone more profound in studying customer purchasing behavior. Including Shirin / Clara's research (2015) on customers' intention to shop for cosmetics online, using the TRA Reasonable Action Theory model and related research works, thereby giving research models and explaining the relationship between Trust, Risk Awareness, Shopping Interest, Website Design Quality to The Intention to Buy Cosmetics Online. The study results have explained that: variables including Trust, Risk Awareness, Shopping Pleasure, Website Design all affect the intention to buy online. In particular, three factors are Trust, Shopping Interest and Website Design that positively influence the intention to make an online purchase. Independent variable risk perception factors do not affect the intention to buy cosmetics online.

Another study by Abdullah Osman, Yi Jin Lim, Shahrul Nizam Salahuddin, Abdul Rahim Romle / Safizal Abdullah (2016) study of factors in impacting online shopping behavior - the intermediary role of shopping intention that gives a relationship between standards including Subjective Norm, Perceived Usefulness, Online Shopping Behavior, and intermediaries. This study uses the TPB model by Ajzen (1991), which has been modified to increase the likelihood of explanation, suitability and provide more details that form online shopping behavior. The study adds a Perceived Usefulness variable to the TPB model. The study results show that Subjective Standards and Useful Perceptions have a positive impact on Purchase Intention. However, Subjective Standards and Useful Perceptions have an inseparable effect (without negative trends) on shopping behavior. At the same time, shopping intention has a positive effect on online shopping behaviorbehavior.

Research by Nuno Fortes & Paulo Rita (September–December 2016) analyzes how internet privacy concerns affect consumers' online shopping. The research model developed shows that this impact occurs through its relationship with theories of trust and risk, TPB, TAM, TRA models. Previous studies have shown that concerns about the security of personal information in online purchases have a positive effect on risk Perceptions and a negative effect on trust in the intention and behavior of visual purchases online (Liu, Marchewka, Lu, & Yu, 2005; Eastlick et al., 2006; Van Dyke, Midha, & Nemati, 2007, Van Slyke, Shim, Johnson, & Jiang, 2006). The most potent direct impact on privacy concerns is the perception of behavioral control. Online shopping intention is positively influenced by useful awareness, awareness of behavioral control and online shopping attitudes. Confirm the results obtained in Lwin and Williams's (2003) and Pavlou (2003). The most potent factor in the intention to shop online is the attitude of online shopping.

Another study was conducted by Kai H. Lim (2014) while investigating how different trust-building strategies affect purchasing behavior in an online shopping environment, especially for first-time visitors to a nameless online store. The study is based on the Partial Least Squares Regression method, which hypothesized that both the link to well-known websites and customer satisfaction confirmation positively influenced customer trust, thereby increasing the level of willingness to make purchases and purchasing decisions for that store. Kai H. Lim and his partner have proven that customer satisfaction will increase consumer confidence in the store.

In Vietnam, there have also been some studies on consumer behavior such as Pham Ngoc Thai's master's thesis (2015) on factors in impacting customers' intention to use online services, this study was conducted with subjects between the ages of 22 and 50 living in Ho Chi Minh City. The study using Taylor and Todd's C-TAM-TPB combination model (1955). The results show that two factors: Subjectance (personal needs and customer attitude) and objective (price, product quality and trust in the website), all affect the intention to use online shopping services. In addition, the research by Author Re Thanh Xuan (2015) also gives factors affecting the intention of shopping through Facebook social network in Ho Chi Minh City, through TPB, TAM model and trust theory to build an online retail model through social networks. The results of the study point to 5 factors such as reliability, subjective standards, useful awareness, ease of use awareness and behavior control perception that have a substantial impact on the intention to make an online purchase through Facebook.

In summary, previous research has shown that factors such as trust, risk apprehensiveness, and the convenience of the site to customers' online shopping behavior are present mainly in the research articles. However, most of these studies are based on various methods, so the reliability of the results has not been high. In this study, the authors used both quantitation and quantities simultaneously to develop and develop a model to assess the impact of factors on online cosmetic shopping behavior in the event of information asymmetry present in both the item and the market. The selection of cosmetic items for research is based on two main reasons: Firstly, cosmetics are typical items for the group of goods, the new objective of the study is to take into account the asymmetry in the market and the breed of the item - a combination that almost no research has mentioned; Secondly, cosmetics are a potential item and are increasingly popular with young people today.

2. Method

Ordered Logit (OL) regression model.

Customers' intention to shop for cosmetics online is determined based on many different factors such as financial capacity, advantages of shopping online, age, gender, hometown,... and especially the factors of trust (and risk) of customers about online cosmetic consumption. Trust has a great impact on the intention to continue buying cosmetics online because cosmetics are used directly on the skin and by mouth, consumers only know cosmetics' quality after a long time when they are used, so they can face the beauty risks and health if they use poor quality products. Cosmetics shopping online also add to consumers' fear, when this form of shopping has many disadvantages. So does trust and risk really affect customers' cosmetic buying behavior?

In the survey questionnaire, the dependent variable: "Intent to buy cosmetics online in the next 6 months" is hierarchical, so in this article, an Ordered-Logit regression model is used to assess the impact of these factors, especially trust and risk on the intention to buy cosmetics in the next 6 months. The Ordered-Logit regression model has the form such as:

$$P(y=j)=\frac{\exp\,(X^T\beta-\mu_j)}{1+\exp\,(X^T\beta-\mu_j)}-\frac{\exp\left(X^T\beta-\mu_{j-1}\right)}{1+\exp\left(X^T\beta-\mu_{j-1}\right)}\text{ với } j\ =\ 1{,}2,\ldots\ \mathrm{N}-1 \qquad (1)$$

Where: $X^T{}_I$ là factors affecting consumers' intention to buy cosmetics online, u_j là sai số ngẫu nhiên, β the numbers to estimate..

Data

Research items are cosmetics – favorite items of young people. Therefore, the study carried out a randomized investigation from students of the National Economics University. The data collection is done as follows: The author's group goes to several random classes, gives questionnaires and funding to all students in the class, and collects questionnaires soon after. The questions are based on previous studies and after examining samples on 20 consumers and eliminating inappropriate factors. The result received a questionnaire of 15 questions/group of questions. The questionnaire was then investigated for the second time by 30 other random consumers to ensure the words used in the questionnaire were easy to understand and clear. The survey received 305 responses, of which 42 responses that had never used cosmetics were removed from the list, the set of data used for calculation and analysis in the remaining study of 263 responses.

Table 1. Basis statistics for demographic variables

Variable		In template (Person)	Percent (%)
Gender	south	120	39.47
	female	184	60.53
Age	2000	92	30.26
	2001	137	45.07
	2002	59	19.41
	1999	16	5.27
Area	rural	124	40.79
	urban	180	59.21

According to Table 1, It can be seen that the responders are mostly female (60.66%) and come from urban areas (59.02%). For the age, the majority of responders were born in 2001 (44.92%) and 2000 (30.16%).

As a result of the survey, 86.18% of respondents used to buy cosmetics online, of which 74% believed that buying cosmetics from above-average to high-end brands, and 89% of respondents believed that the products received after buying online were of the right quality as advertised. Thereby, we see that most young people now have a certain trust in online shopping. In addition, of those surveyed, 96% of them rated the products received when buying directly at a traditional store of the same quality as advertised. This shows that the majority of consumers still trust the products they buy directly at the store rather than when buying online. This is quite close to reality because when consuming products online, they always face many risks, especially cosmetic items - high asymmetry.

After studying the properties and effects of cosmetics. As well as gaps in online cosmetic consumption from previous research articles such as Kim [8]. Since then, the topic has carried out a review of the level of apprehensive of customers on a scale of liker 5 from very unbelievable (1) to very confident (5) about the risks that can be encountered as follows:

Health risks when using cosmetics online: Suffering from dangerous diseases such as lead poisoning, skin cancer,...; Premature skin aging; Allergenic when used; Causes end noisy disorders.

Service risks when buying cosmetics online: Addresses and phone numbers provided on the web are misused; Account number took advantage of; The store does not give returns as committed; Cannot contact the store when the product has a problem; Do not receive goods after paying online via app.

Below is a brief description of customers' risk aversion when using online cosmetics through the author's survey.

Level of fear of risks of customers when consuming cosmetics in the e-commerce market

Table 2. Level of risk apprehensive of customers (unit: % by line)

Risk	Very unbelievable	Unbelievable	Medium news	Pretty trusting	Very trusting
Dangerous diseases	3.42	14.83	33.46	27.76	20.53
Aging skin	3.42	23.57	31.94	23.95	17.11
Allergy	3.42	23.95	30.04	27.38	15.21
End noisy disorders	4.56	23.95	30.80	28.14	12.55
Address, phone number misused	3.04	20.53	39.92	28.90	7.60
Don't give back	6.08	28.14	31.56	29.66	4.56
No contact	7.98	25.86	34.98	26.62	4.56
Account number being taken advantage of	5.32	29.66	36.50	24.33	4.18
Do not receive goods after payment	15.59	31.94	36.12	15.21	1.14

The majority of questioners were more concerned about health risks than service risks; the risk of dangerous diseases was the one that consumers were most concerned about (20.53%), followed by skin-related problems with 17.11% and endocrine disorders with 15.21%. In the survey, people were less interested in whether the account number was taken advantage of or did not receive the goods after paying online.

The e-commerce market in Vietnam is a new market with pretty a few loopholes in operation, which is why customers have a fairly high level of risk when trading in this market, especially with credit items such as cosmetics. Therefore, businesses need to send signals to attract and build trust with consumers.

Through previous research on consumer confidence such as Mavlanova [5], Morais [9], and through sample surveys about the signals that Vietnamese cosmetic consumers are interested in when buying cosmetics online. The authors' team has synthesized some of the following signals:

Signals to increase customer confidence in product quality: The store is a genuine agent; The store is a shop on Shopee Mall; Products reviewed by famous Beauty Bloggers; Stores regularly receive good customer feedback

Signals that show that the enterprise has a system that operates in a system and reliably: The store is a genuine dealer; The store is a store on Shopee Mall; Products are reviewed by famous Beauty Bloggers; The store often receives good feedback from customers

The following signals indicate that the enterprise has a system that operates systematically and responsibly: The store has a specific address; The store displays the contact method; The store responds to customers quickly; Stores allow consumers to track order; The store commits to return and exchange when detecting inferior quality products

So, do the signals given by businesses promote the effect of attracting and building trust with customers? This is a question that is always interested by brands because each signal requires certain costs.

Customer confidence in the signals issued by the business.

In the questionnaire, the answer will evaluate the above nine signals on a liker five scale from very unbelievable (1) to very confident (5).

Table 3. Consumer confidence in signals when shopping online (unit: % by column)

Trust level / signal	Very unbelievable	Unbelievable	Medium news	Pretty trusting	Very trusting
The store is a shop on Shopee Mall	0	2	29	40	30
The store is a genuine agent	0	1	25	47	27
Products reviewed by Beauty Blogger	1	10	40	36	14
Store with a specific address	0	6	47	40	6
Store receives good customer feedback	1	10	36	46	7
Store return commitments	1	13	36	41	9
Have communication methods displayed	0	14	52	30	4
Allow consumers to track orders	0	17	52	28	3
Store responds to customers quickly	3	19	57	20	2

In the above signals, considering the total percentage of customers who evaluate pretty confident, we find that the first 3 signals receive the most trust from customers with the percentage of trust: 70%; 74%; 50%. Realize that these 3 signals are official signals – certified and guaranteed information security help consumers have a basis for trusting the products they consume and the services they receive.

The signal group that receives a pretty high trust from customers is the 4th signal; 5; 6 according to table 3 with the percentage of customers trusting are 46%; 53%; 50%. Signals 5 and 6 have a fairly reliable and very trusting customer volume higher than signal 3. However, on the other hand, the number of customers is only half that of signal 3, so signal 3 is still more important. Considering that this signal group is intended to assert itself about the quality of its products, however, this information is difficult to verify, and no agency guarantees their accuracy.

The group that received the least customer trust was the last 3 signals with the corresponding percentage: 34%; 31%; 22%. These are signals about the service of the store and less correlation with the quality of the product.

In addition to factors that frequently appear in previous studies such as trust and risk aversion, the study also considers several factors such as the convenience of online shopping, a brand of cosmetics ... also has a significant impact on the purchase intention of customers. The following are some descriptive statistics of other variables that the research team performed presented in Table 4:

Table 4: Descriptive statistics for some other variables

		Mean	Median	Mode	Std.dv
Believe in products purchased online		3.27	3.00	3.00	0.75
Believe in offline purchases		3.67	4.00	4.00	0.66
Convenience of buying online	Attract more than buy ofline	3.27	3.00	3.00	0.95
	Save time	3.94	4.00	4.00	0.81
	Easy to choose	3.65	4.00	4.00	1.02
	Cheaper than buying offline	3.87	4.00	4.00	0.88
	Feel comfortable buying online	3.37	3.00	3.00	0.92
Use a lot of cosmetics		3.03	3.00	3.00	0.90
Buy only famous cosmetics		2.67	3.00	3.00	0.57
Determine quality through appearance		2.55	3.00	2.00	0.77
Determine the quality as soon as you use it		3.30	3.00	4.00	0.80
Will buy online in the next 6 months		3.57	4.00	3.00	0.89
Will introduce relatives to buy online		3.41	3.00	3.00	0.84

The variables in table 2 are measured using a likert5 scale. On average, survey respondents are quite confident in products purchased online and offline (3.2~3.7), the frequency of cosmetic use as well as the intention to continue buying cosmetics online are quite high (3~ 3.6). And the answer also appreciated the convenience of buying cosmetics online (3.2~4).

3. Results

In fact, depending on the audience of customers, they have different product and service requirements, the audience of the item they are interested in, as well as the frequency of their purchase, is not the same, especially with high-level items such as cosmetics. Therefore, we have implemented customer clustering to understand the behavior in each customer group. The study conducted the customer segment based on the variables collected and some transformations such as the percentage of cosmetic purchases per total spend or the percentage of online cosmetic purchases on the total amount of cosmetic purchases and the average price of a cosmetic item using the K-mean algorithm.

Using the K-means algorithm to segment customers

After running clustering on the data set, the results result in 3 customer segments with characteristics that are performed through the following table:

Table 5: Some typical factors among the 3 customer segments

Variables / Clusters	Number of observations	FRED	AMOUNT	REXP	RONE	APRICE (VND)	GROW
1	175	2.98	11.71	0.32	0.59	600,366.5	6.71
2	26	4.46	30.00	0.29	0.73	644,348.8	6.23
3	62	2.56	6.23	0.26	0.397	472,043.1	18.95

From the characteristic elements obtained from table 5, we get the characteristics of each segment as follows:

Table 6. Clustering characteristics of each customer group

Cluster	Characteristics
1	Middle customers, high frequency of use and purchases
2	High-end customers, high frequency of use and purchases
3	Low-end customers, high frequency of use and purchases

After implementing the customer segment, the team carried out a recall of the intention to buy cosmetics online in the next 6 months according to the independent variables in the post.

So is the purchasing intention of each customer segment different and what factors affect the intention to buy cosmetics online on each customer group? Previous studies have all pointed to the impact of trust and the level of fear of the risk of customer procurement behavior. Whether to find the impact of these two factors on the intention to buy cosmetics online of young Vietnamese consumers. The team has revoked customers' intention to buy cosmetics online in the next 6 months according to variables found using the Ordered-Logit Revo recovery model.

However, the resulting variables have a fairly high correlation that easily leads to multi-line correlation when res on a scale. Therefore, the author's team conducted a discovery factor (CFA) analysis for variables of trust in signals,   level of risk apprehension, and sense of convenience before proceeding. The results obtained 5 main factors are trust in product quality signals (Trust_health), Trust in service signals (Trust_ser), Health risk apprehensiveness (Risk_health), Fear of service risks, and security(Risk_ser), and The convenience of buying cosmetics online (Conv).

Using Ordered Logit regression model to evaluate the impact of trust, risk and other factors on customers' intention to buy cosmetics in the next 6 months.

The study carried out regression of intention to buy cosmetics online according to independent variables such as:

Variables obtained from CFA factor analysis: Risk_health (Level of health risk apprehensive); Risk_ser (Level of service risk apprehensive); Trust_health (Trust in product quality signals); Trust_ser (Trust in service signals); Conv (Feel the convenience of online shopping)

Demographic variables: Female (Female gender), Urban (Urban).

Variables on customer consumption characteristics: Amount (Quantity of cosmetics purchased/year); Grow (The percentage of purchases increases as customers believe the product is of good quality), Amount spent on buying cosmetics online (Onlexp), Amount spent on buying cosmetics directly at the store (Offexp)

Regression results of intention to buy cosmetics online according to Ordered-Logit model are shown in table 7 below:

Table 7. Ordered Logit result

	Coef.	Std. Error	P-value
Signal_health	**0.46**	0.17	**1.12e-06*** **
Signal_health:cluster1	**0.26**	0.31	**0.00467** **
Signal_ser	**-0.05**	0.15	**0.104**
Signal_ser:cluster1	**0.61**	0.31	**1.88e-07*** **
Risk_health	-0.09	0.17	0.367
Risk_health:cluster1	**-0.96**	0.47	**2.00e-08*** **
Risk_ser	0.05	0.14	0.308
Risk_ser:cluster1	0.11	0.32	0.363
Conv	**0.94**	0.16	**1.00e-26*** **
Conv:cluster1	**0.37**	0.37	**0.00042*** **
Sex1	-0.23	0.31	0.25
Ht1	0.25	0.25	0.248
Onlexp	**0.2**	0.87	**0.084 .**
Offexp	**-0.3**	0.6	**0.093 .**
Grow	**-0.005**	0.03	**0.047***
Amount	**0.06**	0.05	**0.045***
Intercepts			

μ1|2	-7.56	1.21	
μ2|3	-4.802	0.96	
μ3|4	-1.53	0.9	
μ4|5	0.615	0.99	

The estimated results show that factors such as: Trust in product quality signals (Signal_health), Trust in service signals (Signal_ser), Feel the convenience of online shopping (Conv), Amount spent on buying cosmetics online (Onlexp), Amount spent on buying cosmetics directly at the store (Offexp) have an impact on purchase intention, in which the factors of trust in product quality, convenience of the site, amount spent on buying cosmetics online has a positive impact on customers' intention to buy cosmetics online.

In the group of "premium and mid-range customers" (cluster0), Signal_health, Signal_ser and Conv have a positive impact on consumer purchase intention and these three factors have a stronger impact than the group of "customers" low-end goods" (cluster1). In addition, level of health risk apprehensive only affects the intention to buy cosmetics online of low-end customers (cluster1).

4. Discussion and Conclusion

The article is interested in the influence of trust and risk on online purchase intention, focusing on cosmetic products. The research results show some results as follows:

+ Firstly, through the Ordered Logit regression model, the model shows that the trust factors about product quality, service and convenience affect the intention to buy cosmetics online, in which the factors trust in product quality, convenience has a positive impact on customers' intention to buy cosmetics online. Therefore, in order to attract more customers, businesses should strengthen the factors that affect customers' confidence in the quality of cosmetics, and improve the features of the sales website to help customers more convenient during online shopping. In addition, the state should stand to guarantee the information given from the business, making information falsification a legal issue so that customers have a basis to believe in the signals given. If the state does not tighten management, it is easy for businesses to fake information when the cost of forging information is lower than the cost of doing business honestly.

+ Second, in the middle and high-end customer groups, the factors of trust in product quality and convenience have a positive impact on consumers' intention to buy cosmetics online. In the low-end customer group, in addition to the impact of the two factors above, a negative impact of the level of health risk apprehensive was found. From the given results, businesses when approaching these customer segments need to focus on the trust factors about cosmetic quality, synthesize information that affects customer trust and especially Especially for low-end customer groups, specific information needs to be provided to reduce customers' risk aversion to the product.

5. References

1. Akerlof, G. (1970). *The market for 'lemons': Qualitative uncertainty and the market mechanism*. Quarterly Journal of Economics, 84, 488–500.

2. Beggs, S., Cardell, S., & Hausman, J. (1981). *Assessing the potential demand for electric cars*. Journal of econometrics, *17*(1), 1-19

3. de Morais Watanabe, E. A., Torres, C. V., & Alfinito, S. (2019). *The impact of culture, evaluation of store image and satisfaction on purchase intention at supermarkets*. Revista de Gestão.

4. Kim, J. H., & Ha, J. K. (2010). *Purchase behavior and risk perception in cosmetics purchases at online shopping malls*. Korean Journal of Human Ecology, 19(6), 1003-1012.

5. Moriuchi. E, I Takahash (2016), *Satisfaction trust and loyalty of repeat online consumer within the Japanese online supermarket trade*, Australasian Marketing Journal (AMJ), 2016

6. Spence, M. (1973). *Job market signaling. Quarterly Journal of Economics*, 87(3), 355–374.

7. Stiglitz, J., & Weiss, A. (1983). *Alternative approaches to analyzing markets with asymmetric information: reply*. The American Economic Review, 73(1), 246-249.

8. Tamilla Mavlanova, Raquel Benbunan-Fich & Marios Koufaris (2012), *Signaling theory and information asymmetry in online commerce*. Information & Management, 49(5), 240-247.

9. Troops, T. H.M., – Germany, T. H. A. (2020). *Factors affecting the trust of customers in e-commerce in Vietnam*. Journal of Economic Development,51-69.

10. Z Liu (2020), Research on *Information Asymmetry in C2C E-Commerce: Based on the Case of Alibaba*, 5th International Conference on Financial Innovation and Economic Development (ICFIED 2020)

SESSION 4:

RESOURCES, ENVIRONMENT AND CLIMATE CHANGE

CURRENT STATUS OF LIVELIHOOD ACTIVITIES, PRESSURES AND CHALLENGES TO ECOSYSTEM SERVICES IN THE BUFFER ZONE AT THANH PHU WETLAND NATURE RESERVE, BEN TRE PROVINCE

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Abstract

Wetlands play an important role in many different ways for the lives of many people in Vietnam. One of the challenges that the Wetlands are facing is the livelihood activities of local people in the buffer zone. This paper examines the current situation of people's livelihood activities and the pressures on biodiversity conservation in Thanh Phu Wetland Nature Reserve (NR), Vietnam. The study was conducted in 3 communes in the buffer zone. 249 households were selected for interviewing, 03 group discussions, 10 in-depth interviews were conducted to collect both qualitative and quantitative data. The results show that, people living in the buffer zone of Thanh Phu Nature Reserve do not have diversity in livelihoods, they mainly work in aquaculture, agriculture and fishing in mangrove forests. 4 provisioning services, 5 regulating services and 3 supporting services are mainly ecosystem services that are highly appreciated by the people. In addition, the NR is also facing challenges in conserving biodiversity from both human and natural impacts, especially forest encroachment activities for aquaculture and fisheries activities. The harmony of interests between local people and the conservation. Therefore, the sustainable livelihood development for the community and biodiversity conservation requires integrated and multi-methodical efforts in addressing constraints in different areas such as aquaculture, contracting and forest protection policy.

Key words: *Ecosystem Services, Natural Resources, Thanh Phu, Wetland*

1. Introduction

Wetlands cover 5–10% of the Earth's land surface (Mitsch and Gosselink, 2007). As a transitional ecosystem between terrestrial and aquatic ecosystems, wetlands support high biodiversity (Keddy, 2009; Cohen-Shacham, 2015) and are essential to the health of both lower life forms water and land (Mitsch and Gosselink, 2007).

Wetlands are very important to human society (Mitsch and Gosselink, 2000; Ricaurte et al., 2014) because they provide a wide range of ecosystem services (RCS, 2007). In particular, the provision of food, drinking water and ensuring livelihoods for people living in and around them is widely recognized (Ricaurte et al, 2014; Schuyt, 2005; Rebelo et al., 2009). Their global economic value is estimated to be about 70 billion USD per year (Schuyt and Brander, 2004). However, wetlands are continuously degraded in many countries (Mitsch and Gosselink, 2007; Wei, 2015) although understanding of their values has been enhanced (MEA, 2005). Global wetland loss has been estimated to be around 50% since 1900 (OECD/ IUCN, 1992), leading to a significant impact on ecosystem services, biodiversity and human livelihoods (ICSU-UNESCO-UNU, 2008). In Asia alone, about 5,000 km^2 of wetlands are lost annually (McAllister et al., 2001).

The Millennium Ecosystem Assessment (MEA, 2005) demonstrated a strong link between ecosystem services and people's livelihoods and the decline of ecosystem services across biomas, leading to changes to people's livelihoods. On the contrary, people's livelihood activities are also reversed to put pressure on the ecosystem. We use the MEA framework as the basis for our research, where we look at changes in wetlands and consequential impacts on people. Specifically, we use the separation of ecosystem services into provision (products obtained from the ecosystem), moderation (benefits obtained from modifying ecosystem processes), (the non-material benefits people gain from the ecosystem through spiritual fostering, cognitive development, reflection, recreational and aesthetic experiences), and support (experiences required for the production of all other ecosystem services) (MEA, 2005).

Information on individual wetlands and their exploitation at the local level is very limited (Gopal, 2013). Accurate information is needed on the values and drivers of change for the conservation and sustainable use of wetlands (Balmford et al., 2011). Knowledge of wetland ecosystem services, dynamics of change and subsequent impacts specific to regions or areas of interest is essential to ensure proper, safe use, conservation and sustainable development (Mmopelwa, 2006; Ostrom, 2007; Adekola, 2011). Assessing wetland ecosystems at a time scale and particularly at the local level helps to track changes, providing important information for natural resource planning and management (Prasad, 2002). For conservation planning and management, there is a clear need for a more detailed understanding of the ecosystem services provided by wetlands and the threats they face (MEA, 2005).

The objective of the paper is to analyze livelihood activities of people in Thanh Phu Nature Reserve buffer zone and the pressures on biodiversity conservation activities.

2. Method

Study areas

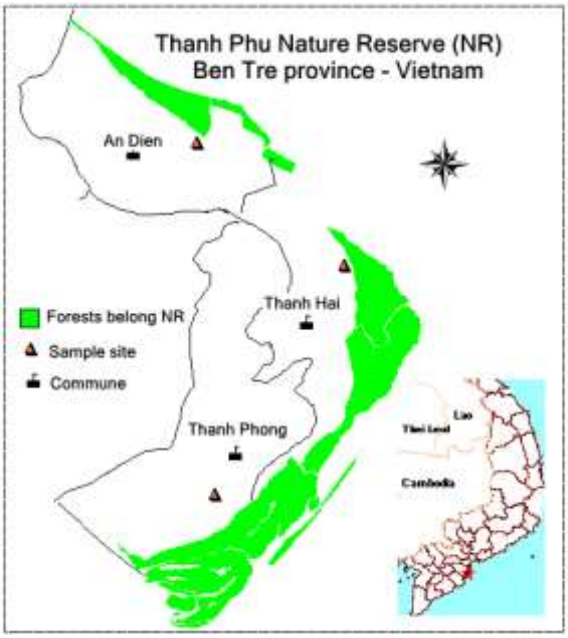

Fig.1. Location of Sampling

Thanh Phu Wetland Nature Reserve, Ben Tre Province: Ben Tre was established under Decision No. 1026 / QD-TTg dated November 13, 1998 of the Prime Minister with an area of 4,510 ha. Since the establishment of the Reserve, the area covered all forest and production forest land managed by Thanh Phu Forest Enterprise (971 ha), a state-owned enterprise assigned by the Provincial People's Committee. Many land areas of the Nature Reserve belongs to local people who have lived and cultivated before the NR was established. There are over 407 households with 1,385 people living and cultivating interwoven in the forest, but the locality has no land fund and financial resources to relocate. Therefore, under the pressure of production development, people always violate deforestation and illegal encroachment on forest land for aquaculture and agricultural production, thus creating a conflict between economic development and forest protection.

The study was conducted in three communes in the buffer zone of Thanh Phu NR: An Dien, Thanh Phong, and Thanh Hai (Figure 1).

Data collection

We used both qualitative and quantitative research methods to identify the livelihoods of people dependent on ecosystem services.

Household survey

Before conducting interviews with the households, the research team had a meeting with the Nature Reserve Management Board, local authorities in the district to find out an overview of the socio-economic background of the people living around the NR. In which, the research team has selected three communes in the buffer zone of Thanh Phu NR to be study sites to determine the household's dependence on wetland resources. Initial assessment shows that about 85% of all households directly depend on wetland resources. Of these households, about 10% were randomly selected for household survey. Using semi-structured questionnaires, a total of 249 households dependent on wetlands were surveyed in Thanh Phu NR. The questions focused on the ecosystem services, people's dependence on them, the dynamics of change and people's impact on ecosystem services.

Group discussion

The list of ecosystem services obtained from the household survey was confirmed during focus group discussions. Three focus group discussions were conducted at the commune level, with an average of 8–10 participants per group during the study. Group members were selected based on their livelihood strategy and dependence on wetlands. The different dynamics of change and people's dependence on wetlands have also been thoroughly discussed among the groups. The listed ecosystem services have also been ranked in discussions.

In-depth interview with key informants

Representatives of the NR Management Board, Thanh Phu Agriculture Department, Natural Resources Department, the leaders of the People's Committees of 3 communes, the heads of the hamlets, from October 2020 to January 2021. The main questions in interviews focused on livelihood strategies and the dynamics of change in wetlands. A total of 10 staff members were consulted as key informants during the study to help us understand change patterns and dynamics. The main criteria for selecting informants were their knowledge of wetland resources, and people's dependence on and participation in wetland management. The main topics of the in-depth interview were focused on the following areas: (a) what is the status of wetlands and the availability of ecosystem services, (b) ecosystem services. What are the key drivers of change that local communities are gaining, (c) changing trends in existing ecosystem services, (d) what are the main drivers of change, and (e) What management decisions are needed to manage well wetlands?

Data analysis

Quantitative data were analyzed using software (SPSS) 20.0 to determine the extent of local people's dependence and the impacts of different factors on wetland ecosystems. Qualitative data obtained from first-time interviews were coded and categorized into topics according to research questions (i.e. ecosystem services; dynamics of change, livelihood strategies, etc.) and similar coded topics are grouped together. Ecosystem service ratings are performed using participatory tools. Focus group discussion participants were asked to identify key ecosystems available from wetlands. After key ecosystem services were listed, participants were asked to rate the listed ecosystem services on a scale of 1 to 10 (1 with least priority and 10 with highest level). The overall rating is based on the total score for each ecosystem service divided by the number of respondents. Drivers of ecosystem change are identified through both qualitative analysis (focus group discussions) and also from the household questionnaire.

3. Results

Background information established from the survey of local household

Among 249 respondents, the number of respondents is male is 160, accounting for 64.3%, the rest are female. Women in the three communes participated in the interview very boldly, they not only take care of housework in the family but also know very well the business and economic situation in the family, they are the key people lock, keep money and take care of household payments, so the data is very reliable. The age of the interviewees ranged from 24 to 89 years with the median age, 48.5 years (Table 1). The largest age group represented was 41-50 years with 28.5% of the respondents. This implies that the respondents had experience on various issues relating to livelihood activities by themselves and in the community. Small family size (smaller than 4 people in the family) is dominant (66.3%). Most of the respondents are owners, therefore, they have a good understanding of their house livelihood as well as the disadvantage that their family is facing.

Table 7. Summary of socio-economic respondents based on the survey

Social-economic situation	Categories	Frequency (n)	Proportion (%)
Gender	Male	160	64.3
	Female	89	35.7
	21 – 30	16	6.4
	31 – 40	53	21.3
	41-50	71	28.5
	51-60	69	27.7
	Above 60	40	16.1
Number of persons in the family	≤ 4	165	66.3
	5 – 7	72	28.9
	≥ 8	12	4.8
Relationship of the respondent to family owner	Owner	167	67.1
	Wife	46	18.5

	Husband	5	2.0
	Other	31	12.4
Years of stay in the commune	Under 20	25	10.0
	21-30	31	12.4
	31-40	43	17.3
	41-50	47	18.9
	51-60	58	23.3
	Above 60	45	18.1

Ecosystem services, their uses and ratings

A total of 12 major ecosystem services have been identified through household surveys, in-depth interviews, focus group discussions, of which, 4 providing services, 5 regulating services and 3 supporting services (Table 2). Cultural services in Thanh Phu NR have not yet been available, a number of historical relics for tourism development have been removed from the NR, some spontaneous tourism activities such as restaurants, swimming by a number of private sectors, not belong to NR.

Table 2. List of ecosystem services at study site

Ecosystem service criteria	Ecosystem services were recorded at the study site	Note
Providing Services (4)	1. Wood 2. Firewood 3. Seafood (fish, ba khia, clam, shrimp) 4. Water for aquaculture	- Timber: More than 10 years ago, people lived in Thanh Phu used timber to build houses, however, now, the government prohibits them, they cannot cut the trees and they also use solid houses, however, there are still a few households living in the core zone of the NR that still need to take wood for house construction, the government suspended the construction of the house, but they do not agree. - Firewood: Previously, people went to the mangrove forest to get firewood to cook, now they use gas, no more firewood. - Seafood: In Thanh Phu NR, people go to the forest to

Ecosystem service criteria	Ecosystem services were recorded at the study site	Note
		catch fish and Ba Khia (*Sesarma mederi)*, which is a significant source of income for a part of the people dependent on the mangrove forest. - Water supply services, according to the people in the study site, water mainly for aquaculture.
Regulating Services (5)	1. Air regulating 2. Air purification 3. The cycle of nutrition 4. Carbon sequestration and storage 5. Control of floods, breakwaters	1. "The mangroves make the climate cool, too wonderful, the green lungs, especially in the summer, coming here (mangrove forest) is too cool. 2. "Mangrove forest" the air too good, making the air fresh" 3. The crab living in the forest make the soil soft. 4. "If you have trees, you will definitely absorb carbon, but we don't know if we can store them" 5. There are mangroves that support waves very much, if there is no forest, the inner dyke cannot support the waves at sea, this service is very clear.
Support services (3)	1. Regenerate soil nutrition 2. Agricultural production support 3. Spawning grounds, food supply, and breeding animals	1. Alluvial soil and deciduous branches contribute to soil nutrient regeneration (soils in mangrove forests). 2. Thanks to mangroves that prevent waves and saltwater, people can do agriculture. 3. "The Ba Khia, fish and shrimp live in it"

In focus group discussions with local communities, and household interviews, the top ranked services are aquaculture, fishing services, agricultural production (growing rice). These services were ranked based on their household use and / or the ability to sell them in the marketplace for an economic profit. The top 8 services with detailed information on local people's usage are given in Table 3

Table 3. Ecosystem services, local community uses and ratings (Lower number indicates higher preference)

Ecosystem services	Use	Ranking	Note
Aquaculture (Supporting service)	Food serve for their family and sell it	1	131 out of 249 households interviewed in Thanh Phu NR doing aquaclture, with average income (244.73 million VND/ha). Although, in recent years, farmers have lost many shrimp crops from diseases, but aquaculture is still a main sector that brings in significant income, many households raise intensive farming, many households do extensive farming or semi-extensive farming.
Fishing (Providing Service)	Food serve for their family and sell it	2	70/249 households interviewed in Thanh Phu NR participated in fishing in the forest, they went to catch Ba Khia in the forest, earning 70,000 VND/night.
Agricultural production (supporting services)	Mainly for home and sale	3	26/249 households interviewed in Thanh Phu NR cultivates rice. In addition to agricultural production, which is rice cultivation, local people also plant a number of fruit trees of high economic value in Thanh Phu NR (Tu Quy mango, water melon, Jícama) for a significant source of income.
Flood prevention, breakwater, coastal protection (Regulating service)	Protecting people and property for people	4	This service is highly appreciated by the local people. "Without forests, it is dangerous to prevent storms and strong winds to protect people and property for the people". People often give this service a 9-10 score
Habitat for Species (Supporting Service)	Habitat support for species	5	This service was scored by people around 7 points, they said that although some species reproduce in the sea, but then they went to the mangrove forest to live and develop.

Ecosystem services	Use	Ranking	Note
Climate regulation (Regulating service)	Health support for people and disease reduction	6	"It is very cool near the forest. Especially in the summer, I love mangrove forest very much, wherever I go, I want to quickly go back to my hometown, living here, the fresh climate is familiar". This service is also given 9-10 points by people.
Water supply for aquaculture (Supporting Service)	Serve for aquaculture households, especially extensive farming households	7	Now the water source is also polluted from agriculture and other sources, so shrimp and fish also die a lot, aquaculture is no longer the same as before.

(Source: Focus group discussions and household interviews in 2020 and 2021).

People's dependence on ecosystem services

In total, there are three main livelihoods of people in the study site. Approximately 84% of the respondents participated in fishing in the mangrove forest and combined with agriculture in Thanh Phu NR, which is understood as rice cultivation (Figure 3), and fruit crops such as Tu Quy mango, watermelon and Jícama. In addition, they also plant crops for food.

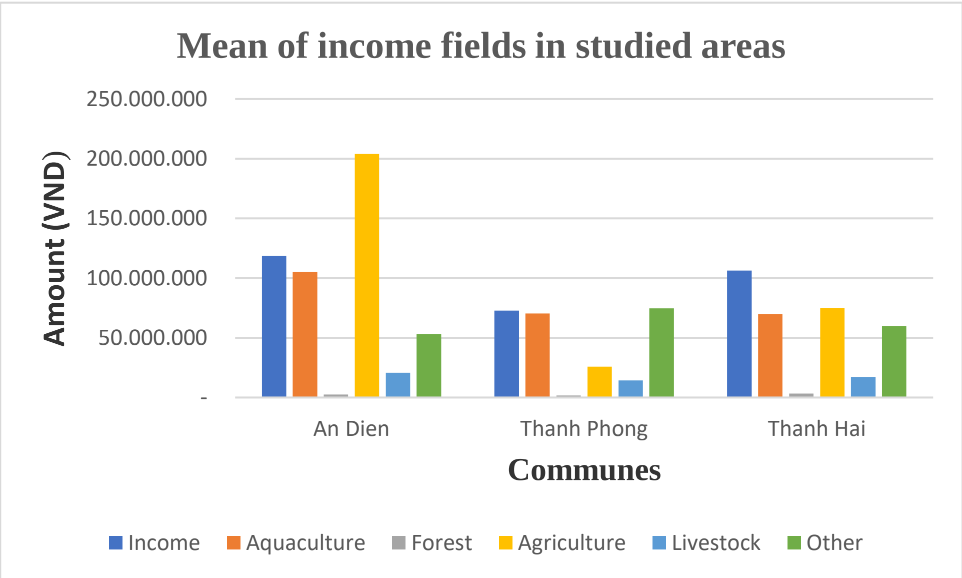

Figure 4. Average income from occupations of people in Thanh Phu NR

The average income per capita / month of the people in Thanh Phu NR is 1,700,000 VND/person/month. Summary of livelihood types associated with ecosystem services in Thanh Phu NR is described in Figure 4.

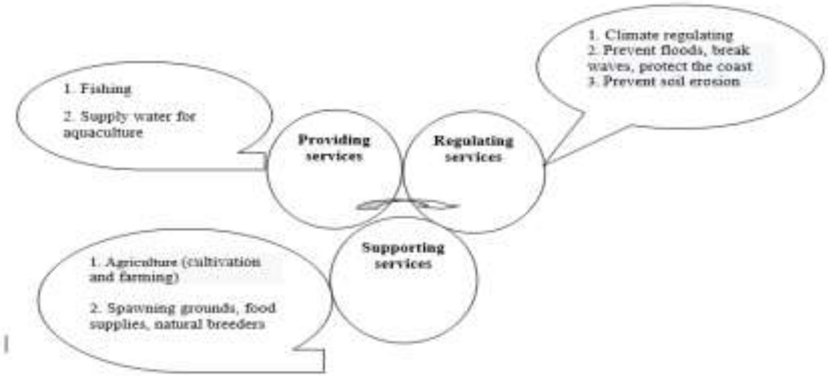

Figure 5. Types of livelihoods and their relationship with the ecosystem services of the study site

The challenges of livelihood activities on the conservation at study sites

Analysis of household surveys, group discussions and in – depth key informant interview, 5 direct drivers and 2 indirect drivers affects on ecosystem services. These forces of change are human and natural (Table 4). The reported market is the indirect driver of the change. The encroachment on forest land to expand aquaculture, the use of chemicals from agricultural production.

Table 4. Factors putting pressure on conservation in Thanh Phu NR

Factors that put pressure on conservation	Direct/ Indirect	Natural / human	Note
Market (purchasing all fish species, Ba Khia, small shrimp)	Indirect	Human	If there is a demand, there is a supply, people will catch everything they catch and sell for money
Management plan is not effective	Indirect	Human	The stakeholders have not yet had truly effective coordination activities.

Factors that put pressure on conservation	Direct/ Indirect	Natural / human	Note
Aquaculture	Direct	Human	The massive development of aquaculture, lack of planning, and lack of strict management and supervision have also lost some areas of mangroves. Not only that, the wastewater from the fins of the aquaculture lagoon has polluted the water sources of the rivers and tidal flats in the area, negatively affecting the food source of wildlife, causing the number and the quality of species has deteriorated.
Wastewater and water pollution. example: Use of pesticides in cultivation (rice)	Direct	Human	The rice farmers said that, at present, to facilitate cultivation, they use too many plant protection chemicals, pollute water sources, and affect the development of mangroves.
Lightning strikes	Direct	Nature	Much of the mangrove area died due to lightning strikes
People's dependence on forest resources	Direct	Human	The dependence of communities in and around the NR has put great pressure on the NR's resources, reducing the quantity and quality of natural resources in the area.
Overexploiting natural resources	Direct	Human	

4. Discuss and conclusion

The research team evaluated the ecosystem services of a wetland by examining the perceptions of communities based on their dependence on those services. We found 12 ecosystem services, reported to be important to the livelihoods of local people. Critical ecosystem services are identified by locals as providing services because they can be immediately profitable in cash or used. Human dependence on services provided is widely recognized, especially in developing countries, as people depend heavily on natural resources (Van Oort et al., 2015; Bhatta et al. , 2015).

Local people are said to be heavily dependent on the ecosystem services listed, the three main livelihoods in the study from the area are derived from ecosystem services provided by wetlands, suggesting that the high contribution of wetland ecosystem services to their livelihoods. High dependence of some local communities on wetland ecosystem services has been reported elsewhere, for example in the Koshi Tappu Wildlife Sanctuary in eastern Nepal (Chaudhary and et al, 2015; ICIMOD, 2014) and Kratie province of Cambodia (Persson et al., 2010). Declining trends in the availability or provision of these services, as previously reported elsewhere (Bhatta, 2015), threaten the livelihoods of local communities. Further deterioration of ecosystem services can negatively impact the livelihoods of wetland-dependent communities as they limit alternatives for livelihood diversification. The vulnerability of wetland communities to such rapid changes in the provision of ecosystem services is a major concern elsewhere, for example, Bhatta et al. (2015), who pointed out that similarly poor communities in the mountainous regions of Nepal are too poor to adapt their livelihoods to rapid climatic changes in ecosystem service provision. It is worth noting that the factors that cause climate change, climate change in mountainous communities and poor management and overuse of resources in wetlands are completely different. However, poor people are often less able to adapt to their livelihoods in the face of such changes leading to similar results. When interviewing people in Thanh Phu NR, some households said that if they relocate their livelihoods out of the core zone of the NR, they will not go unless the government creates new livelihoods for them, for many generations. They are used to living clinging to work near the forest.

In the assignment of forest protection contracts in Thanh Phu NR, they do not even remember how much money they received per year because that amount was too small, in contrast, they used 3/7 (3 parts of the surface area water, 7 parts of the forest) for extensive aquaculture, fishing (Ba Khia, fish) in the forest area they manage, however, leaves and branches of the forest fall and pollute the water, making it difficult for them to cultivate, their desire to increase the rate of cultured water surface to 4/6 or 5/5. In fact, forest violations at the study site in recent years have decreased significantly, only a few cases of deforestation have been handled, partly because of increased awareness of the people, partly because “ there is not much to get in the forest ”.

5. References

1. Adekola, O.; Mitchell, G. (2011). *The Niger Delta wetlands: Threats to ecosystem services, their importance to dependent communities and possible management measures*. Int. J. Biodivers. Sci. Ecosyst. Serv. Manag, 7, 50–68.

2. Balmford, A.; Bruner, A.; Cooper, P.; Costanza, R.; Farber, S.; Green, R.; Jenkins, M.; Jefferiss, P.; Jessamay, V.; Madden, J.; et al. (2011). *Economic reasons for conserving*

wild nature. Science, 297, 950–953.

3. Bhatta, L.D.; van Oort, B.E.H.; Stork, N.E.; Baral, H. (2015). *Ecosystem services and livelihoods in a changing climate: Understanding local adaptations in the Upper Koshi, Nepal*. Int. J. Biodivers. Sci. Ecosyst. Serv. Manag, 11, 145–155.

4. Chaudhary, S.; Chettri, N.; Uddin, K.; Khatri, T.B.; Dhakal, M.; Bajracharya, B.; Ning, W. (2015). *Implications of land cover change on ecosystems, ecosystem services and dependency of people: A case study from the Koshi Tappu Wildlife Reserve, Nepal*. J. Inst. For. Nepal, 14, 81–97.

5. Cohen-Shacham, E.; Dayan, T.; de Groot, R.; Beltrame, C.; Guillet, F.; Feitelson, E. (2015). *Using the ecosystem services concept to analyse stakeholder involvement in wetland management*. Wetl. Ecol. Manag, 23, 241–256.

6. Gopal, B. (2013). *Future of wetlands in tropical and subtropical Asia, especially in the face of climate change*. Aquat. Sci, 75, 39–61.

7. ICIMOD; MoFSC. (2014). *An Integrated Assessment of the Effects of Natural and Human Disturbances on a Wetland Ecosystem: A Retrospective from the Koshi Tappu Wildlife Reserve*; ICIMOD: Kathmandu, Nepal.

8. ICSU-UNESCO-UNU.(2008). *Ecosystem Change and Human Well-being: Research and Monitoring Priorities Based on the Millennium Ecosystem Assessment*; International Council for Science: Paris, France.

9. Keddy, P.A.; Fraser, L.H.; Solomeshch, A.I.; Junk, W.J.; Campbell, D.R.; Arroyo, M.T.K.; Alho, C.J.R. (2009). *Wet and wonderful: The world's largest wetlands are conservation priorities*. BioScience, 59, 39–51.

10. OECD/IUCN. (1992). *Guideline for Aid Agencies for Improved Conservation and Sustainable Use of Tropical and Sub-Tropical Wetlands*; OECD: Paris, France.

11. Ostrom, E.; Janssen, M.A.; Anderies, J.M. (2007). *Going beyond panaceas*. Proc. Natl. Acad. Sci. USA, 104, 15176–15178.

12. McAllister, D.E.; Craig, J.F.; Davidson, N.; Delany, S.; Seddon, M. (2001). *Biodiversity Impacts of Large Dams*; Background Paper No.1.; Prepared for IUCN/UNEP/WCD: Gland, Switzerland.

13. Mmopelwa, G.; Blignaut, J.N. (2006). *The Okavango Delta: The value of tourism*. S. Afr. J. Econ. Manag. Sci, 9, 113–127.

14. Millennium Ecosystem Assessment (MEA). (2005). *Ecosystems and Human Well-Being: Synthesis*; Island Press: Washington, DC, USA.

15. Mitsch, W.J.; Gosselink, J.G. (2000). *The value of wetlands: Importance of scale*

and landscape setting. Ecol. Econ, 35, 25–33.

16. Mitsch, W.J.; Gosselink, J.G. (2007). *Wetland, 4th ed*.; Wiley: New York, NY, USA.

17. Persson, L.; Phirun, N.; Ngin, C.; Pilgrim, J.; Sam, C.; Noel, S. (2010). *Ecosystem Service Supporting Livelihood in Combodia*; Project Report-2010; Stockholm Environment Institute: Stockholm, Sweden.

18. Prasad, S.N.; Ramachandra, T.V.; Ahalya, N.; Sengupta, T.; Kumar, A.; Tiwari, A.K.; Vijayan, V.S.; Vijayan, L. (2002). *Conservation of wetlands of India—A review*. Trop. Ecol, 43, 173–186.

19. Ramsar Convention Secretariat (RCS). (2007). *Wise use of wetlands: A conceptual framework for the wise use of wetlands*. In Ramsar Handbooks for the Wise Use ofWetlands, 3rd ed.; RCS: Gland, Switzerland; pp. 8–9.

20. Rebelo, L.M.; McCartney, M.P.; Finlayson, C.M. (2009). *Wetlands of sub-Saharan Africa: Distribution and contribution of agriculture to livelihoods*. Wetl. Ecol. Manag, 18, 557–555.

21. Ricaurte, L.F.; Wantzen, K.M.; Agudelo, E.; Betancourt, B.; Jokela, J. (2014). *Participatory rural appraisal of ecosystem services of wetlands in the Amazonian Piedmont of Colombia: Elements for a sustainable management concept*. Wetl. Ecol. Manag, 22, 343–361.

22. Schuyt, K. (2005). *Economic consequences of wetland degradation for local populations in Africa*. Ecol. Econ, 53, 177–190.

23. Schuyt, K.; Brander, L. (2004). *Living Waters: Conserving the Source of Life: The Economic Values ofthe World's Wetlands*; WWF: Gland, Switzerland.

24. Wei, Q.; Tong, L.; Gondwe, J.; Lv, X.; Tong, W.; Liu, Y. (2015). *Non-use value trends analysis of wetland ecosystem in the Sanjiang Plain, Northeast China*. Wetl. Ecol. Manag, 23, 347–355.

25. Van Oort, B.V.; Bhatta, L.D.; Baral, H.; Rai, R.K.; Dhakal, M.; Rucevska, I.; Adhikari, R. (2015). *Assessing community values to support mapping of ecosystem services in the Koshi river basin, Nepal*. Ecosyst. Serv, 13, 70–80.

FACTORS AFFECTING OCCUPATIONAL MOBILITY IN THE CONTEXT OF CLIMATE CHANGE IN THE MEKONG RIVER DELTA

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Abstract

The article focuses on analyzing the factors affecting occupational mobility in the context of climate change in the Mekong Delta. The paper show that: 1) The changes in the environment, climate as well as changes in science and technology in recent years have led to major changes in the structure of labor, employment and causing more people to change their jobs and occupation; 2) The size and trend of occupational mobility depends heavily on factors such as: type of employment, level of income, age, education level, professional qualification when having a first job; level of loss in production and life caused by unusual weather and climate events.

Keywords: *Climate Change; occupational mobility*

1. Introduction

The Mekong River Delta ranks as one of the geographic areas most affected by the likelihood of a natural disaster, with the highest ranking for flood risk; saltwater intrusion, storms, riverbank erosion, high tide, and fire. The existing potential impact of environmental and climate change on labor and employment is a topic that attracts the attention of many scholars, policymakers, and, more broadly, the public. Several studies showed the effects of climate change on employment and labor. However, there is very little research that can generally describe the process of redistribution of human resources and job prospects when workers move to new jobs. For a more in-depth understanding of this topic, the article describes the occupational mobility model while analyzing the factors that influence the size and orientation of individuals' occupational mobility. Research results have important implications in designing policies to help employees best prepare to adapt to career changes in new contexts.

2. Method

The data used in the article are taken from the quantitative survey on occupational mobility in Can Tho city in the Mekong River Delta -based sample of 784 individuals (age: 15-60 years). Questionnaires were used to collect information on current employment status, current or main occupation before job strain. Occupation groups are classified according to the General Statistics Office's classification of occupations. Based on 10 Occupation groups are listed in Vietnamese occupational billboards in 2009, the author classified into 4 main occupational groups: 1) Management leadership and high expertise; 2) Middle-level technical expertise and staff; 3) workers and Skilled labor; 4) Farmers and other simple labor.

The concept of occupational mobility in the article is used to refer to the change of job /change of position in the occupational stratification of individuals at different times (intra-generational occupational mobility). In which, changes in job that "not related to change of class" / without transition status in the occupational stratification system are defined as horizontal mobility or "horizontal mobility”[4]. (Horizontal mobility means workers often remain in the same occupation when they change jobs). "Vertical mobility" is used to refer to the transition of an individual's occupation status or social advancement or regression compared to the previous occupation status.

Linear regression was used to estimate associations of the number of times worker change thier job with individuals’ characteristics such as: age, sex, socioeconomic position and several risk caused by unusual changes in weather and climate. Multivariate regression models was used to to estimate associations of family factors/the origin of the individuals; Personal characteristics such as: age, sex, education level, skills, efforts, hobbies with occupational mobility trends.In addition, I compare net mobility/ exchange mobility to structural mobility to determine the impact of the conversion factor on occupational mobility.

3. Results

3.1. Factors affecting the degree of job change in the Mekong River Delta

Occupational mobility refers to the process of workers transitioning from one occupation to another in order to find earning jobs or meet labor needs. When conditions allow for high degrees of occupational labor mobility, it can help maintain strong employment and productivity levels. In an economy, if workers can easily switch jobs from one industry to another, it means that economy has a rapid transition (Adam Hayes, 2019)[5].

Over the past years, with the rapid change of the scientific and technological revolution; Climate and environmental changes are affecting each industry and profession, affecting each employee. In the new context, many people had to change their jobs; career and consequently change in occupational skills that have followed them throughout their life. (*Chart 1*).

[4] Gunter Endruweit và Gisela Trommsdorff (2002), *Từ điển xã hội học(Sociological dictionary)* (Ngụy Hữu Tâm và Nguyễn Hoài Bão dịch từ tiếng Đức), NXB Thế giới, tr.119

5 Adam Hayes (2019), Occupational Labor Mobility, tại trang https://www.investopedia.com/terms/o/occupational-labor-mobility.asp, [truy cập ngày 03/01/2021].

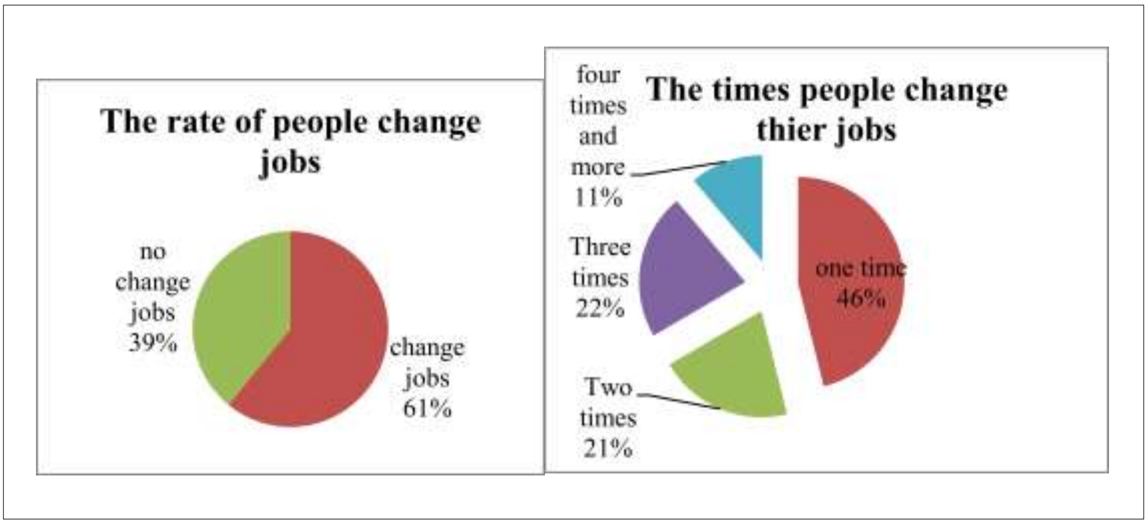

Chart 1: Proportion of people and the times People change their Jobs in the Can Tho city in 2020

Source: Survey data of author

Chart 1 shows the number of people that changed their job and the times they have changed their job. The data point that out of 784 study participants, 464 people, accounting for 61%, confirmed that they have changed their job, only 298 people, accounting for 39%, have not changed jobs. Among those who change jobs, 214 people, accounting for 46%, change jobs once, the number of people who change jobs twice is 95 people, accounting for 20.5% and the number of people who change jobs three times is 103 people, accounting for 22.2%, and 11% of people have changed jobs four or more times. Thus, from the time of the first job to the time of the survey, the average number of job changes per employee is 1.87 times. The average number of job changes is not large, which shows that the speed of economic transformation in the study area over a long period of time has been relatively slow. However, the environmental and climate changes as well as changes in science and technology in recent years have resulted in greater changes in the structure of labor and employment and forcing more people to change their jobs and occupation (*Chart 1*).

The number of time people changes job depends on factors such as: type of employment, income level, age, education level, professional qualification when having the first job; level of loss in production and life caused by unusual weather and climate events. Those who work under contracts or are civil servants and public employees are less likely to change jobs than those who work without a contract. The higher income, the less there is any change; The people with a stable job, whose less change their jobs; The age you start to work, affect the number of time people changed their jobs; Increasing the number of years in high school increases the number of times workers change thier job, whereas increase in professional qualifications reduces the number of times people change thier jobs; People affected more by environment and climate change, whose more changes thier jobs. (*Table 1*). The Linear Regression Equation has the form:

The number of times change jobs = 4.81 - 0.27*X_1 - 0.401*X_2 - 0.8*X_3 + 0.081*X_4 - 0.082*X_5 + 0253*X_6 - 0.411*X_7.

X_1: Income level of main occupation;

X_2: The level of stability of the first job;

X_3: The age when worker have the first job;

X_4: The highest class has completed at high school;

X_5: Professional qualifications;

X_6: The level of losses caused by unusual changes in weather and climate;

X_7: Labor under contract, or public employee under the state payroll.

Table 1: Factors Affect the times worker change their jobs

The independent variables		**Marginal impact(B)**
	(Constant)	4.810
X_1	Income level of main occupation	$-.270^{*}$
X_2	The level of stability of the first job	$-.401^{*}$
X_3	The level of stability of the first job	$-.080^{*}$
X_4	The highest class has completed at high school	$.081^{*}$
X_5	Professional qualifications	$-.082^{**}$
X_6	The level of losses caused by unusual changes in weather and climate	$.253^{*}$
X_7	Form of fist job (temporary labor comparison group time, labor without contract); Labor under contract, or public employee under the state payroll	$-.411^{*}$
a. Dependent Variable: B9.2 The times worker change their jobs		

Source: Survey data of author

3.2. Factors affecting occupational mobility trends

3.2.1. The occupational mobility network

In the above section, I describe the size and factors influencing the job change in the next section I describe the network and the factors that influence the occupational transition.

* p<0.01; ** p<0.05; $^{* **}$p<0.1

Table 2: Model of occupatinal transition in Can Tho in 2020

		C1 Current occupation				Total
		Management leadership and high expertise	Middle-level technical expertise and staff	workers and skilled labor	Farmers and other simple labor	
D1. Occupation before current occupation	Management leadership and high expertise	174 98.3%	2 1.1%	1 0.6%	0 0.0%	177 100.0%
	Middle-level technical expertise and staff	18 10.5%	147 85.5%	5 2.9%	2 1.2%	172 100.0%
	workers and skilled labor	10 6.4%	37 23.6%	105 66.9%	5 3.2%	157 100.0%
	Farmers and other simple labor	0 0.0%	12 4.3%	3 1.1%	263 94.6%	278 100.0%
Total		202 25.8%	198 25.3%	114 14.5%	270 34.4%	784 100.0%
No trasition		662 (84.4%)				
Overall mobility rate		122 (15.6%)				
Structural mobility rate[6]		6.5%				
Net mobility [7]		9%				

Source: Survey data of author

Table 2 shows the percentage of the worker who trasitioning between occupation. Out of a total of 784 people in the study sample, there are 662 people, accounting for 84.4% who did not change their job status at the time of the survey (662 people who did not change occupation); 122 people who changeed their occupation accounting for 84.4%) If compared with developed countries where the occupational structure is relatively stable, the level of

[6] Structural mobility rate = ({|[177-202]+|[172-198]+|[157- 114]|+|[278-270]|}/2x784)x100 = 6.5%
[7] Net mobility = Overall mobility rate – Structural mobility rate = 15.6 -6.5 = 9%

occupational mobility in Mekong River Dalta is much larger.Earlier research has shown that **the** average occupational mobility rates for France were 4.7% and 7.4% (7.4% of French workers are are employed in an occupation that different from their reported occupation before)[8]. Research on labor and employment in European countries showed that on average 3% of workers in Europe changed their occupation each year. [9]The high rate of occupational mobility showed the change in the structure of labor and employment in the study area and at the same time, it shows occupational instability in the context of science and technology, environment and climate changes.

Table 2 also shows that workers and skilled labor are the groups that transition occupation highest; 33.1% of them moved to other occupations, of which 23.6% work in intermediate technical or professional qualification group; 6.4% move up to senior management or technical expertise and 3.2% of mobile workers go down to freelance jobs or farmers. Groups that are the highest rate of maintaining an occupation status are leaders, managers, senior technical professionals, and simple workers and farmers. 98.3% of those in the group of managerial leadership, high-level technical expertise did not change their occupation status.The unchanged rate in the group of simple labor and farmers is 94.6% this means there is not much movement of workers out of the agricultural sector .This shows that the speed of economic structural transformation towards industrialization took place relatively slowly in the Mekong River Dalta

3.2.2. Factors affecting worker's occupational mobility trend in the Mekong River Delta

To indicate the worker's occupational mobility trend, we need to find out how many people changed their job horizontal mobility (change job does not change occupation status) and how many people changed job, that leads to a change in occupation status in the occupational stratification pyramid (vertical mobility) The occupational mobility model shown in Table 3 shows the occupational transition trend in the Mekong River Delta in recent times.

Table 3: Labor mobility flows in Can Tho city by 2020

<table>
<tr><td>Horizontal mobility (change job does not change occupation status)</td><td colspan="2">395 (85.12%)</td></tr>
<tr><td rowspan="2">Vertical mobility 69 (14.87%)</td><td>Upward mobility</td><td>56 (12.06%)</td></tr>
<tr><td>Downward mobility</td><td>13 (2.81%)</td></tr>
</table>

Source: Survey data of author

[8] Etienne Lalé, *Trends in Occupational Mobility in France: 1982-2009*, Sciences-Po Department of Economics, – 28 rue des Saints-Pères, 75007 Paris, France.

[9] Ronald Bachmann Peggy Bechara Christina Vonnahme (2019), *Occupational Mobility in Europe: Extent, Determinants and Consequences*, tại trang https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3468627, [truy cập ngày 28/11/2020], p.1

Table 3 shows that the main occupational flows in Can Tho by 2020 is horizontal mobility. The rate of horizontal mobility is higher than the rate of vertical mobility (85.12% and 14.87 %) Out of 464 people, who changed their job, in which 395 people account for 85.12% did not change their occupation, only 69 people, accounting for 14.87. % changed their occupational status. In vertical mobility, upwards mobility is higher than downward mobility. Upwards mobility is 12.06% compared to 2.81% of downward mobility.

Horizontal mobility occurs predominantly among leaders, managers, senior technical professionals and unskilled workers and farmers. The horizontal mobility rates of these groups are 98.2% and 92%. The rate of vertical mobility shown in outward and inward mobile flows of these two occupational groups is very low, suggesting that this is still a relatively closed occupation group. Vertical mobility occurs mainly in the workers and skilled labor, the vertical mobility of this group is 62.2%, of which 51.1% is in an upward mobility and 11.1% is in a downward mobility.

Occupational mobility trend depends closely on factors such as: age, gender, professional education, economic sector, and the level of damage caused by the climate to the household. In terms of age, if the employee increases by one year, the ability to mobility increases by 0.074 compared to the increase in mobility and the decrease of 0.073 times to increase in mobility. If increases one-year attendance in high school, non-mobility decreases by 0.652 times compared to rising mobility, and mobility decreases by 0.288 compared to increased mobility. If increases professional qualification one notch, non-mobility increases 0.156 times as mobility goes up, and mobility drops 0.518 times as mobility goes up; The damage level goes up by one tier, upside mobility 0.879 times lower than the go up and down 0.217 times the go up; Compared to workers living in urban areas, the non-mobility of workers in rural areas increased by 3,377 times compared to upward mobility and downward mobility of the group. This is 3,527 times more than up-going mobility. If moving from the informal economy to the formal sector, the non-mobility of the group of workers working in the formal economy decreases by 0.64 times compared to upward mobility and mobility. This group's downward movement is down 0.64 times compared to the upward mobility. (Table 4)

Table 4: Factors influencing occupational mobility trends (Model of transition occupation (competition current occupation to the previous occupation))

competition current occupation to the previous occupation	Horizontal mobility (Changed job but did not change occupational satus)		Downward mobility	
Independent variables	B	Exp(B)	B	Exp(B)
Intercept	9.967		5.279	
age	.074*	1.077	.073	1.075
Number of years attendance in high school	-.652*	.521	-.288	.750
professional qualification	.156	1.169	-.518***	.596
level of damage caused by unusual changes in weather or climate	-.879*	.415	-1.526*	.217
Male	-.399	.671	-.120	.887
gender (female comparison group)	0[b]	.	0[b]	.
Rural areas	1.217*	3.377	1.260	3.527
urban areas (comparison group)	0[b]	.	0[b]	.
formal economy sector	-2.753*	.064	-2.747*	.064
informal economy sector (comparison group)	0[b]	.	0[b]	.
Intercept	5.279			

a. The reference category is: upward mobility.

b. This parameter is set to zero because it is redundant.

Source: Survey data of author

3.2.3 Factors affecting the ability of workers to move forward in occupation in the Mekong River Delta

The occupational mobility model (Table 4) gives us a look at the occupational mobility trend that took place in the recent time period of the people in Can Tho city. However, in order to see the long-term transition trend, or rather to indicate the move up or move down in employees' occupations, we need to consider the transition occupation compares the first occupation with the occupation at the time of the census (*Table 5*)

Table 5: Model of occupatinal transition in Can Tho (Model of transition occupation (competition current occupation to the fist occupation))

		current occupation				Total
		Management leadership and high expertise	Middle-level technical expertise and staff	workers and skilled labor	Farmers and other simple labor	
The fist occupation	Management leadership and high expertise	78 98.7%	0 0.0%	0 0.0%	1 1.3%	79 100.0%
	Middle-level technical expertise and staff	93 72.1%	35 27.1%	1 0.8%	0 0.0%	129 100.0%
	Workers and skilled labor	6 4.2%	20 14.0%	20 14.0%	97 67.8%	143 100.0%
	Farmers and other simple labor	14 12.4%	14 12.4%	3 2.7%	82 72.6%	113 100.0%
Total		191 41.2%	69 14.9%	24 5.2%	180 38.8%	464 100.0%
Horizontal mobility (change job does not change occupation status)		215 (46.4%)				
Vertical mobility 249 (53.6%)		Upward mobility			150 (32.3%)	
		Downward mobility			99 (21.3%)	

Source: Survey data of author

Table 5 shows the occupational mobility trend of workers in Can Tho over a long period. Considering over a long period, we see that the rate of vertical mobility is greater than the rate of horizontal mobility. Out of 464 people who changed their jobs, in which 215 people account for 46.4% only changed their job but did not change their occupation and

249 are for 53.6% changed their occupation. Upward mobility makes up 32.3 % of vertical mobility and downward mobility makes up 21.3%. Compared with occupational mobility which took place recently shown in Table 3, the proportion of vertical mobility in this model is much higher (53.6% compared to 14.87%).The data shows that: the transformation in the economic structure thanks to the scientific and technological changes along with the changes caused by the urbanization process taking place over a long time has created many jobs in the upper part of the occupational stratification. Therefore, it creates many opportunities for workers to move in the upward direction.

Occupational advancement ability depends closely on factors such as occupation group, education level, professional qualifications, gender, area of residence or population composition, age. In the occupational mobility model that compares the first job with the current job, if the employee's age increases by one year, the rate of employee's horizontal mobility will increase by 1,012 times compared to the rate of their upward mobility and the rate of downward mobility will decrease by 0.894 times compared to upward mobility. If increases one year the labor attended in high school, the horizontal mobility of the employee will decrease by 0.295 times compete to upward mobility and the downward mobility will decrease by 0.339 times compete to upward mobility. If the professional qualification of the labor increases by one level, for example, from college to university, the horizontal mobility rate will increase 1,079 times compared to the upward mobility ability and downward mobility ability will decrease 0.532 times.

Regarding sex, compared with the female group, the decrease of downward mobility of the male group will decrease by 0.552 times compared to upward mobility. Compared to indigenous people, if they are migrants, their job change ability will decrease 0.773 times compared with their upward mobility and downward mobility will decrease by 0.433 times. Compared with workers without contracts, job transition ability of contracted workers and payroll workers will increase 1,912 times compared to the upward occupational mobility of this group *(Table 6).*

Table 6: Factors influencing occupational mobility trends (Model of transition occupation (competition current occupation to the fist occupation))

First Job - Current Job[a]	Horizontal mobility (Changed job but did not change occupational satus)		Downward mobility	
	B	Exp(B)	B	Exp(B)
Intercept	15.569		19.228	
Independent variables				

age	.012	1.012	-.112*	.894
Number of years attendance in high school	-1.221*	.295	-1.083*	.339
professional qualification	.092	1.097	-.631*	.532
Man	-1.770*	.170	-.594***	.552
gender (female comparison group)	0[b]		0[b]	.
Rural areas	-.604	.547	-2.444*	.087
urban areas (comparison group)	0[b]	.	0[b]	.
Immigrants	-.258	.773	-.836**	.433
The indigenous people (comparison group)	0[b]	.	0[b]	.
Contracted Labor, Payroll	-.469	.625	.648***	1.912
Labor without contracts (comparison group)	0[b]	.	0[b]	.
a. The reference category is: upward mobility.				
b. This parameter is set to zero because it is redundant.				

Source: Survey data of author

4. Discussion and Conclusion

The research shows that the environment, climate change, and economic structural transformation along with the process of industrialization have created challenges, so many people have to change their job or their occupation. However, the pressure of transformation also creates many opportunities for people to change job skills so that they can move up to occupy a better occupation. In terms of overall scale, we see that the transition in the economic structure over the years has created many job vacancies at the top of the occupational stratification. The upward occupational mobility rate are high. However, the sizes, speeds, and the trend of occupational mobility are very different when comparing in groups with different social characteristics.

In addition to context factors, individual characteristics such as occupational groups, education, professional qualifications, gender, area of residence, or demographic composition, age are a major factor, that has great effect to occupational mobility. Accordingly, in the coming years, to support people in the transition context, the government should create an environment, policies to help workers to have knowledge and skills to improve their adaptive ability to changes, sho labor can take opportunities, reduce risks caused by the transition. The policies need to be implemented such as 1) Implement

* p<0.01; ** p<0.05; $^{*\,**}$p<0.1

programs and policies to help employees to better access training services, improve basic skills to create a prerequisite for the career transition process. The implementation of labor and employment policies should not be based on job stability, but rather on workers' adaptation to economic changes to promote development livelihood diversification. The government needs to invest appropriately for people through health care policies, improve the quality of education, provide skills in labor, and jobs, whereby continued investment in basic education is required. the reform period improves the quality of vocational education and training, training high-quality human resources to meet the labor market demand.2) In addition to improving adaptive capacity through basic skills training, the state should pay attention to promoting labor market expansion through promoting economic structural transformation. Besides, it is necessary to diversify forms of providing labor-employment information for workers, especially for female workers and other disadvantaged groups.

5. References

1. Adam Hayes (2019), Occupational Labor Mobility, tại trang

2. https://www.investopedia.com/terms/o/occupational-labor-mobility.asp, [truy cập ngày 03/01/2021].

3. Gunter Endruweit và Gisela Trommsdorff (2002), *Từ điển xã hội học* (Ngụy Hữu Tâm và Nguyễn Hoài Bão dịch từ tiếng Đức), NXB Thế giới, tr.119

4. Etienne Lalé, *Trends in Occupational Mobility in France: 1982-2009,* Sciences-Po Department of Economics, – 28 rue des Saints-Pères, 75007 Paris, France.

5. Ronald Bachmann Peggy Bechara Christina Vonnahme (2019), *Occupational Mobility in Europe: Extent, Determinants and Consequences,* tại trang https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3468627, [truy cập ngày 28/11/2020], p.1

GREEN COSMETICS PURCHASE: A MODIFICATION OF KNOWLEDGE - ATTITUDE - BEHAVIOR MODEL

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Abstract

Due to the rising trend of healthy living style, organic products, ranging from food, means of transport, and house decoration to cosmetics are now gaining popularity. Vietnam is facing huge opportunities for organics cosmetics due to the country's richness in herb and natural ingredients. There is still a lack of literature on determinants of purchase intention of green cosmetics, especially in developing countries. This study aims to provide an in-depth understanding of the knowledge – attitude – behavior model, also known as KAB as well as suggest a modification of its model in order to apply it to investigate the green cosmetics buying intention.

Keywords: *Beauty products, developing countries, green cosmetics, knowledge, purchase intention*

1. Introduction

1.1. Research background

The concern towards a healthy life and natural products are on the rise, leading to a rapid growth in consumer consciousness of the risk associated with using synthetic chemicals. This has called the need for a healthier lifestyle in a variety of aspects, including beauty products, ranging from skincare, haircare, oral care, color cosmetics and hygiene products (Ghazali et al., 2017). Rising disposable income in Thailand, Philippines, Vietnam and Indonesia, coupled with changing lifestyle is expected to support the growth of green cosmetics market over the next six years.

The green cosmetics could be simply understood as the use of organic ingredients in personal care products such as skin cream, anti-aging lotions, shampoos, and hair conditioners as an alternative to toxic substances. Although rising demand for green cosmetics has attracted the interest of marketing managers, little academic research has been made to study the purchase intention of this product type. Most of studies have revolved around determinants of purchase intention of green products in general (Mohd Suki, N. 2016; Tih, S. and Choslay, S.H., 2011; Nguyen, 2019), green apparel (Bong Ko, S. and Jin, B. 2017).A majority of these researches have employed the Theory of Planned Behavior (TPB) (Aril et al., 2018).

Vietnam is meeting the challenges of environmental protection and sustainable development with regards to population growth, resulting in increasing consumer demand of society. Several attempts to study the organic products buying behavior of Vietnamese consumers have been made (Nguyen et al., 2019).

Vietnam has a population of 97 million inhabitants, with a GDP of $245 million. Member of the ASEAN, the country has seen its GDP skyrocketing over the last 20 years, becoming one of the countries with the highest growth rate in the world. As incomes rise, standard of living increase and so does consumption. The growth of the cosmetic market is mainly due to these factors, as well as the increasing use of social media. In 2019, only 14% of women in Vietnam do not use makeup, while two years ago it was 24%. Statistics also show that half of the women in Vietnam wear makeup at least once a week, and the percentage is even higher for skincare products. Vietnam is open to opportunity for manufacturing green cosmetics with no chemicals and respectful of the environment. Yang (2017) stated that consumers recently have shown interest in in safe cosmetics that use natural ingredients, eco-friendly packaging and ethics in their manufacture. Allergy and skin damage problems as results of using synthetic beauty products are also playing a part in raising the ecological concern among consumers (Pudaruth et al., 2015).

1.2. Research gap

There is a need to find out the intention to purchase green cosmetics as women use them frequently and exploring their attitude on organic can provide significant guidelines and insights about the consumer for the marketing managers to raise the consumer perception and purchase intention in the future. However, empirical studies related to green cosmetics and purchase intention among Vietnamese consumers is still limited. Al-Haddad et al. (2020) examined the relationship between selected dimensions of brand equity, namely brand awareness, brand loyalty and perceived quality, and green cosmetics purchase intention. Nguyen (2019) in their paper termed “Determinants affecting green purchase intention: a case of Vietnamese consumers” reported a positive relationship between consumer trust, eco-labelling environmental concern and attitude towards green cosmetics and green purchase intention. Nonetheless, this study did not take into account the role of health consciousness and knowledge in making impact on consumers’ attitude towards purchasing organics cosmetics and purchase intention.

1.3. Research objectives

The aim of this study therefore is to understand the consumer insight on green cosmetics regarding environmental concern, perceived safety, health consciousness, green cosmetics knowledge and the success dimension of materialism.

2. Method

This section describes the methodology of the study, which covers the development and approach of research model and hypotheses.

2.1. Research model and hypothesis development

Define green cosmetics

Current environmental issues are stimuli for consumers, motivating them to purchase green products. Green products have several advantages, for instance: less water, material and energy usage during production, none or slightly pollutant to natural environments, and their package can be recycled. According to Amberg and Fogarasy (2019), green or natural cosmetics are made out of natural resources, without the usage of chemicals, coloring additives, or other non-natural mixtures. The European Cosmetics Standards Working Group launched the Cosmetics Organic and Natural (COSMOS) Standard (D'Amico, 2008). For further progress, the COSMOS standard certification was officially launched in February, which is trying to be an internationally recognized standard. Green cosmetics are also often called organic cosmetics; however, the latter has a more strict definition and selling them in the consumer system can be challenging due to short expiration and the need for careful storage. Green cosmetics are usually priced higher (Smith et al., 2018). Lin et al. (2018) pointed out that green cosmetics are eco-friendly in the sense that they are non – hazardous to natural resources and renewable. Green cosmetics are natural cosmetics, primarily made up of plant and fruit extracts and renewables. Natural ingredients such as argan oil, coconut oil, green tea, calendula, pomegranate and soy have advantages, for example, anti-inflammation, anti-oxidation, hydration, UV – protection, and other effects. The similarities of the mentioned studies suggest that using green cosmetics is a lifestyle or treating self – care and treating the environment with respect.

Cosmetic chemists fought hard against the idea that natural ingredients are inherently safer than their synthetic counterparts. In their view of opinion, ingredients should be chosen on safety and efficacy regardless of its natural or synthetic makeup. Some companies are overestimating the merits of natural ingredients versus synthetic ingredients to protect the reputation of the industry.

Motivated by healthy trend in the market, hundreds and thousands of companies and suppliers are now producing and selling cosmetic products which they claim are "green" and better for the consumer and environment (Green Choices 2012). In 2010, Mintel suggested a regular innovation campaign about natural and organic ingredients will help maintain growth in the UK's beauty products industry that are estimated to be worthy of £6.7 billion.

However, there are obstacles that could destabilize consumer confidence, including the lack of regulation and misleading marketing information (Mintel 2010). Different standards and abundant cosmetics boasting green concepts confuse enthusiastic consumers. Consumers are confused by the different standards and exaggerated marketing of green cosmetics. They find it difficult to select green cosmetic products. Mason (2012) found that cosmetic consumers purchase benefits, not features. Therefore, they pay more attention to functions rather than detailed ingredients.

In Vietnam, many cosmetics brands have recently introduced products that are environmentally friendly. Though the quantity of these products is not significant, the variety in products such as lipstick, foundation, contour kit, face cleanser, toner and moisturiser has impressed many customers.

These products tend to have simple packaging, including a glass bottle or bamboo box. Many cosmetics firms said that as ingredients of their products are taken from natural coconut, turmeric, and honey, among other items, they are safe to use even on sensitive skin.

Take rose mask as an example. It is made from rose petals grown in non-chemical environment and later ground into a powder form for easy application on the skin.

Local green cosmetics are sold in a relatively affordable price range compared to those of international brands. For example, an eyelash serum made from coconut oil costs VND 30,000 per tube while face toner is usually VND 500,000 per bottle (Vietnamnews, 2019).

Knowledge – attitude – behavior

Knowledge, attitude and behavior (KAB) model is an important theoretical model of health and environmental education, which claimed that behavior change, is affected by knowledge and attitude (Schneider and Cheslock, 2003). KAB model was first developed in the 1950s and has been widely used in the field of health education. Researchers assume that knowledge, attitude and behavior are related, and that knowledge and attitude directly influence behavior. Knowledge, according to Merriam-Webster on line dictionary (2011) refers to “the fact or condition of knowing something with familiarity gained through experience or "the fact or condition of being aware of something” or “the range of one's information or understanding” or “the sum of what is known: the body of truth, information, and principles acquired by humankind. Knowledge could be measure by self – report data which is criticized for measuring people’s confidence in their knowledge, not how they actually know about the subject. Another way to measure knowledge is through multiple choices or other similar forced choice item formats. However, knowledge does not always translate into actual behavior (Kyu and Van der putten, 2005). The past literature suggested that exclusive dependence on knowledge change is likely to have little behavioral impact (Schneider and Cheslock, 2003).

A second component of the KAB model is the assumption that attitudes are closed related to behavior. Attitude is measured by the feelings and beliefs of people towards a problem. Allport (1967) and LaPiere (1967) define attitude in a behavioral sense, as a mental and neural state of readiness conditioned by stimuli directing an individual's response to all objects with which it is related. The KAB model proposed that knowledge about any behavior will determine how the person's attitude towards the behavior then the attitude will display through the behavior.

Ajzen also states "although formal definitions of attitude vary, most contemporary theorists agree that the characteristic attribute of attitude is its evaluative (pro-con, positive-negative) dimension" (1993, p. 41). As a result, most assessment and scaling techniques (see Gable & Wolf, 1993) result in a score that locates the individual on an evaluative continuum. From one perspective, what an individual knows may inform his or her attitude about that topic, and how he or she feels about that topic may influence behavior.

Nguyen et al. (2019) on their study regarding the influence of consumers' personal factors and green marketing practices of food stores acknowledged a positive influence of organic food knowledge on organic food purchase behavior. A research in India found that consumers are willing to go green especially in the cosmetics market that used natural or herbal components.

The following hypothesis is formulated:

H_1: Green cosmetics knowledge is positively correlated with the purchase intention of organic cosmetics

Attitude could be simply defined as one's like or dislike (Blackwell et al., 2011). Ajzen (1991) characterized it as "a degree of positive or unfavorable behavioral assessment and acts as a primary factor in deciding intent". Past studies have confirmed the positive relationship between attitude towards purchasing green cosmetics and green cosmetics purchase intention.

H_2: Attitude towards purchasing green cosmetics is positively correlated with purchase intention of green cosmetics

Environmental concerns

Dunlap and Jones (2012) define environmental concern as "the degree to which people are aware of problem regarding the environment and support efforts to solve them or indicate the willingness to contribute personally to their solution". Consumers who show concern about the environment tend to develop positive environmental attitude, express willingness to pay for eco-friendly products and exhibit pro-environmental behavior.

By using natural, oleo chemical sources, green cosmetics avoid many of the toxic elements found in popular brands. These chemicals damage environmental and human health, and consumers should never read them on a "green" label. Thus, consumers with an environmental concern are likely to purchase green beauty products. The following hypothesis is formed:

H_3: Environmental concern is positively correlated with attitude towards green cosmetics

Health consciousness

Health consciousness refers to an individual's alertness on one's own diet and healthy living style. Pass researches have confirmed health benefit is a key factor motivating the use of green products. Kim and Chung (2011) stated that health awareness plays a crucial role in influencing consumers' purchase behavior. Yang et al. (2014), along with Cabuk (2014) reported the positive relationship between health consciousness and positive attitude. Hence, it encourages the below hypothesis:

H_4: Health consciousness is positively correlated with attitude towards green cosmetics

Materialism (success)

Materialism is commonly viewed as a value that consumers give to possessions and should be studied within the context of the larger value systems that individuals hold (Richins and Dawson, 1990; Kasser and Ryan, 1996). Richins and Dawson (1992, p. 308) further defined materialism as a "value that emphasis the importance of possessions and material goods in person's life towards achieving life goals or desired states". Success dimension of materialism refers to wealth and material possessions as signs of success in life. An investigation into the relationship between materialism and green purchase behavior in Vietnam (Nguyen, 2019) found a positive influence of success on attitude towards green products. This could be explained as using green products may help consumers express their self as knowledgeable ones and a sign of their success. The following hypothesis is proposed:

H_5 Success (materialism) is positively correlated with attitude towards green cosmetics

Perceived safety

This could be simply understood as the safety features that the products have based on literature. It was found that consumers perceive safety towards organic products is an important predicting factor that could lead to consumers to have the intention to purchase the organic personal care products (Mohammad and Baharun, 2017).

This brings to another hypothesis for the study:

$H_{6:}$ Perceived safety is positively correlated with attitude towards green cosmetics

2.2. Research approach

Data collection and sampling

The population of the study comprises of individuals who have purchase cosmetics in the past 3 months. Sample was form by convenience sampling technique. Participants would be asked to fill in online and offline survey form.

Measurements

In process of operationalizing the constructs, various literatures were reviewed and adopted for present study. For environmental concern, 4 items were adopted from Yadav and Pathak's study. For health consciousness, 3 items were taken from Tarkiainen and Sundqvist (2005). A total of 3 items were used to measure green cosmetics knowledge. Attitude towards buying green cosmetics and purchase intention were operationalized using items from Chang (1998) and Armitage and Conner (199). Success dimension of materialism was measured using items from Richins & Dawson (1992).

All the items were measured using a 7 – point Likert scale, which ranged from 1 for "Strongly disagree" to 7 for "Strongly agree". Regression analysis would be employed for data analysis.

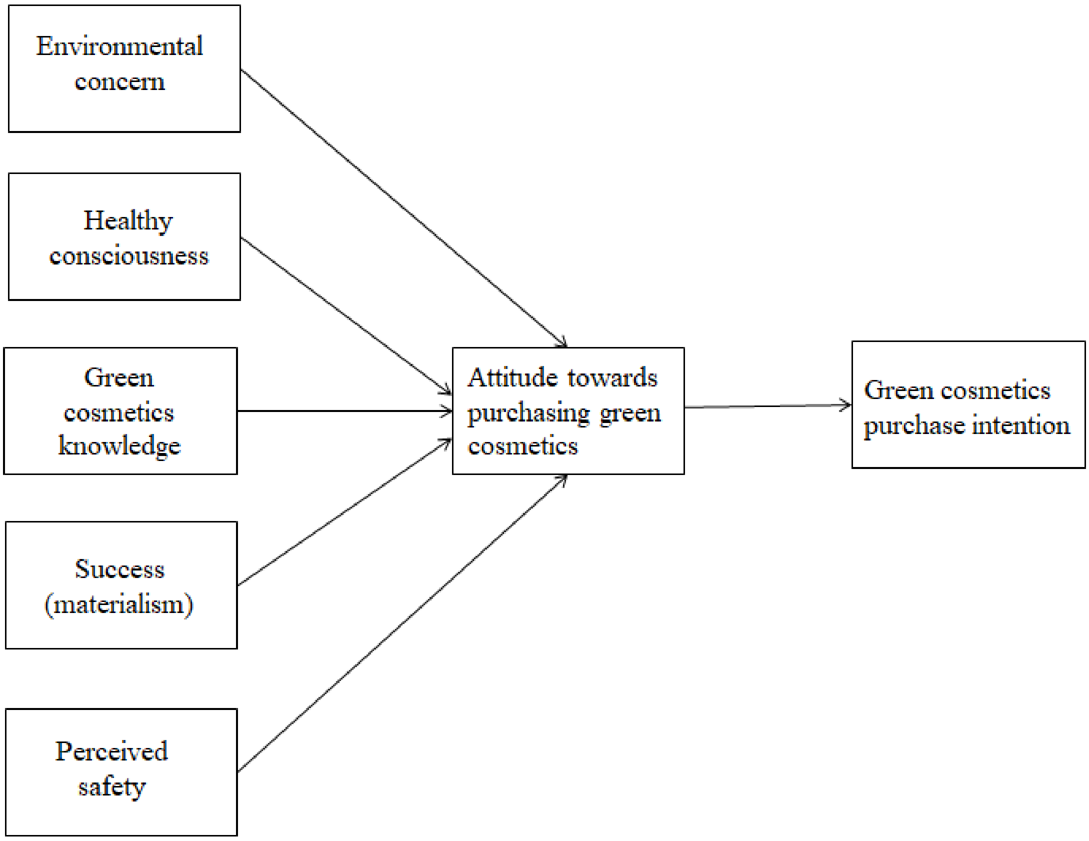
Variables and their measurement items are summarized in the table below:

Variables	Measurement items
Environmental concern	The balance of nature is very delicate and can be easily upset Human beings are severely abusing the environment Humans must maintain the balance with nature in order to survive Human interferences with nature often produce disastrous consequences
Green cosmetics knowledge	Compared with an average person I know a lot about green cosmetics I know a lot about how to evaluate the quality of green cosmetics People who know me, consider me as an expert in the field of green cosmetics
Health consciousness	I choose cosmetics carefully to ensure good health I think of myself as a health – conscious consumer I think often about health issues
Perceived safety	For the amount I paid, I am convince that green cosmetics have

Variables	Measurement items
	no side effect I am convinced that the green products contain pure natural ingredients from nature Green products labeled claimed is completely safe to use
Success (materialism)	I admire people who own expensive homes, cars and clothes Some of the most important achievements in life include acquiring material possessions I place much emphasis on the amount of material objects people own as a sign of success The things I own say a lot about how well I'm doing in life I like to own things that impress people
Attitude	Purchase of green products is a smart choice Purchase of green products bring many benefits Purchase of green products is a good thing to do
Green cosmetics purchase intention	I intend to make purchases of green cosmetics I plan to buy green cosmetics I want to buy green cosmetics

3. Results

Based on the rationale of these above hypotheses, a proposed model can be established as the following to test all mentioned hypotheses:



The following hypotheses are tested:

H_1: Green cosmetics knowledge is positive correlated with purchase intention of green cosmetics

H_2: Attitude towards purchasing green cosmetics is positively correlated with purchase intention of green cosmetics

H_3: Environmental concern is positively correlated with attitude towards purchasing green cosmetics

H_4: Health consciousness is positively correlated with attitude towards purchasing green cosmetics

H_5: Success (materialism) is positively correlated with attitude towards purchasing green cosmetics

H_6: Attitude towards purchasing green cosmetics is positively correlated with intention to purchase green cosmetics

4. Discussion and Conclusion

4.1. Discussion

This study has not conducted an empirical research yet, proposed hypotheses are not confirmed. Therefore, an empirical research as a follow up should be done soon. Once the research is conducted, it will contribute to the current literature of green cosmetics research by two points: First, it show a detailed analysis of the relationship between environmental concern, health consciousness, perceived safety, green cosmetics knowledge, success dimension of materialism and attitude towards green cosmetics. Although green products have been researched in many articles, little is known with regards to beauty products. Second, there has been a lack of studies about Vietnamese green cosmetics market, so this study will be a significant contribution.

Implication

This study also has a practical implication because it will provide insight into consumers' motivation to purchase green cosmetics and give recommendations to marketing managers or the authority on what can be done to promote green living style.

Limitations

Due to actual research has not been undertaken, proposed hypotheses are not confirmed yet.

4.2. Conclusion

To sum up, the purpose of this study is to examine the effects of environmental concerns, health consciousness, green cosmetics knowledge, perceived safety and the success dimension of materialism on attitude towards purchasing organics cosmetics. A modification of knowledge – attitude – behavior model is deployed to test six hypotheses.

This study contributes to the current literature in two ways. First, to the author's best knowledge, it is the first research to study the influence of knowledge on green cosmetics purchase intention. Second, it complements existing literature by providing an insight into green cosmetics purchase behavior in Vietnam, an emerging economy where green living style is becoming a trend.

5. References

1. Ajzen, I. (1991). The theory of planned behaviour. Organizational behaviour and human decision processes, 50(2), 179-211.

2. Ajzen, I. (2002). Perceived behavioural control, self-ef cacy, locus of control, and the theory of planned behaviour. Journal of applied social psychology, 32(4), 665-683.

3. Ajzen, I. (1991). The theory of planned behaviour. Organizational behaviour and human decision processes, 50(2), 179-211.

4. Ajzen, I. (2002). Perceived behavioural control, self-ef cacy, locus of control, and the theory of planned behaviour. Journal of applied social psychology, 32(4), 665-683.

5. Ajzen , I. (1991). *The theory of planned behavior,* Organizational behavior and human decision processes, 50(2), 179 – 211.

6. Ajzen, I. (2002). *Perceived behavioral control, self – efficacy, locus of control, and the theory of planned behavior,* Journal of applied social psychology, 32(4), 665 – 683.

7. Arli, D., Tan, L. P., Tjiptono, F., & Yang, L. (2018). *Exploring consumers' purchase intention towards green products in an emerging market: The role of consumers' perceived readiness,* International Journal of Consumer Studies, 42(4), 389-401. https://doi.org/10.1111/ijcs.12432

8. Armitage, C.J. and Conner, M.T. (1999). *Distinguishing perceptions of control from self-efficacy: Predicting consumption of a low fat diet using the theory of planned behavior,* Journal of AppliedSocial Psychology, 29(1), 72-90.

9. Arvola, A., Vassallo,M., Dean,M., Lampila,P., Saba, A., Lahteemaki,L., and Shepherd, R. (2008). Predicting intentions to purchase organic food. The role of affective and moral attitudes in the Theory of Planned Behavior, Appetite, 50 (2-3), 443 – 454.

10. Bong Ko,S.and Jin, B. (2017). *Predictors of purchase intention toward green apparel products: A cross – cultural investigation in the USA and China,* Journal of Fashion Marketing and Management, 21(1), 70-87.

11. Chang, M. Kit (1998). *Predicting unethical behavior: A comparison of the Theory of Reasoned Action and the Theory of Planned Behavior,* Journal of Business Ethics, 17, 1825-1834.

12. D'Amico 2008) D'Amico, E. 2008. *European group drafts natural and organic cosmetics standards,* Chemical Week 170: 31–31.

13. Lin,Y., Yang, S., Hanifah,H., & Iqbal, Q. (2018). *An exploratory study of consumer attitudes towards green cosmetics in the UK market*, Administrative Sciences, 8,71.

14. Mintel 2010) Mintel. 2010. Natural and Organic Beauty-UK-February 2010' Mintel Oxegen. Available online:http://academic.mintel.com/sinatra/oxygen_academic/search_results/show&/display/id=479857 (accessed on 13 July 2018).

15. Mohammad, Noorita & Baharun, Rohaizat. (2017). *Intention to Purchase Organic Personal Care Product,* Advanced Science Letters. 23. 7367-7369.

16. Nguyen,H.V., Nguyen,N., Nguyen, B.K., Lobo, A.,& Vu, P.A. (2019). *Organic food purchases in an emerging market: the influence of consumers' personal factors and green marketing practices of food stores,* International Journal of Environmental Research and Public Health, 2019, 16, 1037.

17. Nguyen, T.T.M., Nguyen, V.H., Nguyen, H.L., & Nguyen, H.M. (2017). *Materialism and Green purchase intention: a study of urban Vietnamese consumers*, Journal of Economics and Development, 19(2), pp 89-106.

18. Nhu, N.T., My, D.V., & Thu, N.T.K. (2019). *Determinants affecting green*

purchase intention: a case of Vietnamese consumers, Journal of Management Information and Decision Sciences, 22(2), 136-147.

19. Richins, M.L. (2004). *The material values scale: measurement properties and development of a short form*, Journal of Consumer Research, Vol. 31 No. 1, pp. 209-219.

20. Richins, M.L. and Dawson, S. (1992), *A consumer values orientation for materialism and its measurement: scale development and validation*, Journal of Consumer Research, Vol. 19 No. 3, pp. 303-316.

21. Sharma, Mahendra & Purohit, Rajen & Patel, Harsheshkumar. (2020). *Evaluating the Role of Health Consciousness in Organic Food Product Consumption: Mediating Role of Attitude*. 20. 12-22.

22. Tarkiainen,A., and Sundqvist,S. (2005). *Subjective norms, attitudes and intentions of Finnish consumers in buying organic food*, British food journal, 107 (11), 808 – 812.

23. Wijaya, T., & Sukidjo (2017). *Organic knowledge as antecedent of purchase intention on organic food,* International Journal of Business and Management Science, 7(2), 297 – 315.

24. Yadav, R., & Pathak, G.S. (2016). *Young consumers' intention towards buying green products in a developing nation: Extending the theory of planned behavior*, Journal of Cleaner Production, 135(1), 732-739.

25. Yadav, R., & Pathak, G.S. (2017). *Determinants of consumers' green purchase behavior in a developing nation: Applying and extending the theory of planned behavior*, Ecological economics, 134(2), 114-122**.**

26. Yang, M., Al-Shaaban,S. & Nguyen T.B. (2014). *Consumer attitude and purchase intention towards organic food: A quantitative study of China.*

LITERATURE REVIEW ON LIVELIHOOD VULNERABILITY ASSESSMENT TO CLIMATE CHANGE AND RECOMMENDATION OF THE ASSESSMENT METHOD FOR THE NORTH CENTRAL COAST OF VIETNAM

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Abstract

Households' livelihoods are particularly vulnerable to the increased impacts of climate change. Assessment of livelihood vulnerability to climate change will help to identify suitable adaptive livelihood strategies that balance risks and opportunities to allow continued development while ensuring adaptive capacity to climate shocks. Sustainable livelihood approach associated with climate change vulnerability assessment framework can help assess the livelihood vulnerability to climate change in order to maintain sustainable livelihood in the context of increased climate change. This paper presents a literature review on livelihood vulnerability assessment to climate change, and propose the method for climate change vulnerability assessment to livelihood for the North Central Coast of Vietnam.

Keywords: *climate change, livelihood, vulnerability*

1. Introduction

Climate change tends to increase in terms of magnitude, extent and scope of impacts which requires actions on a global scale on both mitigation and adaptation (IPCC, 2014). Gibbs (2020) pointed out that the growing evidence of increased risks from climate change makes it necessary for global adaptation efforts to mitigate and manage climate change risks. Identifying how natural and human systems are sensitive and vulnerable to the impacts of climate change have become important inputs for setting goals and formulating policies to adapt to climate change.

Theories and methods of vulnerability assessment have been developed over the past decades in areas related to natural hazards, food security, poverty, and human livelihoods. Climate change vulnerability assessment can be undertaken at international, national, sectoral, local, and community levels. It serves to provide a strong scientific foundation to support the identification and implementation of practical strategies and solutions for climate change adaptation activities.

Household's livelihoods are particularly vulnerable to the increased impacts of climate change. Adaptive livelihood strategies may be ineffective without accurately assessing and identifying livelihoods vulnerability to climate change. The sustainable livelihood approach associated with climate change vulnerability assessment framework can help assess the vulnerability of climate change to household's livelihoods and then determine sustainable livelihood options for people in the context of increasingly severe climate change worldwide.

The coastal zone is an area of great potential for development, but also a place that experiences great and immediate impacts from changes in the nature and human activities. At global level, coastal areas are considered to be hot spots suffering severe impacts of climate change, including sea level rise, coastal erosion, flooding, drought, and saline intrusion (IPCC, 2007). The livelihoods of coastal residents are severely affected by climate change impacts. Vulnerability assessment to climate change of coastal livelihoods plays an important role in proposing appropriate adaptive livelihood strategies.

Vietnam is assessed as a country that has suffered heavy damages from long-term and continuous changes in the climate over the past years. The Vietnam North Central Coast region, including 6 provinces/cities namely Thanh Hoa, Nghe An, Ha Tinh, Quang Binh, Quang Tri and Thua Thien – Hue, has been heavily affected by extreme weather events in recent years. Assessing the vulnerability of climate change to livelihoods will help identify suitable adaptive livelihood strategies for the region in order to balance the risks and opportunities for continued socio-economic development while maintaining resilience to the climate shocks.

2. Method

Using a desk-based approach combined with statistical, descriptive, and comparative methods, this paper presents a literature review on climate change vulnerability assessment to livelihoods and proposes the method for climate change vulnerability assessment to livelihoods for the North Central Coast region of Vietnam.

The study uses secondary data and information which were collected from a variety of sources, including reports from Intergovernmental Panel on Climate Change (IPCC), Vietnam's Ministry of Natural Resources and Environment (MONRE), books, journals, papers, and research reports of individuals and organizations (DFID, UNDP, UNEP…) related to the research topic.

3. Results

3.1. Literature review on vulnerability assessment to climate change

Since the 1990s, theories and methods of climate change vulnerability assessment have been developed and applied at international, national, sectoral, local, and community levels. In general, climate change vulnerability assessment frameworks focus on sectors most affected by climate change impacts such as agriculture, water resources, coastal areas, human health, and livelihoods. According to IPCC (2001), vulnerability to climate change is the degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its adaptive capacity and is calculated by an index. Depending on the research object, a suitable set of indicators and statistics can be used to calculate the index. The most common indexes are Climate Change Vulnerability Index (CVI), Social Vulnerability Index (SVI), and Livelihood Vulnerability Index (LVI). Once climate change adaptation measures are strengthened, vulnerability to climate change will therefore decrease (IPCC, 2007).

Frameworks for assessing vulnerability to climate change serve as a solid scientific foundation to support the identification of plans and solutions for society's climate change adaptation activities. Vulnerability assessment to climate change impacts are applied to geographical areas (e.g. coastal areas, urban areas, forest land, agricultural land), sectors (e.g. agriculture, fisheries, tourism, industry, human health, poverty, natural resources), vulnerable groups (e.g. farmers, the poor, children, women), or type of hazards (e.g. storms, floods, droughts, saline intrusion). Typical climate change vulnerability assessment frameworks have been developed by IPCC (1992), UNEP (1998), UNDP (2004), and USAID (2016). Although the implementation process of these assessment frameworks may vary, key elements of climate change vulnerability assessment include the identification of vulnerable groups, assessment of current and future vulnerability to climate change impacts of different groups, and usage of the vulnerability assessment results to propose policies and strategies to adapt to climate change.

3.2. Literature review on livelihood vulnerability assessment to climate change

At local level, climate change vulnerability assessment helps people understand how climate change affects people's lives and livelihoods. Household livelihoods are particularly vulnerable to the increased impacts of climate change. Gibbs (2020) argued that adaptation of local people is slowing down compared to the rate at which climate risks are exposed. When government support is not timely and inadequate, households must mobilize their own resources based on their experience and knowledge in implementing adaptive livelihood strategies. However, adaptive livelihood strategies can be ineffective without accurately assessing and identifying climate change vulnerability to livelihoods. The Sustainable Livelihood Approach (SLA) associated with the Vulnerability Assessment (VA) can help assess the vulnerability of livelihoods to climate change, and then suitable adaptive livelihood strategies can be proposed.

The Sustainable Livelihood Approach (SLA) analyzes the livelihood resources, livelihood activities and livelihood outcomes under the impact of external context and institutions and policies. Typical sustainable livelihood frameworks have been developed by Scoones (1998) and UK Department for International Development DFID (2001). Generally, the sustainable livelihood approach shows how people access, control, and use inherent resources to improve their livelihoods and reduce vulnerability to natural disaster shocks and diseases. Livelihood resources (including 5 categories: human capital, natural capital, financial capital, physical capital, and social capital) and the ability to access these resources have a major impact on sustainable livelihood outcomes (Figure 1).

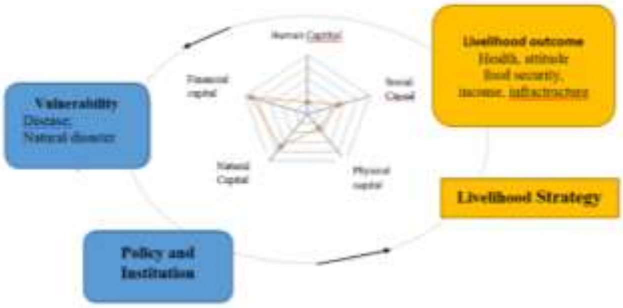

Figure 1: Sustainable Livelihood Framework

Source: Birkmann (2006)

To assess the vulnerability of household livelihoods to climate change impacts, Hahn et al. (2009) developed a livelihood vulnerability index (LVI) comprised of 7 components based on the framework of climate change vulnerability assessment of IPCC (2001) and the Sustainable Livelihood framework of DFID (2001). Hahn (2009) examined different aspects of vulnerability and differences in household efforts and adaptive capacity to sustain livelihoods. Household's resilience and the ability to access livelihood resources to recover from climate shocks depend on many factors, including magnitude of impact (external factors) and internal factors within the household (Bohle, 2001). There are three main factors that determine the vulnerability of a household's livelihoods, including exposure (E), sensitivity (S) and adaptive capacity (AC). The LVI value ranges from 0 to 1 and is calculated by using the partial weighted indexes to compare the vulnerability among different objects/groups. LVI – IPCC is calculated via using the function as LVI = f (E, S, AC).

Subsequent studies have adjusted and supplemented the determinants of vulnerability in the LVI. For example, Shah (2013) analyzed the gender difference, the ability to access to livelihood resources with support from local authorities to minimize the vulnerability. Madhuri et al. (2014) used LVI to compare the vulnerability of livelihoods between 7 different regions in Bihar and added indicators of skill to change planting schedules, loans, main water sources, available adaptation measures, public and private hospitals, and sanitary facilities. In particular, natural resources (including access to forest products, land fertility and arable land ownership) play an important role in the lives of rural people. When people have difficulties in accessing these natural resources, agricultural livelihoods will be vulnerable. Therefore, it is necessary to add the factor of cultivated land to calculate the LVI.

Ankita Paul's study (2019) aimed at vulnerability assessment of poor people living in urban areas and disadvantaged communities. The research question was the role of livelihoods in adjusting and mitigating vulnerability. The study compared three different approaches to vulnerability assessment, including (i) the LVI index - a composite of 6 equally weighted components, (ii) the LVI - IPCC including 7 individually weighted components and (iii) the Climate Change Vulnerability Index (CVI) estimating the climate change vulnerability of eight other livelihood groups in the city of Guwahati, Assam, India. A survey was conducted for construction workers, shop keepers, farmers, taxi driver/rickshaw drivers/trailers, drink shops/fast food vendors, gas delivery people, street vendor/shopkeeper, traffic police/policeman, doctor, and boatman. The results showed that farmers were the most vulnerable communities suffering the most economic losses, because they had a high sensitivity to health and are exacerbated by poor adaptability. Doctors were the least vulnerable because of their higher cognitive and adaptive levels. This again confirms the importance of awareness and access to livelihood resources in reducing vulnerability.

In Vietnam, there have been studies related to mitigating vulnerability from floods and storms in Quang Ngai, Thanh Han river (Quang Tri), Thu Bon river basin (Quang Nam). Studies calculated flood vulnerability index by weighting method to build a set of flood vulnerability index for Quang Nam province. However, there are few studies on livelihood vulnerability assessment to climate change impacts. In 2016, Tran Quoc Nghi applied the LVI index developed by Hahn (2009) to calculate 7 components that make up the LVI. Similarly, in 2016, Phan The Cong et al published an article applying LVI to the case of Nam Dinh province. Although this study has limitations on how to apply the formula to calculate the LVI, it showed the flexible application of the LVI values to rank vulnerability of different types livelihoods.

Overall, the Livelihood Vulnerability Index (LVI) is a method that has been used extensively recently to assess the livelihood vulnerability of climate change impacts. LVI is derived from the theoretical foundation of climate change vulnerability framework of IPCC (2001), then developed by Hahn (2009) into LVI index, and further edited and supplemented by other studies such as Shah (2013), Madhuri (2014), and Paul (2019). It has been applied widely in many other studies. The outstanding advantage of the LVI is that it uses primary data from household surveys instead of using climate and socio-economic development scenarios. With focus on local and household level, LVI has taken advantage of the informational value due to the combination of expert consultation, flexibility in research subjects and research scope. Therefore, the research results derived from LVI have practical implications for the livelihood vulnerability of households and communities. The essence of LVI is built on three important points of view. Firstly, LVI is based on information of indigenous knowledge and practical experience of local people to select the elements constituting the LVI. Although it has limited predictive power, this index can identify vulnerable factors. Secondly, LVI is grounded on the argument that vulnerability and resilience are constrained by available resources, contextual conditions, and accessibility to livelihood resources. Thirdly, climate change vulnerability assessment to livelihoods is based on empirical observations and field studies to deeply analyze local climate change adaptation and mitigation planning. With these advantages, using the LVI to assess the climate change vulnerability of household's livelihood in the North Central Coast coastal region is of high scientific and practical significance.

3.3. Recommendation of the method for climate change vulnerability assessment to livelihoods for the North Central Coast of Vietnam

Vietnam is considered to be a country that has suffered heavy impacts and damages from long lasting changes in the climate over the past years. Storms and floods are typical types of natural disasters in the country. Natural disaster risks are forecasted to continue increase in the near future. The coastal region is the center of dynamic economic activities that provide livelihoods for millions of people. Key economic sectors in coastal areas of Vietnam, such as agriculture, fisheries, tourism and industry, will experience risks from floods and storms annually. It is estimated that approximately 316,000 workers will be directly affected by coastal and river flooding each year in Vietnam (World Bank, 2020).

The North Central Coast of Vietnam consists of 6 coastal provinces, including Thanh Hoa, Nghe An, Ha Tinh, Quang Binh, Quang Tri and Thua Thien-Hue which share common climate and socio-economic characteristics. Livelihood activities in this area are diverse, but have similar characteristics of coastal livelihoods. The natural topography of this area is relatively steep, fast-flowing river water and frequent floods causing difficulties for life and production. On average, the six provinces suffer from 3 to 5 storms from August to November annually. Several provinces such as Ha Tinh, Quang Binh, and Quang Tri experienced the harshest climate conditions (e.g. intense heat, heavy rains, severe storms, and frequent floods). In the context of increasingly complex and unpredictable climate change, it is crucial to assess the vulnerability of climate change impacts to livelihoods in this region.

Applying the method of calculating the LVI developed by Hahn (2009) and other researchers, the data collected from the household survey need to be encoded and calculated into the indicators as shown in the Table 1.

Table 1: Major components and sub-components comprising the Livelihood Vulnerability Index (LVI)

Major components	Sub-components	No
(1) Socio-demographic profile	- % of female-headed households (HHs) - % of HHs where head of family has not attended school - % of HHs with orphans - % of HHs with members needing dependent care	4
(2) Heath	- % of HHs with family member with chronic illness - % of HHs receives treatment in hospitals - % of HHs receives proper facilities for child delivery and immunisation - % of HHs that do not have toilet facilites	4
(3) Food	- % of HHs primarily dependent on self farmed food - % of HHs struggle to find food when disaster occurs - Crop Diversity Index - % of HHs that do not save crops - % of HHs that do not save seeds	5
(4) Water	- % of HHs utilizing natural water source - % of HHs reported conflicts over water when natural disaster happens - % of HHs that have to store water - % of HHs that do not have consistent water supply	4
(5) Natural disaster and climate variable	- Average number of floods and droughts in the past year - % of HHs that did not receive warning about natural disasters - % of HH members with an injury or death as a results of the most severe natural disasters in the past year - Mean standard deviation of the daily average maximum temparature by month - Mean standard deviation of the daily average minimum temparature by month - Mean standard deviation of the average precipitation by month	6
(6) Livelihood strategies	- % of HHs with family members working outside the community - % of HHs solely dependent on agricultures as source of income - Average agricultural livelihood diversification	3
(7) Social network	- % of HHs receives and given by households in kind - % of HHs who borrowed and lent money -% of HHs that have not gone to their local government for assistance in the past 12 months	3
(8) Natural Capital	- % of houses with weak storm resistant construction (floor, roof) -% of HHs without fertile land - % of HHs without ownership of the lands they live on	3

Sources: Hahn (2009), Shah (2013), Madhuri (2014)

There have been many studies applying LVI in many different ways. Combining vunerability assessment of IPCC (2001) and Sustainable Livelihood Framework of DFID (2001), LVI can be calculated as indicated in the Table 2. Overtime, the components of LVI have been increasingly supplemented and completed to the study context. T. Lung et al (2013), Islam (2013), and Huafeng (2016) have implemented empirical studies to determine components of LVI and investigated significance of the components contributing LVI as well. Paul (2019) compared LVI values among diferent groups of livelihood. In Vietnam, LVI has been applied and adjusted by Phan The Cong (2016).

Table 2: Major components of LVI contributing factors to vulnerability

LVI contributing factor to vulnerability	Major components
Exposure (E)	(1) Natural disaster and climate variable (NDCV)
Adaptation Capacity (A)	(2) socio-demographic profile (SDP)
	(3) Livelihood strategies (LS)
	(4) Social network (SN)
Sensitivity (S)	(5) Health (H)
	(6) Food (F)
	(7) Water (W)
	(8) Natural Capital (NC)

To calculate LVI, there are 4 main following steps:

Step 1: Standardizing the sub- components when calculating the LVI. Because the crude data is in different units (number of people, age, percentage…), it is necessary to standardize index. Each of sub- component is called Sd, where d is district.

$$index_{S_d} = \frac{s_d - s_{\min}}{s_{\max} - s_{\min}}$$

where Smin, Smax are the minimum and maximum values, respectively, for each sub-component determined using data from collecting. For variables that measure frequencies, they are set from 0 to 100.

Step 2: Calculate the value of each major component, the sub-components were averages using:

$$M_d = \frac{\sum_{i=1}^{n} index_{s_d i}}{n}$$

where: Md is one of eight major components for LVI. These are NDCV, SDP, LS, SN, H, F, W, NC; (n) is number of sub-components in each major component.

Step 3: The major components are combined according to the categorization scheme in Table 2 using the following equation:

$$CF_d = \frac{\sum_{i=1}^{n} w_{M_i} M_{di}}{\sum_{i=1}^{n} w_{M_i}}$$

Where: CF d is one of contributing factor **E**xposure, **A**daptation, **S**ensitivity for district (d); M_{di} are the major component; **E** (includes NDCV), **A** factor (includes SDP, LS, SN), **S** factor (includes H, F, W, NC)

W_{Mi} is the weight of each major component

Step 4: Using equation LVI= (E+ S-AC). Value of LVI ranges at (-1; 1) representing the least vulnerable and the most vulnerable respectively. There are some different equations to calculate LVI, but Paul (2019) shown that the above equation is best used to analyze vulnerability to different areas of human livelihood and evaluate the effects of climate change. Antwi- Agyei et al. (2012), Cinner et al. (2012) and Silva & Lucio (2014) used this equation instead of others.

4. Discussion and Conclusion

Firstly, the paper reviewed both theoretical and practical studies relating to livelihood vulnerability assessment to climate change impacts. Global climate change has been causing increasingly unpredictable impacts which requires assessment of the vulnerability caused by climate change to different socio-economic groups and sectors. Paul (2019) asserted that assessing vulnerability to climate change impacts involves the application of combined methods and data to analyze human and social interactions within the environment. At household level, assessing the climate change vulnerability to livelihoods needs to make full use of information related to human capacity, necessary resources, and physical assets to implement livelihood strategies (Chambers and Conway, 1992) and data on human development index (HDI), living standards, and characteristics of natural resources and environment (Paul, 2019). Assessment of climate change vulnerability to livelihoods informs decision-making process on planning and proposing appropriate adaptation solutions to address vulnerability, poverty, and sustainable development goals.

Secondly, the paper pointed out advantages of using LVI to assess livelihood vulnerability to climate change impacts. Studies on climate change vulnerability assessment to livelihoods around the world will be a useful reference for assessing climate change vulnerability to livelihoods in the North Central Coast of Vietnam. However, sound results of vulnerability assessment and recommendations need to be performed by selecting proper method. Progress of collecting data and caculating LVI are written clearly, which can be applied for different regions, types of livelihood, and vulnerable groups.

5. References

1. Ankita Paula, Jurishmita Deka, Nihal Gujre, Latha Rangan, Sudip Mitra. (2019). Does nature of livelihood regulate the urban community's vulnerability to climate change? Guwahati city, a case study from North East India. *Journal of Environmental Management*, 251, 109591-109602.

2. Birkmann, J. (2006). Measuring Vulnerability to Natural Hazards: Towards

Disaster Resilient Societies, *UNU Press.*

3. IPCC. (2001). *TAR Climate Change 2001: Impacts, Adaptation, and Vulnerability*, Cambridge University Press: UK.

4. Kalim U. Shah, Hari Bansha Dual, Craig Anthony Johnson, April Karen Baptiste. (2013). Understanding Livelihood Vulnerability to Climate Change: Applying the Livelihood Vulnerability Index in Trinidad and Tobago. *Geoforum*, 47, 125-137.

5. Kelvin M. Shikuku. (2017). Smallholder Farmers' Attitudes and Determinants of Adaptation to Climate Risks in East Africa. *Climate Risk Management*, 16, 234-245.

6. Md. Abur Rahim, Ayesha Siddiqua, Mos. Nusrat Binte Nur, A.K.M. Mostafa Zaman (2018). Community Perception on Adverse Effects of Natural Hazards on Livelihood Enhancing Livelihood Resiliency: A Case Study at Patharghata Upazila, Barguna. *Procedia Engineering*, 212, 149-156.

7. Md. Monirul Islam, Susannah Sallu, Klaus Hubacek, Joni Paavola. (2014). Vulnerability of fishery-based livelihoods to the impacts of climate variability and change: insights from coastal Bangladesh, *Reg Environment Change*, 14, 281-294.

8. Micah B. Hahn, Anne M. Riederer, Stanley O. Foster. (2009). The Livelihood Vulnerability Index: Apragmatic Approach to Assessing Risks from Climate Variability and Change - A Case Study in Mozambique. *Global Environmental Change*, 19, 74-88.

9. Phan Thế Công, Đặng Hữu Mạnh, Hoàng Anh Huy, Trần Thị Ly Phương. (2016). Livelihood Vulnerability Assessment to Climate Change at Community Level Using Household Survey: A Case Study from Nam Dinh Province, Vietnam, *Mediterranean Journal of Social Sciences*, Volume 7 No 3S1, 358-366.

10. Shalander Kumar, Ashok K. Mishra, Soumitra Pramanik, Sravya Mamidanna, Anthony Whitbread. (2020). Climate Risk, Vulnerability and Resilience: Supporting Livelihood of Smallholders in Semiarid India, *Land Use Policy*, 97, 104729-104741.

11. Till B. Below, Khamaldin D. Mutabazi, Dieter Kirschke, Christian Franke, Stefan Sieber, Rosemarie Siebert, Karen Tscherning. (2012). Can Farmers' Adaptation to Climate Change be Explained by Socio-economic Household-level Variables?. *Global Environmental Change*, 22, 223-235.

12. Trần Quốc Nghi. (2016). Đánh giá sự tổn thương do BĐKH tác động đến sinh kế của cộng đồng dân cư ven biển tỉnh Cà Mau. *Tạp chí Khoa học và Công nghệ Lâm nghiệp*, No 4, 133-141.

13. Tobias Lung, Carlo Lavalle, Roland Hiederer, Alessandro Dosio, Laurens M.Bouwwer. (2012). A Multi-hazard Regional Level Impact Assessmetn for Europe Combining Indicators of Climatic and Non-Climatic Change. Global Environmental Change, 23, 522-536.

14. Zhilong Wu, Bo Li, Ying Hou. (2016). Adaptive Choice of Livelihood Pattern in Rural Households in a Farm - pastoral Zone: A Case Study in Jungar, Inner Mongolia. Land Use Policy 62, 361- 375.

BENEFITS OF JOINING THE GREEN SUPPLY CHAIN IN COFFEE PRODUCTION: RESEARCH OF TAY NGUYEN, VIET NAM

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Abstract

This paper aims to analyze and discuss the benefits of coffee growing households when participating in the green supply chain in the production. Coffee is the main produced in Tay Nguyen, Viet Nam, accounting for 94% of agricultuaral land. Due to the increasingly strict demands of consumers, they demand a higher level, to meet the needs of customers, coffee growers in Tay Nguyen, Viet Nam must change the way of production according to " Green" coffee. The reseach confirms that: when participating in the green supply chain in coffee production, there are economic, social and environmental benefits.

Keywords: *Green supply chain, coffee, economic, social, environmental.*

1. Introduction

Coffee production as well as export Viet Nam ranks second in the world for many years. However, the export price of Viet Nam's coffee is always lower than that of other countries in terms of coffee production. Vietnamese coffee so far has not had its own brand on the world coffee exchange: Coffee quality and export prices are inferior to coffee products of many countries. Vietnamese coffee products are always at the low end of the global value chain when exported and are often not classified according to their own standards. According to the International Coffee Organization (ICO), every year, over 1,5 million bags of unqualified coffee are rejected at 10 European ports, of which Vietnam's coffee accounts for 72%.

Due to consumer demand, products must meet specific standards. To meet the needs of customers, the international market. Coffee growers need to chainge from traditional production to green supply chain production. The benefits of green supply chain production are: Clean coffee, reduced input materials, no chemicals. Reduced costs in coffee production.

2. Literature Review

2.1. Green suppy chain

Johnny (2009) assert that green supply chain is the process of adding elements of " green" elements to an existing supply chain and creating a recall supply chain as a way to rebuild the resulting system. This includes not only the pursuit of efficiency, but also supply chain innovation with regard to costs, profits and the environment.

Dadhich, Genovese, Kumar & Acquaye, (2015) stated that green supply chain are limited in natural resources, rising raw material and energy prices cause irreparable damage, raising concerns about carbon, gas waste, resource scarcity, climate change and waste generation have become challenges facing business environment.

2.2. Green supply chain coffee

The green coffee supply chain is a coffee production chain from production to consumers, the coffee production process with the goal of reducing input materials, reducing chemical fertilizers, reducing irrigation water, and reduce greenhouse gas emissions. Without, affecting the environment, recycling coffee pods to make microbial fertilizers to use as fertilizer, reduces labor costs, and reduces greenhouse gas emissions to the surrounding environment.

3. Method

3.1. Comparative method

To compare the effectiveness of coffee growers who have joined the supply chain and have not jet applied to participate in the supply chain to find out what causes they have not joined the supply chain.

3.2. Expert method

Consult directly or indirectly with officials and experts with long -term expericnce from central to local levels related to coffee, agricultural departments of 5 provinces to analyze and evaluate chain development. Green supply chain in coffee production, which is the foundation to perfect policies for the development of green supply chains.

3.3. LCA Method

Calculating greenhouse gas emissions at all stages of the green supply chain in coffee production in Tay Nguyen, such as preparation, cultivation, and processing.

4. Results

4.1. Enviromental Efficiency

a) Input stitch

Table 1: Greenhouse gas emissions during preparation

Unit: kgCO₂tđ/ha

Unput Stitch	TRADITIONAL				GREEN SUPPLY CHAIN			Difference
	GHG	*Quantily*	*Coefficient*	*Quantily GHG*	*Quantily*	*Coefficient*	*Quantily GHG*	
Land plowing machine	CO_2	3,9	74100	10,779	3,8	74100	10,779	**-**
	CH_4	3,9	10	39	3,9	10	39	**-**
	N_2O	3,9	0,6	2,34	3,8	0,6	2,28	**0,06**
Hole Digger	CO_2	7,9	74100	21,835	8	74100	22	**0**
	CH_4	7,9	10	79	7,9	10	79	
	N_2O	7,9	0,6	4,74	8	0,6	4,8	**0,06**
Lime powder	CO_2	26,3	0,13	3,419	23,8	0,13	3,094	**0,325**
Manure	CH_4	260,1	0,005	0,017	209,9	0,014	0,017	**-**
	N_2O	260,1	0,005	0,003	209,9	0,003	0,003	**-**
N		5	3,63	18,15	5	3,63	18,15	**-**
Total				**179,28**			**179,24**	

Source: Author's calculation from actual survey results, 2020

Before growing coffee, household in Tay Nguyen used a plow to plow the soil, and used a excavator to dig holes for coffee instead of using human strength. Apply formula 1 to calculate greenhouse gas emissions caused by Dieswel, in which the CO_2 emission factor is 74100kg CO_2. TJ. The N_2O emission factor is 0,6 kgN_2O TJ (*Table 2.5, Chapter 2, GL 2006)*. According to the survey results of 392 coffee producing households, the average pit excavator is 3,8-3,9 liter of oil, 1 liter is equal to 37,3 MJ, the coefficient of CO2 emission due to Deisel oil is 74100, the coefficient is 74100, N2O emission is 0,6. The amount of lime used for fertilizing in coffee planting holes, based on the results of subjects, the author surveyed 161 households growing traditional coffee, 131 households participating in the green supply chain. Using lime to fertilize before planting coffee trees, to increase the resistance of coffee, 1 ha of coffee fertilize 400kg of lime on average. The emission factor of using lime fertilizer is taken according to IPCC National GHG Invenrory Guidelines (2006), this study selects the emission factor of using Dolomite as a Coffee liner with the value 0,13 C/kg of lime (*GL 2006, Vol. 4, Chapter 11, P 29)*

Planting and taking care of coffee

Table 2: GHG in coffee growing and tending

Unit: kgCO₂tđ/ha

Growing and tending	**TRADITIONAL**				**GREEN SUPPLY CHAIN**			**Difference**
	GHG	*Quantily*	*Coefficient*	*Quantily GHG*	*Quantily*	*Coefficient*	*Quantily*	
N	CO_2	213	3,63	773,19	189	3,63	686,07	87,12
P2O5	CO_2	200	0,13	26	52,3	0,13	6,8	19,2
K2O	CO_2	104	0,56	58,24	65,5	0,56	36,68	21,56
Deisel Oil	CO_2	29	74100	80,15	18	74100	49,75	30,4
	CH_4	29	10	290	18	10	180	110
	N_2O	29	0,6	17,4	18	0,6	10,8	6,6
Pesticides	CO_2	1,04	25,5	26,52	0	25,5	0	26,52
Manure	CH_4	785,8	0,05	0,052	587,1	0,05	0,039	0,013
	N_2O	785,8	0,05	0,01	587	0,05	0,007	0
Total				**1.272**			**970**	301

Source: Author's calculation from actual survey results, 2020

Fertilizer N: The amount of fertilizer in the period of basic economic development, households usually use fertilizer with a ratio of 16-16-8, showing the amount of greenhouse gas emissions due to the amount of N fertilizer, traditional production by households 773,190 kgCO2tdd/ton, produced by green supply chain, emissions 686,040 kgCO2tđ/ton, difference in greenhouse gas emission reduce 87.12 kgCO2tđ/ton. GHG emissions P2O5, conventional production GHG emissions is 26 kgCO2tđ/ton, greenhouse production green supply chain emissions 6,8 kgCO2tđ/ton. The difference between the amount of greenhouse gas green supply chain emissions are reduced by 19,2 kgCO2tđ/ton compared to the traditional model. K_2O emissions from traditional production 58,240 kgCO2tđ/ton. Green supply chain production, greenhouse gas emissions 36,680 kgCO2tđ/ton. The results show that when participating in a green supply chain, greenhouse gas emissions are reduced by 21,560 $kgCO_2$tđ/ton compared to households participating in the tradional model.

+ **Electricity**: CH_4 greenhouse gas emissions, for traditional production, 0,006 kgCO2tđ/ton, production in the direction of a green supply chain, emissions 0,000544 kgCO2tđ/ton. Compared to using electicity when participating in the green supply chain, it reduces 0,006 kgCO_2tđ/ton.

+ **Deisel Oil**: CO_2 greenhouse gas emissions, traditional production 80,15 kgCO2tđ/ton, green supply chain production, emissions 49,75 kgCO_2tđ/ton. The results show that greenhouse gas emissions when households participating in the green supply chain decrease by 30,4 kgCO_2tđ/ton compared to households participating in the traditional way. The amount of greenhouse gas emissions CH_4, produced in the traditional way is 260 kgCO2tđ/ton, produce under the green supply chain, the greenhouse gas emission CH4 is 180 kgCO2tđ/ton. It shows that households participating in green supply chains have reduced greenhouse gas emissions by 110 kgCO2tđ/ton compared to traditional production. N2O emissions, when engagel in traditional production with an emissions of 17,4 kgCO2tđ/ton, production in the green supply chain has N_2O emissions of 10,8 kgCO2tđ/ton. The difference in traditional production is 6,6 kgCO_2tđ/ton compared to production in the green supply chain.

+ **Pesticides:** CO_2 greenhouse gas emissions of fertilizers, traditionally produced emissions 0,052 kgCO2tđ/ton, households participating in the green supply chain do not use pesticides, so the amount of gas emitted greenhouse gas emissions are 0.

+**Manure:** CH4 emission of manure, traditionally produced greenhouse gas emissions is 0,052 kgCO2tđ/ton, households participating in the green supply chain have greenhouse gas emissions of 0,039 kgCO2tđ/ton. The difference when participating in the green supply chain, the amount of greenhouse gas emissions reduced by 0,013 kgCO2tđ/ton compared to traditional production. N2O emissions of manure, for traditional production is 0,010 kgCO2tđ/ton, GHG production in green supply chain is 0,007 kgCO2tđ/ton. It shows that the amount of GHG of traditional production households is 0,003 kgCO2tđ/ton more than households participating in the green supply chain.

+ **Collection point**

- Greenhouse gas emissions

The amount of greenhouse gas emissions from using oil for agricultural vehicles to transport coffee from the field to home is 43 kgCO_2tđ/ton for traditional production; for households that transport by buggy or trailer, the GHG is 0. For households participating in the green supply chain, the GHG amount is 26,64 kgCO2tđ/ton. The difference between the amount of GHG for households producing traditionally is more than 16,36 kgCO2tđ/ton with households participating in the green supply chain.

The amount of CH4 GHG in the process of coffee milling for traditional households is 0,065 kgCO2tđ/ton, households producing in the green supply chain are 0,09 kgCO2tđ/ton.

Table 3: Coffee GHG in Tay Nguyen

Unit: KgCO2tđ/ton

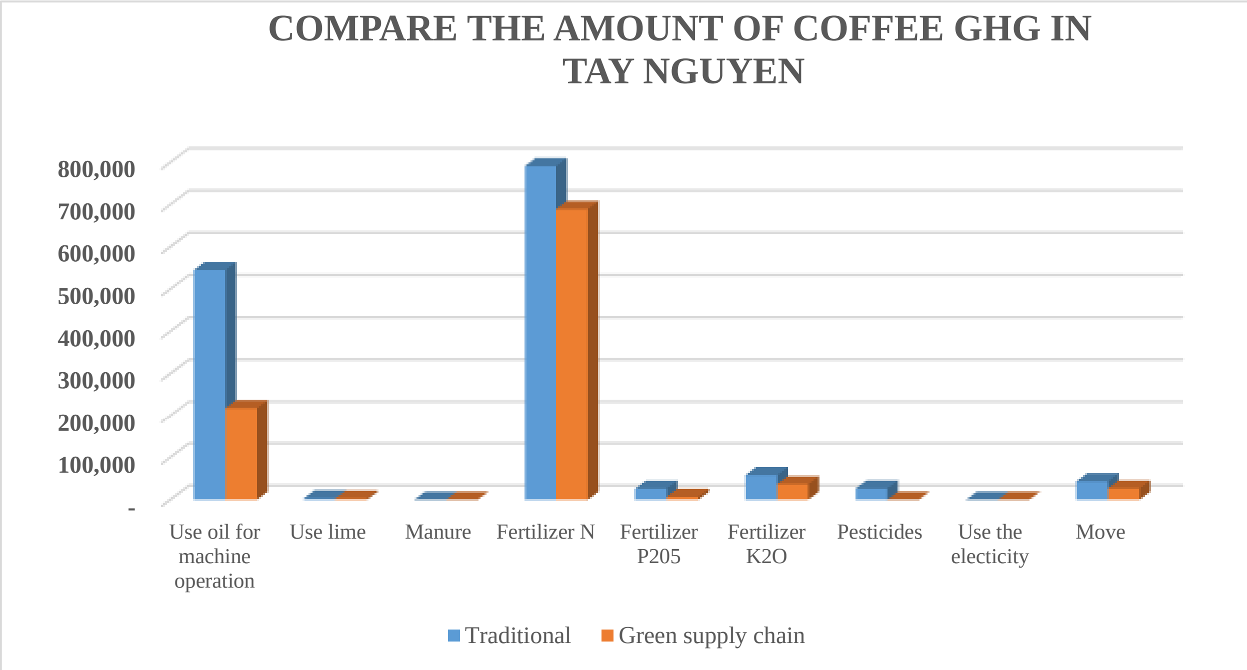
	Sources GHG	**GHG**	**TRADITIONAL**	**Green supply chain**
1	Use oil for machine operation	CO_2	112,768	32,614
		CH_4	408	167,751
		N_2O	24,480	17,880
2	Use lime	CO_2	3,419	3,094
3	Manure	CH_4	0,070	0,056
		N_2O	0,013	0,011
4	Fertilizer N	CO_2	791,340	689,700
5	Fertilizer P205	CO_2	26	6,8
6	Fertilizer K2O	CO_2	58,240	36,680
7	Pesticides	CO_2	26,520	0
8	Use the electicity	CO_2	0,071	0,09
9	Move	CO_2	43	26,64
Carbon footprint (kgCO2tđ/ton)			1.494	981

Source: Author's calculation from actual survey results, 2020

- **Compare the amount of coffee GHG in Tay Nguyen**

Table 3 shows that coffee production in Tay Nguyên is produced in a traditional way with an output of 1 ton of fresh coffee, with a GHG amount of 1,494 *KgCO2tđ/ton.* Production in green supply chian GHG amount is 981 *KgCO2tđ/ton.* According to green supply chain production reduces greenhouse gas emissions compared to the traditional 512,89 *KgCO2tđ/ton.*

Table 3: Compare the amount of coffee GHG in Tay Nguyên



- **Economic efficiency**

According to the survey results of the author, to harvest 1 ton fresh coffee includes the following costs:

Thus, the total cost of growing coffee to harvest 1 ton of fresh coffee is 5,880,000 VND

Table 4: Coffe Production Costs When Participating In Green Supply Chain

Unit: VND/Ton

Costs	Green supply chain coffee
Coffee tree	275.000
Watering system**	130.000
Labor cost	417.000
Fertilizer cost *	4.158.000
Manure cost	500.000
Energy cost	400.000
Total	**5.880.000**

The amount of fertilizer 3 years from the production stage to the start of harvest

When participating in the green supply chain, it is necessary to bring the most practical efficiency to facilitate the development of the green supply chains bring to coffee procers are shown in table 4.

Table 5: Economic Benefits Of Joining A Green Supply Chain

Unit: VND/Ton

Saving money on watering system	70,000
Saving labor cost	183,000
Reduce inorganic fertilizers	12.006,000
Reduce organic fertilizers	200,000
Saving time converting to money	130,000
Saving time, convert to money	85,000
Cost	2.500,000
Reduced energy	400,000
Sell carbon credits	25,383
Tatol	**15.416,566**

Source: Author's calculation from actual survey results, 2020

Traditional coffee production has a greenhouse gas emission of 1,494 KgCO2tđ/ton, after joining the green supply chain, greenhouse gas emissions decrease to 981 KgCO2tđ/ton. The selling pric of carbon credits is 981 KgCO2tđ/ton. The money is 25,383 thousand VND.

- Using time – saving in coffee irrigation, each year saves 130,000 VND
- Saving money on treatment of diseases caused by environmental pollution is 85,000 VND/ year.
- When participating in the green supply chain, cost of buying 1kg of coffee increases by 2,5 thousand VND/kg compared to the traditional. Join the green supply chain with a profit of 2,5 million VND/ton of fresh coffee.
- Joining a green supply chain, cost such as electricity and oil are reduced by 40,000 VND compared to the traditional.
- Using inorganic fertilizers when participating in the green supply chain brings benefits of 12,006 million VND. Manure benefits when participating in the supply chain is 200,000 VND.

- **Social efficiency**

Joing a green supply chain in coffee production in Tay Nguyen, in addition to environmental benefits, also has social benefits such as reducing the burden on wonmen and the elderly in coffee production, watering, saving time for children and the elderly to spend time working more gently, suitable for each age. Saving a lot of time, men can do other jobs to increase family income, women can spend that time talking care of the family.

Through the survey, people who have participated in green supply chain in coffee production are shown as follows:

Improving the quality of life for workers: After surveying households/farms involved in coffee production that have joined the green supply chain. They use drip irrigation technology instead of watering in the traditional way of pulling the rope to the root, saving 100% of irrigation manpower, saving 9 labor/time/ton. 27 labor/ha/ year. The current labor price is 260.000 VND/ day, increasing income is 7,020,000 VND/ha/year, for coffee producing households that have not joined the green supply chain. The time thay save is used by them fof social activities, looking for alternative jobs to increase their living income, such as village activities (100%), talking care of the family 52%. Increase income 60%, read books 13%. According to the comments of coffee farms/ households, since joining the green coffee supply chain, thay have more time to take care of their families, study and children, and have time to do other jobs.

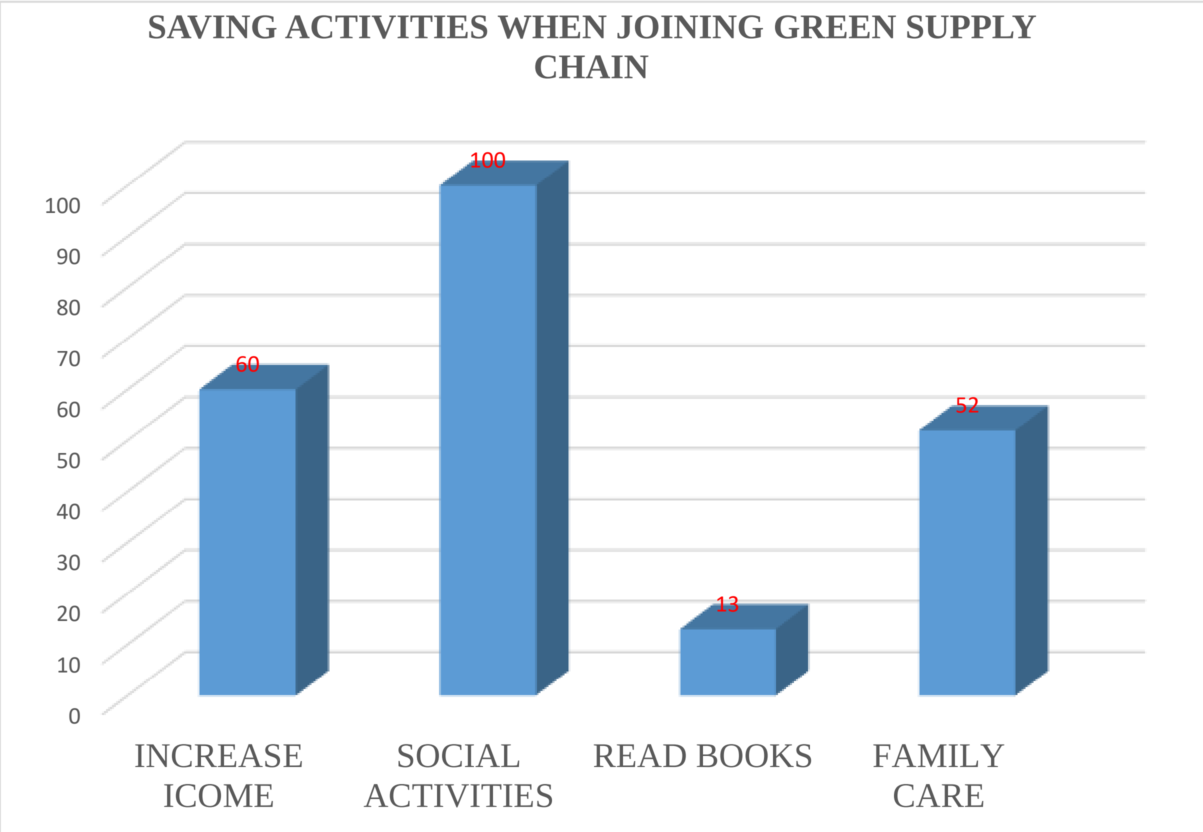


Figure 1: Saving activities when joining green supply chain

Improving people’s health: Of which 131 households and participants in the green supply chain, 125 households (accounting for 97,2%), believe that participating in the green supply chain can reduce diseases caused by environmental pollution. In addition, health diseases affect people due to side effects from organic chemical fertilizers, sprays for coffee trees when spraying in bathches, flowering before ioning the green supply chain. The reduction of envirmental pollution caused by pruning coffee branches and coffee husks increases the stench, since joning the green supply chain, talking advantage of coffee pruning to mank cooking firewood coffee husks for composting, fuel for coffee roasting. Each year on average. Each households/ farm seves about 459,300 VND/year on respiratory diseases… compared to before joining the green coffee supply chain.

Reducing the amount of flies, mosquitoes and insects when producing traditional coffee. According to the author's survey of 131 households/ farms, 47,2 of insects, ants and flies are completely reduced. 38,2% of households/farms reported that the amount of insects, files, and ants reduced slightly. Most of the farms take advantage off coffee husks before joining the green supply chain.

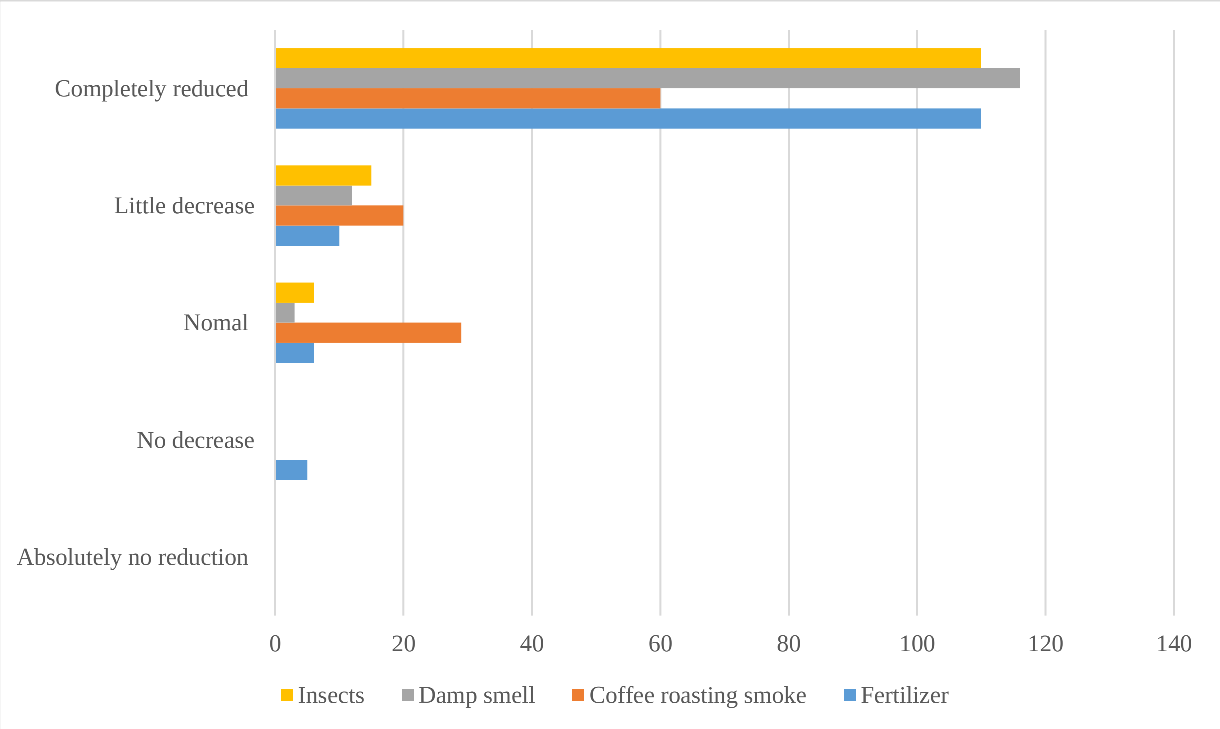


Figure 2: Air pollution reduction and insect counts after joining the green supply chain

5. Discussion

In recent years. Cofffee has been exported a lot in countries around the wworld, coffee growing households in Tay Nguyen, Viet Nam have joined the green supply chain in production, replacing the traditional production method. They found that, when participating in green supply chains, there are many economic, social and environmental benefits compared to traditiopal production.

6. References

1. IPCC (2013), *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge University Press, Cambridge, United Kingdom and New York.

2. Kelly L.M., Shepson P.B., Strim B.P., Karion A., Sweeney C., Gurney K.R. (2009), "Aircraft-based measurements of the carbon footprint of Indianapolis", *Environmental Science and Technololy*, 43, pp.7816–7823.

3. Kenny T. and Gray N.F. (2008), "Comparative performance of six carbon footprint models for use in Ireland", *Environmental Impact Assessment Reviews*, 29, pp. 1–6

4. Kool, A., Marinussen, M., Blonk, H. (2012). *LCI data for the calculation tool feedprint for greenhouse gas emissions of feed production and utilization.*

5. Smith P., Martino D., Cai Z.C., Gwary D., Janzen H., Kumar P., McCarl B. (2008), "Greenhouse gas mitigation in agriculture", *Philosophical Transactions of Royal Society B*, 363, pp. 789-813.

6. Thich Van Nguyen, Nam Cao Nguyen, Ockie J.H. Bosch, (2017) "*Identifying key success factors in supply chain management for increasing the competitive advantages of Vietnamese coffee*", Competitiveness Review: An International Business Journal, Vol. 27 Issue: 5, pp.438-461, https://doi.org/10.1108/CR-10-2016-0066.

7. Longoni, A., & Luzzini, D. (2016). *Building Social Capital into the Disrupted Green Coffee Supply Chain: Illy's Journey to Quality and Sustainability. Organizing for Sustainable Effectiveness, 83–108.*doi:10.1108/s2045-060520160000005012

8. Kronborg Jensen, J., Balslev Munksgaard, K., & Stentoft Arlbjørn, J. (2013). *Chasing value offerings through green supply chain innovation. European Business Review, 25(2), 124–146.*doi:10.1108/0955534131130265.

9. Chávez, M. M. M., Sarache, W., & Costa, Y. (2018). *Towards a comprehensive model of a biofuel supply chain optimization from coffee crop residues. Transportation Research Part E: Logistics and Transportation Review, 116, 136–162.*doi:10.1016/j.tre.2018.06.001.

10. Su-Yol Lee (2008) "Drivers for the participation of small and medium-sized suppliers in green suppl*y chain initiatives*", Supply Chain Management, Vol. 13 No. 3, pp. 185-198.

11. Handfield & Bechtel, 2002. *The role of trust and relationship structure in improving supply chain responsiveness.* Industrial Marketing Management 31 (2002) 367 – 382.

12. Togar & Sridharan, 2002. *The Collaborative Supply Chain: A Scheme for Information Sharing and Incentive Alignment*. The International Journal of Logistics Management, 2002.

13. Kenneth W. Green Jr, Pamela J. Zelbst, Jeramy Meacham, Vikram S. Bhadauria, (2012) "*Green supply chain management practices: impact on performance", Supply Chain Management"*: An International Journal, Vol. 17 Issue: 3, pp.290-305, https://doi.org/10.1108/13598541211227126.

15. Jia, F., Gong, Y., & Brown, S. (2018). *Multi-tier sustainable supply chain management: The role of supply chain leadership.* International Journal of Production Economics. doi:10.1016/j.ijpe.2018.07.022 .

16. Zhilong Wu, Bo Li, Ying Hou. (2016). Adaptive Choice of Livelihood Pattern in Rural Households in a Farm - pastoral Zone: A Case Study in Jungar, Inner Mongolia. *Land Use Policy* 62, 361- 375.

FACTORS IMPACTING ON THE LIVELIHOOD OF RAGLAI PEOPLE IN BAC AI DISTRICT, NINH THUAN PROVINCE

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Abstract

Nowadays, the livelihood of ethnic minority communities has become a central issue in many countries around the world. In our country, the living conditions of many ethnic minority communities have improved, but in general, it is still mainly agricultural production with low productivity, so the rate of poor and near-poor households is still high. Bác Ái district, Ninh Thuận province is where more than 90% of Raglai people live and work. Although the government has many livelihood programs and policies on labor and employment, the life of Raglai people still faces many difficulties. This paper is an attempt to analyze objective and subjective factors that affect the livelihood activities of Raglai people, Bac Ai district, Ninh Thuan province. By a combination of quantitative research methods and qualitative research methods, the study shows that natural conditions, human resources, financial resources, social resources, etc. have an influence on livelihood activities leading to poverty of the Raglai community.

Keywords: *Raglai ethnic group, poverty, poverty reduction.*

1. Introduction

Bac Ai is one of 61 poor districts (now 64 districts) according to Resolution 30a of the Government. The district has 09 communes/38 villages (of which 31 are particularly difficult). Population 7,372 households/31,353 people (as of the end of 2018), mainly Raglai ethnic people (accounting for over 87%). The number of people of working age is 16,303 workers, accounting for 52% of the total population of the district, mainly engaged in agricultural production and animal husbandry.[10] Bác Ái is an arid sub-climate, typically with a tropical monsoon climate, relatively high temperature, hot dry, and high winds, so droughts often occur every year. Although the government and local authorities have been implementing many livelihood programs, poverty reduction policies, and infrastructure construction, the rate of poor households and falling back into poverty is still high. Therefore, understanding factors impacting on the livelihood of Raglai people in Bác Ái district will contribute to assessing the current status of labor and employment, identifying

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[10] UBND Huyện Bác Ái, (2019), Sơ kết đánh giá kết quả 10 năm *(giai đoạn 2008-2018)* triển khai thực hiện Nghị quyết số 30a/2008/NQ-CP ngày 27/12/2008 của Chính phủ
trên địa bàn huyện Bác Ái.

the main causes that directly affect the livelihood their. Proper assessment and accurate identification of the causes will be an important basis for local authorities to find effective solutions to solve livelihood problems and help people escape poverty. Through a theoretical approach to the Department for International Development (DFID) sustainable livelihoods framework. The author analyzes the impact of human resources (skills, knowledge, work capacity and health); social resources (networking, membership of groups, relationships of trust, access to broader social institutions); natural resources; physical resources (basic infrastructure, equipment and means of production); financial resources (savings, credit or deposit to help choose different livelihood activities) to the livelihood activities of Raglai people in Bác Ái district, Ninh Thuận province.

2. Method

The study was carried out by survey method by questionnaire with more than 700 households in three communes: Phước Thành, Phước Thắng, Phước Tân of Bác Ái district, Ninh Thuận province. On the other hand, to learn more about factors affecting livelihood activities; the level of participation and satisfaction of the Raglai with the programs and policies being implemented in the locality. The study conducted 30 more in-depth semi-structured interviews with subjects who were local people, officials, village elders, and village heads. The study also conducted 6 focus group discussions for people (according to the criteria of sex, age, occupation), officials. Survey data by questionnaire will be processed by SPSS 18.0 software to identify variables that have an impact on poverty of Raglai people in Bác Ái district, Ninh Thuận province.

3. Results

3.1. Livelihood of Raglai People in Bac Ai District, Ninh Thuận Province

Research on livelihood activities of Raglai people in three communes Phước Thành, Phước Tân and Phước Thắng in Bác Ái district, the results show that the Raglai people mainly focus on working in occupational groups such as cultivation 203 people (29%); animal husbandry 295 people (49%); freelance 115 people (16.4%). Occupation groups such as trade profession, services, cottage industry, etc. have a very low percentage of Raglai people participating.

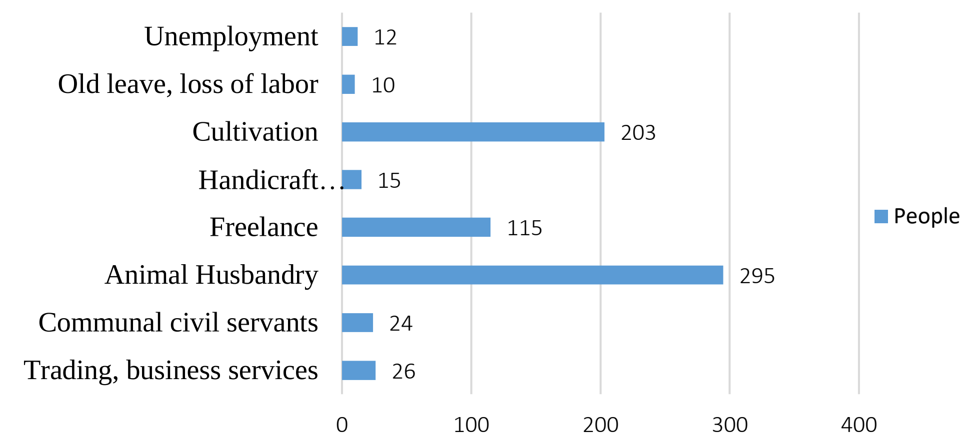

Figure 1. People's current main occupation

Source: Results of the study in 2017

Finding out about the incomes of occupational groups, the research results show that the average income of Raglai people is quite low (1,371,000/person/month), in which high-income occupation groups are mainly officials (3,097,000/person/month), workers 3,100,000/person/month) and traders (2,037,000/person/month). However, a paradox is that the number of people working in high-middle-income occupations accounts for a very low percentage. On the contrary, people working in the cultivation and animal husbandry groups have low income but many people participate. This is influenced by many different factors and will be analyzed in more detail later.

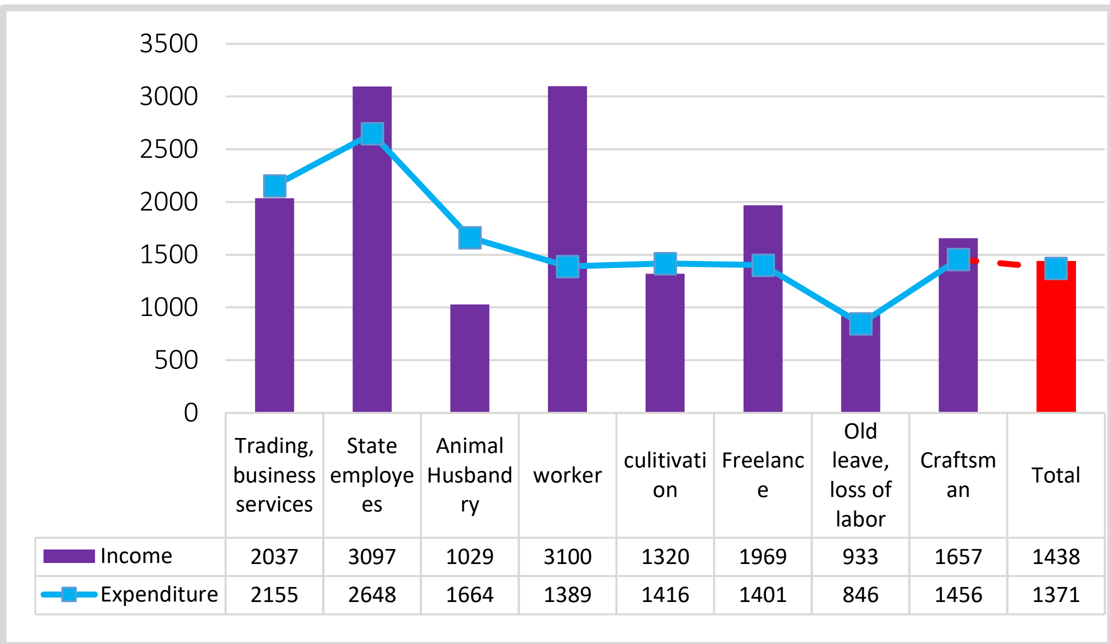

Figure 2. Comparison between income and expenditure by occupation group (thousand VND/month)

Source: Results of the study in 2017

On the other hand, looking at figure 2, we see that the income of the two groups of cultivation and animal husbandry is much lower than that of the other groups. In particular, considering the balance of income – expenditure of these two occupation groups, it is always negative (Animal husbandry: -635,000/month; cultivation: -96,000/month). This result tells us more that, when the main income generating profession is always in the state of spending more than receiving, the life of Raglai people is always in a state of deprivation, difficulties are inevitable. Currently, the exploitation and use of arable land has not been thoroughly used, so the agricultural production of people is also facing many difficulties. Raglai ethnic people still continue to exploit swidden land on the mountain slopes to grow corn, rice and vegetables. This land area is very difficult to estimate, it depends a lot on the human resource conditions of each household, because in order to use it for farming, it is necessary to give up quite openly.

3.2. Factors impacting on the livelihood of Raglai people in Bác Ái district, Ninh Thuận province

3.2.1. Natural resources

About climate, weather: Bác Ái is an arid sub-climate, typically with a tropical monsoon climate, relatively high temperature, hot, dry, windy, high evaporation, which are favorable conditions for intensive farming, increasing crops, especially especially for the group of plants that like light and to develop large-scale livestock raising such as buffaloes and cows; in the rainy season, crops can grow and develop normally, but need additional irrigation water to increase productivity and combat drought; in the dry season, if it is not irrigated, it is almost impossible to carry out production.

About land resources: Bác Ái has a relatively large area of natural land, large forests and forest land, accounting for 79,71% of the natural area, with all three types of forests, namely special-use, watershed protection and production; agricultural production land area accounts for 11,94%. Land has 6 groups, 12 land units, including: semi-arid gray-brown soil group accounting for a large proportion with 72,2%; group of gray and gray soil 10,5%; alluvial soil 6,9%; valley land due to slope product accumulation 5,46%; red and yellow soil 4,72%; The rest is gravel.[11]

In general, the climate and weather conditions in Bác Ái district are very harsh, often lacking water for agricultural production and in the dry season. In addition, the soil has low nutrient content, heavy mechanical composition, many acidic soils, degraded due to harsh climate, little annual replenishment and excessive use of pesticides; Therefore, the

[11] UBND Huyện Bác Ái, (2020), Báo cáo kết quả triển khai thực hiện Chương trình mục tiêu quốc gia giảm nghèo bền vững 9 tháng đầu năm 2020, và phương hướng thực hiện nhiệm vụ 3 tháng cuối năm 2020 trên địa bàn huyện Bác Ái.

livelihoods of Raglai people based on cultivation and animal husbandry face many difficulties.

3.2.2. Human resources

The level of education has a close relationship with labor skills, adaptation in livelihood activities under the impact of natural conditions and risks from the market, epidemics, etc. Quantitative results shows that the education level of the Raglai is very low (more than 37,1% have never attended school; 59,9% have primary education and have dropped out), the dropout of children is still very common.

Table 1. A detailed description of educational attainment of local children

Description table		**Frequency**	**%**
Kindergarten	Male	123	10,0
	Female	117	9,5
Primary school level (from grade 1 to grade 5)	Male	293	23,9
	Female	223	18,2
Secondary school level (from grade 6 to grade 9)	Male	170	13,8
	Female	137	11,2
High school level (from grade 10 to grade 12)	Male	96	7,8
	Female	69	5,6
Total		**1,228**	**100,0**

Source: Combining results of the study in 2017 and data posted by District Education Department on the website http://bacai.edu.vn.

The results of Table 1 show that the percentage of students from primary to high school is gradually decreasing. The total number of primary school students was 516, but by high school only 165 students, a decrease of about 3,1 times. In which, the number of students decreased the most in the period from secondary school to high school, the number of boys decreased by 1,8 times (170 compared with 96) and the number of girls decreased by 2 times (137 compared with 69). The sharp decrease in the number of students across classes and levels is alarming. A teacher at Hung Vuong School – Phước Tân Commune shared: *"After a few days of Tet holidays, I had to go to each student's house to remind them to come to school tomorrow, sometimes I had to go to students' homes to drive them to school. It was very hard work, but I loved my job… Anger was anger at parents, they did not care about their children's education. Sometimes, students were absent from school for a whole week, when I went to students' houses to ask about their parents, they said that they did not pay attention because they went to work..."*.

Low level of education has a great influence on Raglai people's perception of livelihood activities. In farming, despite being granted land by the local government for cultivation, many households still keep the old and outdated farming methods, so the productivity is very low. Even, many resettled households have refused the land in the plains granted by the government to return to their old places of residence (on the high mountains) to cultivate. An agricultural extension officer said: *"Although people in Phuoc Thang commune were resettled, provided with cultivated land, and had a house, but they were not familiar with it. Many households just left their homes and then went to the mountains to stay for a whole month before returning. In the mountains, they still grew corn, rice, and bananas just like they used to. Although they did not have high productivity, they were not used to growing wet rice. It was difficult to get water here, it took technology to be productive. Even though the people had been trained in farming techniques, they were still not used to it, so they did not do it"* (Male, 45 years old, district official). For livestock production, although the local authorities are very well trained in methods and techniques to take care of livestock and poultry, many households still do not understand and follow the old practices. An official from the district's Department of Labor, War Invalids and Social Affairs said: "…The state provided each poor household with a cow under the program 135, but it was no longer available after that. There were cows that die due to disease, due to lack of food and drink, the cows became thin and boneless, or they were slaughtered. No one took care of cows like that. Every day, they took the cow out into the field and tied it to the tree until evening to bring it back. The important thing is that there was no water around, no grass, no cow could live".

From distant past to present day, The Raglai do not have the ability and habit of doing business, so making money through trading is not their forte and advantage. In particular, the local economic conditions are underdeveloped (in 2008 for the first time the district had a market supported by Oxfarm) plus very few households with low educational attainment, no math skills, no business knowledge. Raglai family participates in trading. Local trading activities are mainly carried out by Kinh people. Some Raglai households doing small business (selling groceries, selling chè, xôi) have much better income. However, buying and selling activities also face many difficulties when people of the same ethnic group buy without payment or owe but do not pay for many days, even they are afraid of being cursed (bỏ dậu) by neighbors when they see these families do better than them. One young woman, grocer said: *"…Trading made a little money, but sometimes neighbors bought it without paying, 'it' did not pay, sometimes 'it' said 'all are people from the same village, so they did not need to pay'. In fact, I was also afraid, because many people naturally had money, became rich, they were cursed by their neighbors and died from illness, so many families did not dare to be rich"* (Female, 25 years old, grocer). In spending management, due to not knowing how to calculate so the revenue - expenditure is ineffective, they do not have monthly spending plans or know how to accumulate, save to spend in difficult times, or risks from epidemics and natural disasters. A grocery store owner, Kinh people said: *A grocery* *store owner, Kinh people said: "Many households were suffering, but fortunately, the government planned the administrative area should be compensated a lot of money. But you knew what? they brought a whole bag of money to the grocery store to pay off the debt. They did not know how much they owe, but they just told the owner to take the money out of their own pocket for the amount they owe. Then they went to Ninh Sơn market to buy all kinds of things, ate a bowl of pho for 25,000 VND and gave 50,000 VND without taking any change. They were like that, very different, not like our Kinh people".* Or a woman officer said: *"People who worked far away, father and son worked in Lam Dong had more than 20 million VND, wife bought 2 phones and laptops, then husband bought 2 then buys 2 TVs, daughter got married in the West. Father and son worked together to provide for his wife (mother). The state facilitated land allocation (program 135) but they refused to do so, how could they escape poverty? Compared to people in other places, people here were narrower".*

In the present time, the local government strengthens vocational training classes so that young people of Raglai have full skills to access jobs. The number of vocational classes is being opened more and more, such as cultivation, animal husbandry, veterinary medicine, construction, repairing engines and motorcycles, industrial sewing *(Phước Bình 223 workers/10 classes; Phước Hòa 274 workers/10 classes; Phước Trung 322 employees/11 classes; Phước Tân 475 workers/14 classes; Phước Tiến 950 employees/27 classes; Phước Thắng 625 workers/18 classes; Phước Chính 414 employees/12 classes; Phước Đại 350 employees/10 classes; Phước Thành 550 workers/16 classes).*[12] However, after they receive vocational training, they also face many difficulties because the Raglai do not want to work away from home, while in the locality, the industrial economy is not developed. This is a difficult problem for households and for local authorities.

3.2.3. Social resources

A social network is a social structure formed by individuals or organizations, bound by interdependence through the knots are relationships such as family, kinship, friends, etc. Social capital is established from social networks, in addition, social networks are increased and expanded by individuals and groups through the benefits that social capital brings. The Raglai people have a close relationship with their neighbours, only their relationship with local political organizations and product purchasing establishments are very limited. Therefore, they have little information about the fake market and are often pressured by traders for the agricultural products they earn. A particularly important issue is that relatives and neighbors only live around the village, very few people work far away so they do not have information about employment or are influenced by people with economic knowledge

[12] UBND Huyện Bác Ái, Bác cáo kết quả triển khai thực hiện Chương trình MTQG giảm nghèo bền vững năm 2019, phương hướng, nhiệm vụ, giải pháp thực hiện năm 2020 trên địa bàn huyện Bác Ái.

to the Raglai. Through actual observations, the Raglai often trade with the Kinh (households who sell groceries and buy all the products earned by the Raglai) but learn nothing from these household businesses. In fact, Kinh business households in order to achieve high profits often force prices, buy products at very low prices compared to the market price, they encourage Raglai people to buy alcohol to exchange agricultural products. Raglai people are very limited in accessing information as well as expanding their relationships with local cultural and social organizations. That is also the reason why they lose many opportunities to access information about policies, programs and projects for them. In addition, Raglai people's access to information is mainly through information from village loudspeakers, word of mouth information, audio-visual media such as television, cassette, radio. However, during the actual observation in the locality, we found that there are some barriers in accessing information for the people such as: radio stations do not have wide coverage, only focus on a few densely populated places such as markets, schools, administrative areas. The form of broadcasting is not suitable for listeners, because Raglai people have low education level, do not understand the Kinh's voice, one interviewee shared: *"I listened to music but I did not understand, sometimes they spoke too fast so I could not hear it in time. I could only listen to it when I had free time, but when I went to work in the field, there was no loudspeaker in the field for me to listen to"* (Male, Raglai people).

In general, the social capital of the Raglai is very limited, mainly the relationship with family and neighbours. However, the people in the family, relatives, and neighbors also live around the village, and their understanding of doing business is the same, so they cannot learn from each other. Therefore, it can be seen that social networks play an important role in supporting people to access information in life.

3.2.4. Physical resources

Over the years, through the benefits of policies under Resolution 30a of the Government, the local physical conditions have been significantly improved. Housing support for poor households under Program 167 is 1,629/1,100 units, reaching 148,1% of the plan; housing under Decision No. 22 is 237 units; The remaining 1,257 houses are supported by other sources, such as: solidarity houses, support houses from organizations and businesses,…; 01 station has a fixed doctor, the remaining 08 stations have a rotating doctor according to the project 1816; schools at all levels are built spaciously, there are schools for boarding students; asphalt and clear road delivery system to communes; 01 central market of the district, the fairs of Phước Bình, Phước Trung, Phước Thắng, Phước Tiến.

Compared with ethnic minority areas in the Northwest, the physical conditions in Bác Ái district are much better, but due to harsh natural conditions, it is not favorable for agricultural development. On the other hand, Raglai people still keep the old habit of cultivation, so they often grow crops on high mountains, these places have no roads, so they are often pressured by small traders. In addition, due to their low level of education and slow absorbing techniques and technologies, they have not effectively used the resources provided by the government. For example, Raglai people still have the habit of giving birth at home without going to local health facilities, they do not have the habit of regular antenatal check-ups to receive iron and calcium supplements as well as vaccinations. Therefore, the rate of malnourished children (short, stunted) is still high. The school is spacious, but most of them only study until the end of secondary school and then drop out of school to follow their families to the fields or to work as hired laborers.

3.2.5. Financial resources

Financial resources are very important for the livelihood activities of households. Bác Ái district is a poor district, so the government is very interested in lending capital for the Raglai to do business and live. According to an official from the district's Department of Labor, War Invalids and Social Affairs, the state's current sources of loans to people are not lacking, even not fully lent. A paradox taking place in the Raglai community is that people are lacking in business capital, but the state loan fund is still available. The reason for the above contradiction is because Raglai people do not know what to borrow money for? They fear that if they borrow money and do nothing, they will spend it all and not have enough to pay back to the state. On the other hand, for some households that know how to do business, the loan amount is too small and it is not enough for them to expand their production. A person living here said: *"...If you did not dare to take money from the state, if you did not know what to do, where could you get the money to pay the debt? I saw my neighbors borrow money to buy TVs, bought an old motorbike, then ate and drank. After using all the money, how do I return the money to the state? I was so scared, I did not dare to borrow money"*. An official from the Women's Union also shared: *"In general, people were a bit afraid, shy, did not dare to contact, lack trust with strangers. The State facilitated low-interest loans. Previously, the interest rates of poor households were about 6% to 8%. Interest rates were low but they did not dare to borrow, 10 million, 15 million, I did not know how they determine it. They did not specify whether to borrow for economic purposes, to raise cows or for what?".*

4. Discussion and Conclusion

In general, according to the theoretical approach to sustainable livelihoods framework of the Department for International Development (DFID). Results show that the Raglai people's livelihood activities are influenced by the following factors: (1) natural resources; (2) human resources; (3) social resources; (4) physical resources; (5) financial resources. In particular, the study shows that resources (1) and (2) have the strongest impact on livelihood activities of Raglai people. However, if viewed comprehensively, cultural resources are the key factor in the livelihood of Raglai people in Bác Ái district, Ninh Thuận province. Cultural resources are understood as the customs, habits, and traditional behaviors that have created inertia for the economic activities of the people here. About the regional culture, the Raglai follow the matrilineal system, with women being the main labor force in the family, performing many different roles. Therefore, male are less likely to participate in heavy work, they drink as much as they do, so some families have a hard time. In addition, Raglai people do not have the habit of working far away, they do not want their family members to go to big cities or go abroad to work in search of good job opportunities. On the contrary, they want their children to gather with their families even if they are hungry all year round. The Raglai also do not force their children to study or work to earn money when they reach adulthood. Or if the children go to work to earn money, they can completely decide with the money they earn without having to give it to the family. Some other families still keep outdated customs that cost the family a lot of money such as the custom of bỏ mả, cúng mùa, etc.

5. References

1. Bùi Đình Thanh (2004), *Xã hội học và chính sách xã hội*, NXB Khoa học xã hội, Hà Nội.

2. Bùi Minh Đạo và nhóm nghiên cứu (2003), *Một số giải pháp xóa nông thôn miền núi Việt Nam* – Thụy Điển, Hà nội.

3. Cầm Văn Thanh (2013), *Chính sách ASXH cho đồng bào DTTS hiện nay – Thực trạng và những kiến nghị*. Bài viết Kỷ yếu hội thảo "Ngân sách Nhà nước bảo đảm ASXH cho đồng bào DTTS".

4. Đỗ Thị Dung (2011), *Giải pháp xóa đói giảm nghèo trên địa bàn huyện Nông Sơn, tỉnh Quảng Nam*, Luận văn thạc sĩ kinh tế.

5. Đặng Nghiêm Vạn, Chu Thái Sơn và Lưu Hùng (2000), *Các dân tộc thiểu số ở Việt Nam*, NXB Thế giới, Hà Nội.

6. Gabriel Demombynes và cộng sự (2014), *Tại sao nhóm dân tộc thiểu số ở Việt Nam nghèo dai dẳng?*, East Asia & Pacific on the rise, Viet Nam.

7. Hà Quế Lâm (2002), *Xóa đói giảm nghèo ở vùng dân tộc thiểu số nước ta hiện nay – Thực trạng và giải pháp*, NXB Chính trị Quốc gia, Hà Nội.

8. UBND Huyện Bác Ái, (2019), Sơ kết đánh giá kết quả 10 năm *(giai đoạn 2008-2018)* triển khai thực hiện Nghị quyết số 30a/2008/NQ-CP ngày 27/12/2008 của Chính phủ trên địa bàn huyện Bác Ái.

9. UBND Huyện Bác Ái, Bác cáo kết quả triển khai thực hiện Chương trình MTQG giảm nghèo bền vững năm 2019, phương hướng, nhiệm vụ, giải pháp thực hiện năm 2020 trên địa bàn huyện Bác Ái.

10. UBND Huyện Bác Ái, (2020), Báo cáo kết quả triển khai thực hiện Chương trình mục tiêu quốc gia giảm nghèo bền vững 9 tháng đầu năm 2020, và phương hướng thực hiện nhiệm vụ 3 tháng cuối năm 2020 trên địa bàn huyện Bác Ái.

EFFECTS OF ECONOMIC GROWTH, INDUSTRIALIZATION, AND URBANIZATION ON CARBON DIOXIDE EMISSIONS: EVIDENCE FROM VIETNAM

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Abstract

The article aims to explore the causal relationship between economic growth, industrialization, and urbanization in Vietnam between 1987 and 2016 using the VECM. In the short run, it has been empirically found that CO_2 emissions have positive effect on GDP, while industry value added, and urban population have negative relationships with GDP. Results also indicated that CO_2 emissions and urban population negatively affect industry value added, but an increase of GDP may enhance the industry value added. Results showed that both GDP and industry value added have negative impacts on urban population. In the long term, results demonstrated that economic growth harms the environment, while surprisingly, industry value added, and urban population can improve the environmental quality. Results of the Johansen co-integration test indicate that there is a long run relationship between economic growth, industry value added, urban population, and CO_2 emissions in Vietnam. Lastly, policies are recommended to achieve both targets in economic growth and sustainable development for Vietnam.

Keywords: *carbon dioxide emissions, economic growth, industrialization, urbanization*

1. Introduction

The theme on the relationship between carbon dioxide (CO_2) emissions, economic growth, industrialization, and urbanization has been strongly debated by scholars all over the world. Dong *et al.* (2019) found that urbanization and income level have a significant influence on CO_2 emissions in 14 developed countries, and urbanization has a negative effect on CO_2 emissions in the mid-urbanization stage, while Hossain (2011) concluded that energy consumption in the newly industrialized countries generates CO_2 emissions, but economic growth, trade openness, and urbanization had positive effects on the environmental quality in the long run. A study by Nasir *et al.* (2021) argued that the industrialization process does not affect CO_2 emissions in Australia, while Mahmood *et al.* (2020) claimed that the effect of industrialization on the environment is inelastic, but the elastic effect has been found in the impact of urbanization on the emissions in Saudi Arabia.

Vietnam has experienced in economic reform and industrialization for more than two decades and it had great changes in economic structure (Tran and Doan, 2011). By 2019, the agriculture, forestry and fishing sector increased by 2.01 percent, while the industry and construction sector increased by 8.90 percent, and the services sector increased by 7.3 percent. The contribution to the overall growth of each sector accounted for 4.6 percent, 50.4 percent, and 45 percent, respectively (General Statistics Office, 2019). In Vietnam, due to the after-war housing pressures and land speculation, the process of urbanization occurs many years before the industrialization process, causing the urban model, and thinking to experience many crises. By 2020, the urbanization rate of Vietnam will be accounted for about 40 percent with the urban population of more than 45 million people (Chu and Nguyen, 2017). Industrialization and urbanization of Vietnam have progressed considerably. Urbanization of this country is lower than that of the global, however it is higher than the average in other developing countries and Southeast Asian countries (Ha *et al.*, 2019).

Table 1. GDP per capita, electricity consumption per capita, energy use per capita, urban population, and CO_2 emissions in Vietnam

Year	GDP per capita (constant 2010 US$)	Industry value added (% of GDP)	Urban population (%)	CO_2 emissions per capita (metric tonne)
1987	389.8	28.4	19.7	0.4
1996	628.1	29.7	22.6	0.5
2016	1,752.5	32.7	34.5	2.1

Source: World Bank, 2021

As seen in Table 1, gross domestic product (GDP) per capita of Vietnam increased by nearly 4.5 times from US$389.8 in 1987 to US$1,752.5 in 2016, while the value added of industry sector rose by 4.3 percent between 1987 and 2016. The rate of urban population of Vietnam increased by 14.8 percent from 19.7 percent in 1987 to 34.5 percent in 2016, while CO_2 emissions per capita increased by 5.2 times from 0.4 metric tonnes in 1987 to 2.1 metric tonnes in 2016.

In Vietnam, the relationship between economic growth and CO_2 emissions has been examined in work by Thanh and Khuong (2017); and Shahbaz *et al.* (2019), while Tang and Tan (2015) focuses on investigating the relationship between energy consumption, economic growth, foreign direct investment, and CO_2 emissions. Moreover, Morelli and Mele (2020) investigated the relationship between energy consumption, CO_2 emissions, and economic growth. However, none of these studies examine the effect of economic growth, industrialization, and urbanization on CO_2 emissions in Vietnam. Therefore, to narrow down this gap, the paper aims to investigate the impact of economic growth, industrialization, and urbanization on CO_2 emissions in Vietnam between 1987 and 2016 employing the Vector Error Correction Model (VECM). The fundamental contribution of this study is to recommend appropriate policies to foster economic growth and achieve sustainable development in Vietnam.

The remainder of this paper is structured as follows. Section 2 presents the literature review. Methods are discussed in section 3. In section 4, we present results. Finally, discussion and conclusion are summarized in section 5.

2. Literature Review

The relationship between economic growth, industrialization, urbanization, and CO_2 emissions has been highly debated by scholars all over the world. Dong *et al.* (2019) assessed the effect of industrialization and urbanization on CO_2 emissions in 14 developed economies and they found that the influence of industrialization on carbon emissions gradually increases in the low and intermediate income levels, but this effect begins to weaken in the high income level, while urbanization has no correlation to carbon emissions in the low-urbanization stage, however, it has a negative impact on carbon emissions in the mid-urbanization stage. Likewise, Hossain (2011) examined the relationship between CO_2 emissions, energy consumption, economic growth, trade openness, and urbanization in newly industrialized countries between 1971 and 2007. He concluded that energy consumption has been defined as a driver generating CO_2 emissions in these countries. Economic growth, trade openness, and urbanization have positive effects on the environmental quality in the long run. A study by Nasir *et al.* (2021) investigated the relationship between economic growth, trade openness, industrialization, and energy consumption on CO_2 emissions in Australia for the period 1980–2014. Results showed that financial development, energy consumption, and trade openness have positive impacts on CO_2 emissions, while the industrialization process is found to does not affect CO_2 emissions.

In Asia, Ding and Li (2017) examined the effect of industrialization and urbanization on CO2 emissions in 30 China's provinces between 2000 to 2013. It has been empirically found that economic development is the largest driver leading to CO_2 emissions, compared to structural change, energy intensity, and social transition. The urbanization process also has a positive effect on the regional CO_2 emissions. Similarly, Liu and Bae (2018) assessed the causal relationship between CO_2 emissions, energy intensity, economic growth, industrialization, urbanization, and renewable energy consumption in China between 1970 and 2015. They found that 1 percent augments of energy intensity, real GDP, industrialization, and urbanization increase CO_2 emissions by 1.1 percent, 0.6 percent, 0.3 percent, and 1.0 percent, respectively. A research by Ali e*t al.* (2019) evaluated the influence of urbanization on CO_2 emissions in Pakistan from 1972 to 2014 and results demonstrated that urbanization has been found to increase carbon emissions both in the short run and long run. Likewise, Mahmood *et al.* (2020) explored the impact of industrialization and urbanization on the CO_2 emissions per capita in Saudi Arabia between 1968 and 2014. They found that both industrialization and urbanization impede the environment with the inelastic effect of industrialization and elastic effect of urbanization on the emissions.

In Vietnam, Tang and Tan (2015) examined the relationship between energy consumption, economic growth, foreign direct investment, and CO_2 emissions, while Thanh and Khuong (2017) estimated factors affecting CO_2 emissions between 1990 and 2011. Shahbaz *et al.* (2019) investigated the relationship between economic growth and environmental degradation in Vietnam from 1974 to 2016 and they found that this country may expect a temporary reduction in CO_2 and therefore the government should concentrate on long-term economic and environmental strategies. Morelli and Mele (2020) investigated the relationship between energy consumption, CO_2 emissions, and economic growth in Vietnam between 1970 and 2014 and they concluded that there is unidirectional causality running from economic growth to energy consumption. Lastly, a study by Nguyen *et al.* (2021) assessed the effect of economic growth, financial development, transportation capacity on CO_2 emissions in Vietnam for the period 1986-2019 and results addressed that an increase in per capita GDP and financial development have negative influences on environmental quality, while transportation capacity and foreign investment can improve environmental quality.

3. Method

3.1. Data and Sources

A panel dataset for the relationship between economic growth, industrialization, urbanization, and CO_2 emissions in Vietnam for the period (1987–2016) is gathered from the World Development Indicators released by the World Bank. Thus, a total of 30 observations is entered for data analysis. The panel data is used for this research because of the following advantages: (1) it benefits in terms of obtaining a large sample, giving more degree of freedom, more information, and less multi-collinearity among variables; and (2) it may overcome constraints related to control individual or time heterogeneity faced by the cross-sectional data (Hsiao, 2014).

3.2. The Vector Error Correction Model (VECM)

The specification of a model is used to examine the relationship between CO_2 emissions, economic growth, industrialization, and urbanization can be defined as follows (Ding and Li, 2017; Dong *et al.*, 2019; and Mahmood *et al.*, 2020):

$$CO_{2t} = f(GDP_t, IND_t, URB_t) \qquad (1)$$

Where: CO_2 denotes CO_2 per capita (metric tonne); GDP_t means GDP per capita (constant 2010US$); IND_t denotes industry value added (% of GDP); and URB_t denotes the rate of urban population in the total population (%).

Table 2. Covariates of the VECM

Variable definition	Unit	Source
CO_2 emissions per capita	metric tonne	World Development Indicators
GDP per capita	constant 2010US$	World Development Indicators
Industry value added (% of GDP)	%	World Development Indicators
Rate of urban population (% of total)	%	World Development Indicators

After transforming the functional form of Equation 1, we obtain the following model:

$$LnCO_{2t} = \beta_0 + \beta_1 lnGDP_t + \beta_2 lnIND_t + \beta_3 lnURB_t + \varepsilon_t \qquad (2)$$

Where: $lnCO_{2t}$, $lnGDP_t$, $lnIND_t$, and $lnURB_t$ denote the natural logarithms of CO_2 per capita, GDP per capita, industry value added, and the rate of urban population in the total population; β_0 is the intercept; ($\beta_1,\ldots,\beta_3$) are parameters to be estimated; and ε_t presents the error term.

The procedure of a VECM includes three steps. The first step is to check the stationarity of the series or their order of integration in all variables. In this research, the Augmented Dickey Fuller (ADF) test and Phillips-Perron (PP) test were employed to examine the stationary state of the series. The second step is to check the presence of a long run relationship among all variables in the equation. In this stage, the co-integration tests will be carried out to investigate the existence of long run relationships between the variables. In the third step, the residuals from the equilibrium regression can be used to estimate the VECM (Azlina and Mustapha, 2012).

4. Results

4.1. CO_2 Emissions, Economic Growth, Industrialization, and Urbanization in Vietnam: An Overview

Table 3. Characteristics of CO_2 emissions, economic growth, industry value added, and urban population in Vietnam

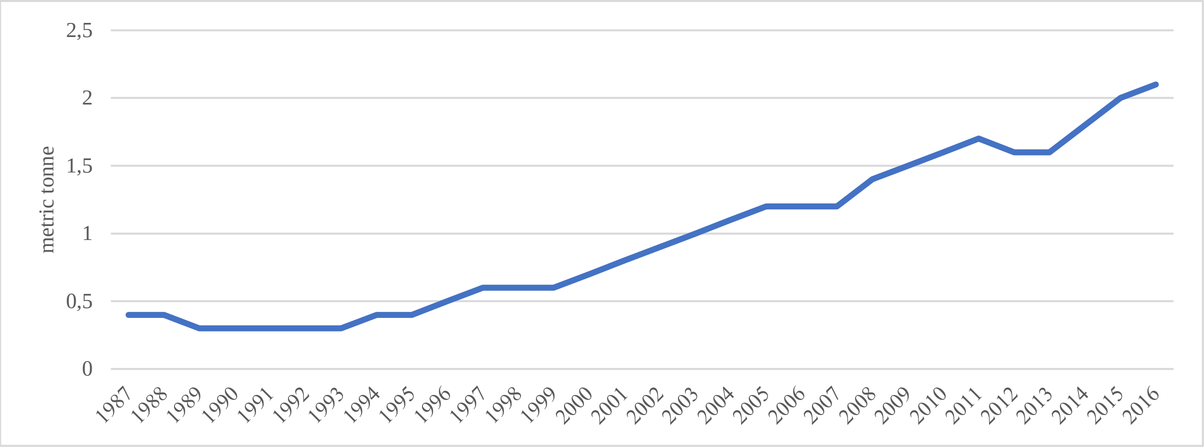
Variable	Mean	SD	Min	Max
CO_2 emissions per capita	0.96	0.57	0.3	2.1
GDP per capita	917.95	419.76	389.8	1752.5
Industry value added	32.58	5.17	22.7	40.2
The rate of urban population	25.89	4.66	19.7	34.5

Source: Author's calculation, 2021

Note: SD denotes standard deviation

The average CO_2 emissions and GDP per capita of Vietnam account for 0.96 metric tonnes and US$917.9, respectively. Industry value added and the rate of urban population of this country account for 32.5 percent and 25.8 percent, respectively, on average (Table 3).

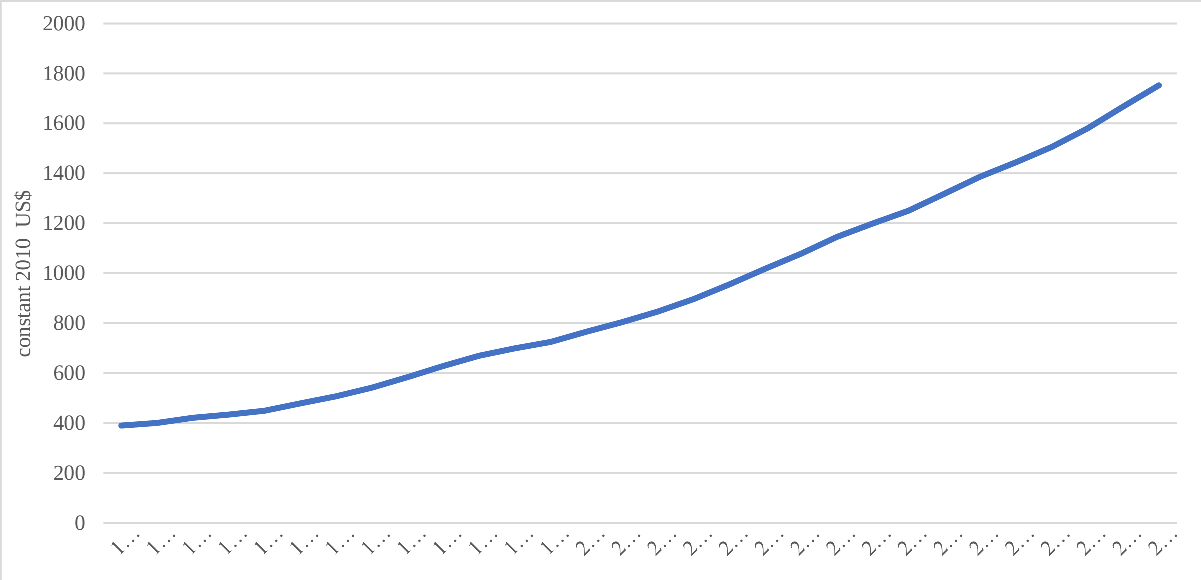
Figure 1. CO_2 emissions per capita in Vietnam



Source: World Bank, 2021

As seen in Figure 1, between 1987 and 2016, the average amount of CO_2 emissions per capita of Vietnam presented an upward trend. By 2016, CO_2 emissions per capita of this country accounted for 2.1 metric tonnes, increasing by 5.2 times compared to that in 1987. This result may be interpreted by the expansion of industrialization and modernization in the socio-economic development of this country (Figure 1).

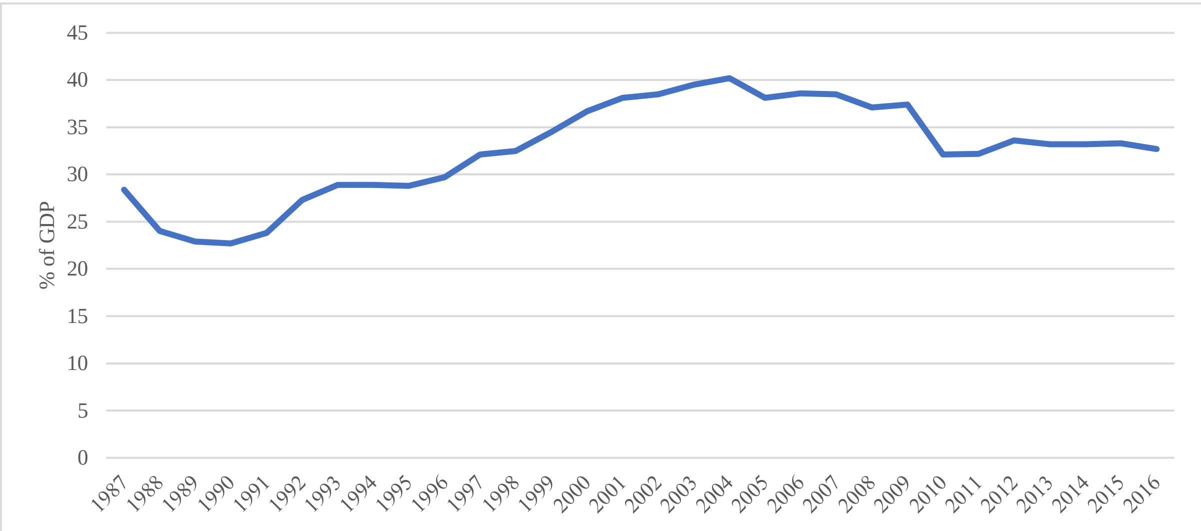
Figure 2. GDP per capita in Vietnam



Source: World Bank, 2021

As seen in Figure 2, GDP per capita of Vietnam tended to grow between 1987 and 2016. For example, by 2016, the average GDP per capita of this country accounted for about US$1,752.5, which was more than 4.5 times higher than that of 1987. This outcome expresses a remarkable achievement of Vietnam in the renovation of the economic management mechanism and integration of international economics (Figure 2).

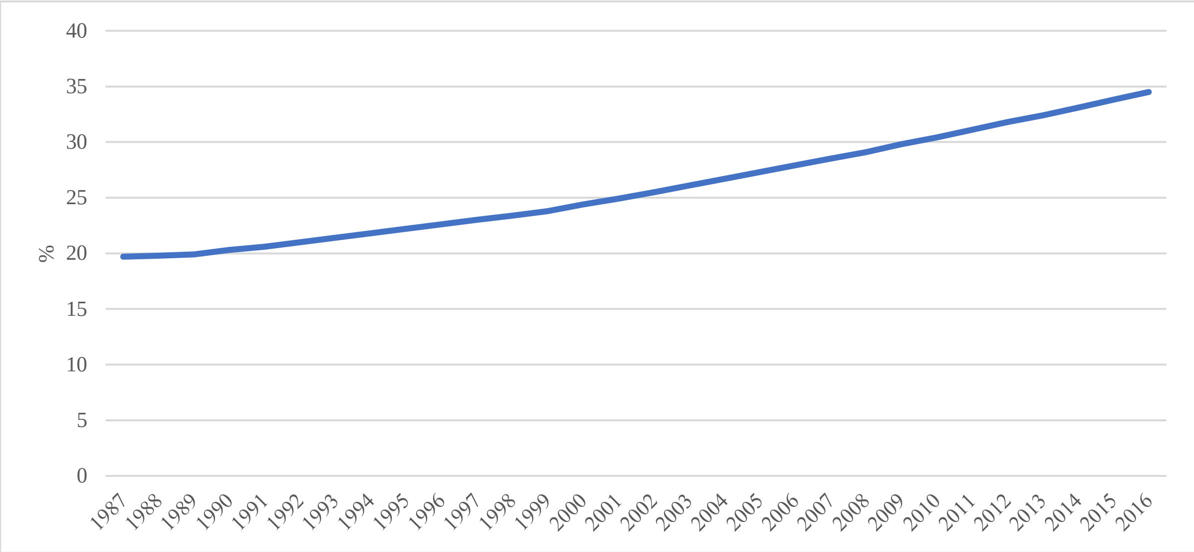
Figure 3. Value added of the industry sector in Vietnam



Source: World Bank, 2021

Value added of the industry sector of Vietnam tended to increase for the last three decades (1987–2016). For instance, by 2016, the average value added of the industry of this country accounted for about 32.7 percent, which was more than 4.3 percent higher than that of 1987. This result reflects the progress of industrialization process in this country (Figure 3).

Figure 4. Rate of urban population in Vietnam



Source: World Bank, 2021

In Vietnam, urbanization has been extended along with the process of industrialization and modernization. For instance, after 30 years (1987–2016), by 2016, the rate of urban population accounted for 34.5 percent, increasing by nearly 20 percent compare to that of 1987 (Figure 4).

4.2. Effects of Economic Growth, Industrialization, and Urbanization on CO_2 Emissions in Vietnam

4.2.1. Implementation of the Unit Root Test

The unit root test is carried out to check the stationarity of the time series variables (Adeola and Ikpesu, 2016). In this study, the Augmented Dickey-Fuller (ADF) test and the Phillips-Peron (PP) test are used to examine the stationarity of CO_2 emissions, economic growth, industry value added, and urban population in Vietnam with the hypothesis as follows:

Null hypothesis (H_0): The variables contain a unit root

Alternative hypothesis (H_a): The variables do not contain a unit root

If a variable contains a unit root, then this implies that the time series of this variable is not stationarity.

Table 4. Results of the unit root test

Variables		ADF Test		PP Test		Conclusion
		Level	1st difference	Level	1st difference	
$LnCO_2$ emissions per capita	Constant	0.02	-4.27***	0.14	-4.37***	I(1)
	Constant & trend	-3.57**	-3.97***	-3.03	-4.40***	I(1)
LnGDP per capita	Constant	-0.91	-2.34	0.04	-4.15***	I(1)
	Constant & trend	-1.85	-2.36	-2.39	-4.08***	I(1)
LnIndustry value added	Constant	-2.29	-3.47***	-1.24	-4.69***	I(1)
	Constant & trend	-1.29	-4.24***	-1.31	-5.55***	I(1)
LnUrban population	Constant	1.71	-5.17***	2.41	-4.36***	I(1)
	Constant & trend	-4.00***	-5.35***	-4.24***	-4.98***	I(1)

Source: Author's calculation, 2021

*Note: ***, ** and * denote statistical significance at 1%, 5%, and 10%, respectively*

The results in Table 4 show that the time series of CO2 emissions per capita, GDP per capita, industry value added, and urban population are not stationary at the level [I(0)]. Therefore, the first difference is carried out to examine the stationary of these variables. Results indicate that the absolute values of test statistics are greater than critical values at the 1% and 5%, respectively and therefore we can conclude that the time series of these variables do not contain unit roots and this suggests that the time series are stationary at the first difference [I(1)].

4.2.2. Examination of the Long Run Relationship among Variables

Before examining the long run relationship among variables, the optimal lag length should be determined. The purpose of this step is to specify the optimal lag for the VECM.

Table 5. Selection of the lag length

Lag	LL	LR	df	P	FPE	AIC	HQIC	SBIC
0	128.44				8.2e-10	-9.57	-9.51	-9.37
1	279.34	301.79	16	0.000	2.6e-14	-19.94	-19.67	-18.98*
2	294.05	29.42	16	0.021	3.2e-14	-19.85	-19.34	-18.10
3	310.23	32.35	16	0.009	4.1e-14	-19.86	-19.13	-17.34
4	347.97	75.47*	16	0.000	1.5e-14*	-21.53*	-20.58*	-18.24

Endogenous: $LnCO_2$ LnGDP LnIndustry value added LnUrban population

Exogenous: Constant

Number of observations = 26

Source: Author's calculation, 2021

*Notes: *denotes lag order selected by the criterion; LL means log likelihood values; LR represents sequential modified LR test statistics; FPE denotes final prediction error; AIC means Akaike information criterion; HQIC represents Hannan-Quinn information criterion, and SBIC means Schwarz's Bayesian information criterion*

As seen in Table 5, results suggest that the optimal lag length, in this case, is four lags because this value is recommended by AIC and HQIC, while one lag (the number of lag is equal to 1) is only recommended by SBIC indicator. Therefore, four lags (the number of lag is equal to 4) is chosen to run the VECM in the third step.

The Johansen co-integration test is performed to examine the long-run relationship among variables. If variables are co-integrated, it suggests that there is a long-term relationship among variables (Musunuru, 2017).

The hypothesis to be tested can be identified as follows:

Null hypothesis (H_0): There is no co-integration among variables

The alternative hypothesis (H_a): There is co-integration among variables

In this study, the Johansen co-integration test is carried out by the trace statistic test. Trace test is a likelihood-ratio-type test, which operates under different assumptions in the deterministic part of the data generation process (Lutkepohl *et al.*, 2001).

Table 6. Results of Trace statistic in the Johansen co-integration test

Maximum rank	LL	Eigenvalue	Trace statistic	5% critical value	1% critical value
0	278.08		64.03	47.21	54.46
1	292.27	0.63	35.65	29.68	35.65
2	302.44	0.51	15.30^{*1*5}	15.41	20.04
3	310.09	0.42	0.00	3.76	6.65
4	310.10	0.00			

Source: Author's calculation, 2021

*Note: *^{1} and ^{*5} denote the number of co-integration (ranks) chosen to accept the null hypothesis at 1% and 5% critical values*

As seen in Table 6, we cannot reject the null hypothesis in the rank two (two co-integrations) because trace statistics are less than the 1% critical value (15.30 < 20.04) and the 5% critical value (15.30 < 15.41) and these reflect that there are two co-integrations at the 1% and 5% critical values among variables.

4.2.3. Estimation of the VECM

Table 7. Estimation of the VECM in the short run

Variables	Coefficient	Std. Error	z	P-value
DLnCO_2 per capita				
LnCO_2 per capita				
LD	-0.028	0.39	-0.07	0.941
L2D	0.035	0.33	0.11	0.914
L3D	0.092	0.27	0.33	0.742
LnGDP per capita				
LD	1.439	2.22	0.65	0.518
L2D	-0.581	2.06	-0.28	0.778
L3D	0.255	1.94	0.13	0.895
LnIndustry value added				
LD	-0.155	0.48	-0.32	0.746
L2D	0.486	0.50	0.96	0.339
L3D	0.115	0.47	0.24	0.807

LnUrban population				
LD	1.096	5.35	0.20	0.838
L2D	-3.864	4.03	-0.96	0.338
L3D	2.927	3.75	0.78	0.435
Constant	0.005	0.19	0.03	0.978
DLnGDP per capita				
$LnCO_2$ per capita				
LD	0.078**	0.03	2.32	0.020
L2D	0.048*	0.02	1.66	0.097
L3D	0.059**	0.02	2.45	0.014
LnGDP per capita				
LD	0.078	0.19	0.41	0.685
L2D	-0.032	0.17	-0.18	0.857
L3D	0.153	0.16	0.90	0.366
LnIndustry value added				
LD	-0.098**	0.04	-2.36	0.018
L2D	-0.091**	0.04	-2.06	0.040
L3D	-0.017	0.04	-0.43	0.670
LnUrban population				
LD	-0.909*	0.46	-1.95	0.051
L2D	-0.022	0.35	-0.06	0.949
L3D	-0.433	0.32	-1.33	0.185
Constant	0.063***	0.01	3.66	0.000
DLnIndustry value added				
$LnCO_2$ per capita				
LD	-0.422**	0.20	-2.02	0.043
L2D	-0.319	0.17	-1.80	0.072
L3D	0.044	0.14	0.30	0.765
LnGDP per capita				
LD	2.200*	1.18	1.85	0.064
L2D	0.189	1.10	0.17	0.863

L3D	-0.794	1.03	-0.76	0.445
LnIndustry value added				
LD	0.403	0.25	1.57	0.116
L2D	0.214	0.27	0.79	0.431
L3D	0.345	0.25	1.37	0.171
LnUrban population				
LD	1.485	2.86	0.52	0.604
L2D	1.630	2.15	0.76	0.449
L3D	-6.744***	2.00	-3.36	0.001
Constant	0.028	0.10	0.27	0.785
DLnUrban population				
LnCO_2 per capita				
LD	0.009	0.01	0.60	0.547
L2D	0.013	0.01	1.05	0.294
L3D	0.014	0.01	1.37	0.171
LnGDP per capita				
LD	-0.047	0.08	-0.55	0.581
L2D	-0.052	0.07	-0.66	0.508
L3D	-0.216***	0.07	-2.88	0.004
LnIndustry value added				
LD	-0.038**	0.01	-2.06	0.040
L2D	0.007	0.01	0.37	0.712
L3D	0.007	0.01	0.43	0.667
LnUrban population				
LD	-0.200	0.20	-0.97	0.332
L2D	-0.034	0.15	-0.22	0.824
L3D	0.253*	0.14	1.76	0.079
Constant	0.034***	0.00	4.58	0.000

Source: Author's calculation, 2021

*Notes: LD, L2D, and L3D mean lag 1, lag 2, and lag 3, respectively; ***, ** and * denote statistical significance at 1%, 5%, and 10%, respectively*

As seen in Table 7, CO_2 emissions positively affect GDP, but industry value added, and urban population have negative relationships with GDP. It has been empirically found that GDP has a positive effect on industry value added, while CO_2 emissions and urban population have negative relationships with industry value added. In addition, GDP and industry value added have been found to have negative impacts on urban population in Vietnam.

Table 8. Estimation of the VECM in the long run

Variables	Coefficient	Std. Error	z	P-value
LnCO_2 per capita	1			
LnGDP per capita	5.881***	1.00	5.87	0.000
LnIndustry value added	-1.888***	0.26	-7.07	0.000
LnUrban population	-17.724***	2.52	-7.02	0.000
Constant	24.696			

Source: Author's calculation, 2021

*Note: *** and * denote statistical significance at 1% and 10%, respectively*

In the long run, the growth of GDP per capita has been defined as a factor generating environmental degradation, but industry value added, and urban population are significant determinants which contribute to improve the environmental quality in Vietnam (Table 8).

5. Discussion and Conclusion

In the short run, the evidence has been found to show that CO_2 emissions have positive influence on GDP, while industry value added, and urban population negatively affect GDP. These reflect that economic growth in the short run of Vietnam depends on other sectors such as agriculture and services and the rural area rather than the industry and urbanization. CO_2 emissions and urban population have negative relationships with industry value added, but GDP contributes to the growth of the industry sector. Results indicate that both GDP and industry value added have negative effects on urban population. Thanh and Khuong (2017) concluded that GDP can reduce CO_2 emissions in the short run, but our results did not find a relationship between these variables. The difference can be interpreted by the model and duration employed for the study. The VECM is used in our research to examine the relationship between economic growth, industry value added, urban population, and CO2 emissions between 1987 and 2016, while Thanh and Khuong (2017) employed the Autoregressive Distributed Lag Model for the period 1990–2011.

In the long term, results addressed that economic growth harms the environment. This result is consistent to argument of Thanh and Khuong (2017); Ding and Li (2017);

Shahbaz *et al.* (2019); and Nguyen *et al.* (2021). Our results also found that industry value added, and urban population are significant factors since these can improve the environmental quality. However, Dong *et al.* (2019) addressed that industrialization may increase CO_2 emissions in developed countries, and Ding and Li (2017) claimed that urbanization contributes to CO_2 emissions in China's provinces. These imply that the progress of industrialization and urbanization of Vietnam is carefully considered along with environmental protection in the long term.

Results of the Johansen co-integration test indicate that there is a long run relationship between economic growth, industry value added, urban population, and CO_2 emissions in Vietnam. This result is consistent to conclusions of Tang and Tan (2015); Thanh and Khuong (2017); Shahbaz *et al.* (2019); and Nguyen *et al.* (2021).

The article aims to explore the causal relationship between CO_2 emissions, economic growth, industrialization, and urbanization in Vietnam between 1987 and 2016 using the VECM. In the short run, it has been empirically found that CO_2 emissions have positive effect on GDP, while industry value added, and urban population have negative relationships with GDP. Results also indicated that CO_2 emissions and urban population negatively affect industry value added, but an increase of GDP may enhance the industry value added. Results showed that both GDP and industry value added have negative impacts on urban population. In the long term, results demonstrated that economic growth harms the environment, while industry value added, and urban population are positive factors because these can improve the environmental quality.

Policies are recommended to enhance economic growth and achieve sustainable development in Vietnam. First, industrialization and urbanization should be carefully controlled because these can reduce economic growth in the short run. Therefore, the industry sector should be restructured, and urbanization should be carefully controlled in the short run to contribute to economic development. Moreover, the government should invest more on other industries such as agriculture and services and the rural area because these are motivators for economic growth in Vietnam for the short run. Second, CO_2 emissions and urbanization should be managed since these have negative effects on the growth of the industry sector and consequently, development of industrialization and urbanization should be considered along with environmental protection. Third, economic growth should be encouraged because it contributes to increase the industry value added. Fourth, in the long term, economic growth should be carefully considered because it decreases the environmental quality. Finally, industrialization and urbanization are positive factors contributing to reduce CO_2 emissions in the long run and therefore the government should concentrate on feasible policies such as "green economy", "green growth", "low carbon economy", and "circular economy" to achieve both targets in economic growth and sustainable development.

6. References

1. Adeola, O., & Ikpesu, F. (2016). An empirical investigation of the impact of bank lending on agricultural output in Nigeria: A vector autoregressive (VAR) approach. *The Journal of Developing Areas*, *50*(6), 89–103.

2. Ali, R., Bakhsh, K., & Yasin, M. A. (2019). Impact of urbanization on CO_2 emissions in emerging economy: evidence from Pakistan. *Sustainable Cities and Society*, *48*(101553), 1–6.

3. Azlina, A. A., & Mustapha, N. N. (2012). Energy, economic growth and pollutant emissions nexus: the case of Malaysia. *Procedia-Social and Behavioural Sciences*, *65*, 1–7.

4. Chu, X. N., & Nguyen, V. T. (2017). Vietnamese urbanization: Actual situation and solutions for sustainable development. *Advances in Natural and Applied Sciences*, *11*(12), 41–49.

5. Ding, Y., & Li, F. (2017). Examining the effects of urbanization and industrialization on carbon dioxide emission: evidence from China's provincial regions. *Energy*, *125*, 533–542.

6. Dong, F., Wang, Y., Su, B., Hua, Y., & Zhang, Y. (2019). The process of peak CO_2 emissions in developed economies: A perspective of industrialization and urbanization. *Resources, Conservation and Recycling*, *141*, 61–75.

7. General Statistics Office (2019). *Statistical Summary Book of Vietnam*. Statistical Publishing House, 2019.

8. Ha, N. M., Le, N. D., & Trung-Kien, P. (2019). The impact of urbanization on income inequality: A study in Vietnam. *Journal of Risk and Financial Management*, *12*(146), 1– 14.

9. Hossain, M. S. (2011). Panel estimation for CO_2 emissions, energy consumption, economic growth, trade openness and urbanization of newly industrialized countries. *Energy Policy*, *39*(11), 6991–6999.

10. Hsiao, C. (2014). *Analysis of Panel Data*. Third Edition. Cambridge University Press, New York.

11. Liu, X., & Bae, J. (2018). Urbanization and industrialization impact of CO_2 emissions in China. *Journal of Cleaner Production*, *172*, 178–186.

12. Lütkepohl, H., Saikkonen, P., & Trenkler, C. (2001). Maximum eigenvalue versus trace tests for the cointegrating rank of a VAR process. *The Econometrics Journal*, *4*(2), 287–310.

13. Mahmood, H., Alkhateeb, T. T. Y., & Furqan, M. (2020). Industrialization, urbanization and CO_2 emissions in Saudi Arabia: Asymmetry analysis. *Energy Reports*, *6*, 1553– 1560.

14. Morelli, G., & Mele, M. (2020). Energy consumption, CO_2 and economic growth nexus in Vietnam. *International Journal of Energy Economics and Policy*, *10*(2), 443–449.

15. Musunuru, N. (2017). Causal relationships between grain, meat prices and exchange rates. *International Journal of Food and Agricultural Economics*, *5*(4), 1–10.

16. Nasir, M. A., Canh, N. P., & Le, T. N. L. (2021). Environmental degradation & role of financialisation, economic development, industrialisation and trade liberalisation. *Journal of Environmental Management*, *277*(111471), 1–14.

17. Nguyen, V. C., Vu, D. B., Nguyen, T. H. Y., Pham, C. D., & Huynh, T. N. (2021). Economic growth, financial development, transportation capacity, and environmental degradation: Empirical evidence from Vietnam. *The Journal of Asian Finance, Economics and Business*, *8*(4), 93–104.

18. Shahbaz, M., Haouas, I., & Van Hoang, T. H. (2019). Economic growth and environmental degradation in Vietnam: is the environmental Kuznets curve a complete picture? *Emerging Markets Review*, *38*, 197–218.

19. Tang, C. F., & Tan, B. W. (2015). The impact of energy consumption, income and foreign direct investment on carbon dioxide emissions in Vietnam. *Energy*, *79*, 447–454.

20. Thanh, L. T. & Khuong, N. D. (2017). Factors affecting CO_2 emission in Vietnam: a panel data analysis. *Organizations and Markets in Emerging Economies*, *8*(2), 244–257.

21. Tran, T., & Doan, T. (2010). Industrialization, economic and employment structure changes in Vietnam during economic transition.

22. World Bank (2021). World Development Indicators. CO2 emissions per capita of Vietnam. Retrieved from https://databank.worldbank.org/reports.aspx?source=2&series=NV.AGR.TOTL.ZS&country on 10 May 2021.

23. World Bank (2021). World Development Indicators. GDP per capita of Vietnam. Retrieved from https://databank.worldbank.org/reports.aspx?source=2&series=EN.ATM.CO2E.PC&country=VNM# on 10 May 2021.

24. World Bank (2021). World Development Indicators. Industry value added of Vietnam. Retrieved from

https://databank.worldbank.org/reports.aspx?source=2&series=NV.AGR.TOTL.ZS&country=# on 10 May 2021.

25. World Bank (2021). World Development Indicators. Urban population of Vietnam. Retrieved from https://databank.worldbank.org/reports.aspx?source=2&series=NV.AGR.TOTL.ZS&country=# on 10 May 2021.

FACTORS AFFECTING THE ENVIRONMENTAL CONSCIOUSNESS THROUGH USING PLASTIC-RELATED PRODUCTS OF UNIVERSITY STUDENTS IN HANOI

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Abstract

Environmental protection education is the responsibility of the whole society, especially in the university system. Although virtually all students have also recognized the harmful effects of environmental pollution on humans, the awareness of preserving and protecting the environment from the smallest actions is not the habit and regular action campaign of the country's future generation students. In this study, by examining students' behavior of using plastic-related products to pollute the environment of college students, the authors want to verify behaviors that directly or indirectly affect the environment. The authors conducted a survey with 454 representative samples of students from 15 private and public universities in Hanoi. In particular, this study also offers solutions and recommendations for universities to raise awareness of environmental protection.

Keywords: *Awareness of environmental protection, plastic waste, university students*

1. Introduction

Plastic waste is one of the causes of pollution to the living environment of people in the world and in Vietnam. In fact, plastic waste is discharged from construction sites, factories and especially from civil products serving people's daily lives. The use of plastic-related products brings many conveniences for life, contributing to reduce product costs, plastic-related items can be easily transported and distributed globally. This is reason why plastic waste is present all over the world. According to statistics of the Ministry of Natural Resources and Environment in 2020; on average, each household uses 1kg of plastic bags over a month; for the period from 1990 to 2015 the amount of plastic consumption in Vietnam has increased rapidly, from 3.8 kg/person/year up to 41 kg/person/year (Hiệp hội nhựa Việt Nam); Up to now, the average amount of plastic waste discharged into the market every day is 80 tons. Therefore, it is very important to raise awareness to help young people take specific actions to protect the environment. Studying the factors affecting the awareness of environmental protection of university students through the use of plastic-related products is a message that the author wishes to contribute, propagate and support to protect our living environment.

Not only in Vietnam, but also in the world, there have been many environmental studies. According to the author (Yurttaş & Sülün, 2010), (Mert, 2006), the development of society such as urbanization, industrialization, modernization has caused pollution to the natural living environment, greenhouse effect, natural disasters, floods, epidemics, depletion of the ozone layer, extinction and weakening of plant and animal species useful for life on earth.

According to the author (Herrera et al., 2018) plastic waste with durable properties, difficult to destroy, from large pieces of plastic will break into very small plastic particles called microplastics, they are considered as microplastics. Environmental pollutants are found in all marine, freshwater and terrestrial ecosystems, in the ground, in the air. The abuse of plastic products along with a lack of awareness of environmental protection has become common and there is increasing evidence that plastic waste can cause adverse effects on the living environment of people. Some of the used plastic products are often contaminated with pathogens and must be disposed of as hazardous waste to avoid increasing pollution in the terrestrial and marine ecosystems. Waste management systems around the world have been unable to adequately deal with the existing plastic waste. That is why the increasing amount of waste today threatens the waste management system and challenges the global health system (Ardoin & Bowers, 2020). Therefore, educating the sense of using environmentally friendly products to gradually replace plastic products is essential in accordance with the world's trend to restore the ecosystem on earth. Doing this requires transformative actions in behaviors related to human production and consumption that reflect individual choices as well as large-scale collective action (Ardoin & Bowers, 2020).

According to (Zelezny and Schultz, 2000), (Corraliza, 2001) "awareness of environmental protection includes psychological factors related to individuals, it occurs when actions are based on groups of values, beliefs and regulations combined with an effort to reduce your negative impact on the environment". According to the author (Grop, 1995) the awareness of environmental protection arises when emotions are associated with the realization that there are environmental problems often related to human behavior. According to the author (Hines et al, 1986), (Balwada et al., 2021) environmental consciousness was explored by four groups of factors; sociology includes age, gender, education level; awareness and knowledge of the current environmental situation; environmental and psychosocial interference through the expression of self-responsibility for their actions. According to the author's study on disposable plastic products consumption behavior in universities (Nguyen Thi Thanh Huyen et al., 2020) shows that students in universities from Da Nang and above are about 82.32% of the The students surveyed had a positive sense of limiting the use of plastic products once to protect the environment.

However, in order to perfect the study of environmental protection consciousness through the use of plastic products, the author would like to survey students from private, national and international universities. in Hanoi to help the author have a more holistic view in assessing the awareness of environmental protection against pollution from plastic waste.

To complete this study, the authors selected and applied behavioral theory and a planned research model of Ajzen (1991), inheriting on the basis of the studies of (Jones et al., 2013) and (Trang & Thao, 2018). Planning behavioral theory in which the intention to perform the behavior will be influenced by three groups of factors; attitudes toward behavior, subjective standards and awareness of behavioral control (Trang & Thao, 2018), (Chen & Yang, 2019). Based on the experimental research models Stanford (2006), Han et al (2010), Pipitvanichtham (2013), the author would like to propose a research model (Figure 1) with independent variables including: attitude, subjective standards, behavioral control perceptions, past experiences. The dependent variable is the intent to protect the environment through the use of plastic-related products.

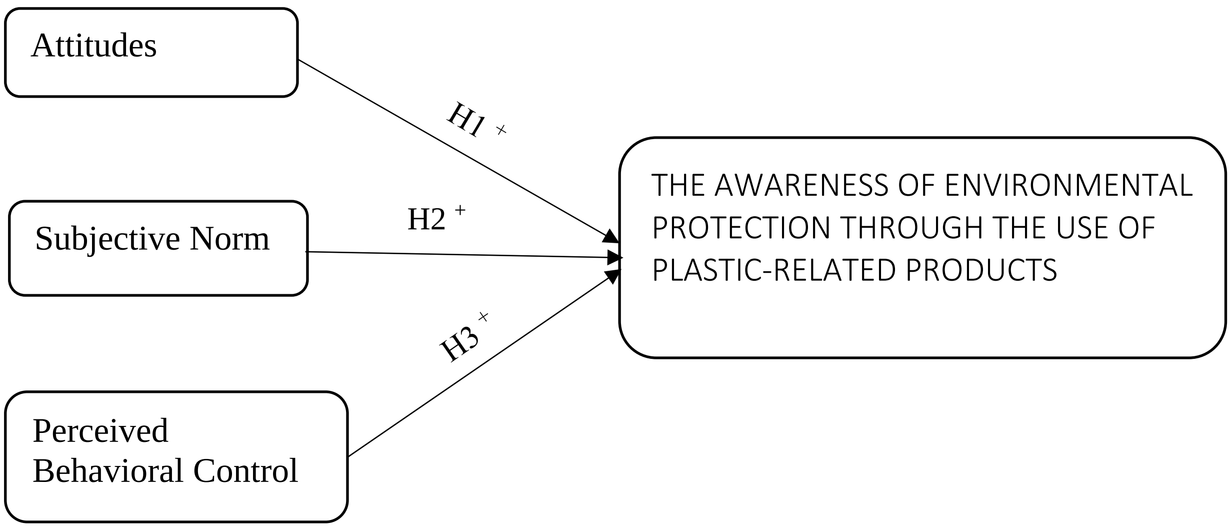

Figure 1: Proposed research model

(Source: Theory of planned behavior Ajzen,1991)

Research question:

H1: Attitude has a positive impact on awareness of environmental protection

H2: Subjective norm has a positive impact on awareness of environmental protection

H3: Perceived behavioral control has a positive impact on awareness of environmental protection

2. Method

The object of the study was determined to be the awareness of environmental protection through the student's behavior of using plastic-related products. In terms of space and research subjects, they are students of private and public universities in Hanoi. The research sample was identified as 420 students in representatives of 10 private and public universities in Hanoi area. Content of the survey consists of 2 parts; personal information part to verify the reliability of the sample, the scale part to explore observed variables and factors. All this content is designed on servey monkey software with google drive app and QR code encoding. How to deploy the survey via email, Facebook, Zalo in 15 days, then extract it to excel, use SPSS software to verify the reliability of the factors and the correlation between variables, then regression to confirm the research hypothesis. The study period is 3 months from the time the research plan is received to the end.

To complete this article, the author uses a number of research methods; descriptive statistics, synthesis of descriptive statistics, quantitative research. In the review of research papers, the authors chose to refer to the publications in prestigious journals of the World Scientific Council, the journal catalogs on Scimago as the basis for this study. The research model building is based on the theories of planned behavior of Ajzen (1991). Using the Likert 5 scale with five answer options "totally disagree, disagree, hesitate, agree and completely agree" on the basis of consulting experts for the purpose of adjust the content fit of the observed variables in the factor so that it is most reasonable. Total 3 independent factors; AT (Attitudes), SN (Subjective norm); PBC (Perceived Behavioral Control) and dependent variable EA (Environmental protection consciousness through the use of plastic-related products). The observed variables of the independent variable are denoted: AT (AT1, AT2); SN (SN1, SN2, SN3); PBC (PBC1, PBC2, PBC3). The observed variables of the dependent variable EA are denoted (EA1, EA2, EA3, EA4, EA5).

3. Results

3.1. Description of the study sample

With a research period of 3 months of which the survey was conducted for 15 days. The number of votes issued was 420 votes, 420 votes were collected, of which 420 were valid, 0 was invalid. The percentage of valid votes accounted for 100%, the survey results are guaranteed according to the requirements set forth. The information to assess sample quality includes the name of the school, the major, the age, the year of the student, the results are listed as follows: 10 public and private universities in Hanoi, the number of students. students in a total of 20 different majors, the average age is about 20 years old, mainly first-year students, second-year students account for 64%, third-year, fourth-year and final-year students account for 36%.

3.2. Result of factor analysis

3.2.1. The reliability of the scale according to Cronbach's Alpha coefficient

Cronbach's Alpha coefficient of the dependent variable Consciousness (EA) is 0.914 and the correlation coefficient of the total variable is > 0.3, so the data has very good reliability (Hair và cộng sự, 1998).

Reliability Statistics

Cronbach's Alpha	N of Items
.914	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
EA1	15.68	12.057	.770	.896
EA2	15.70	11.958	.802	.890
EA3	15.78	11.544	.863	.877
EA4	16.05	11.484	.765	.898
EA5	15.80	12.135	.707	.909

The reliability coefficient of the standard variables (SN) is 0.883 and the correlation coefficient of the total variable > 0.3 should have good reliability (Hair và cộng sự, 1998).

Reliability Statistics

Cronbach's Alpha	N of Items
.883	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SN1	8.31	3.421	.788	.820
SN2	8.30	3.460	.748	.855
SN3	8.06	3.404	.781	.826

Cronbach's Alpha coefficient of the Perception variables (PBC) is 0.885 and the total correlation coefficients > 0.3 should have good reliability (Hair và cộng sự, 1998).

Reliability Statistics

Cronbach's Alpha	N of Items
.885	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PBC1	7.90	3.410	.767	.845
PBC2	8.08	3.301	.756	.857
PBC3	7.76	3.434	.809	.810

Cronbach's Alpha coefficient of Attitude (AT) is 0.766 and the total correlation coefficients are > 0.3, so the scale has good reliability (Hair và cộng sự, 1998).

Reliability Statistics

Cronbach's Alpha	N of Items
.766	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
AT1	3.35	1.074	.621	.
AT2	3.13	1.172	.621	.

3.2.2. Exploratory factor analysis (EFA)

The KMO coefficient is 0.863 > 0.5, so it meets the criteria for exploratory factor analysis (Hair và cộng sự, 1998).

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.863
Bartlett's Test of Sphericity	Approx. Chi-Square	2022.260
	df	28
	Sig.	.000

The total variance extracted from the factors is 81.805%, showing that 80.273% of the variation of the data is explained by 3 groups of factors (Hair và cộng sự, 1998).

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.474	55.927	55.927	4.474	55.927	55.927	2.577	32.215	32.215
2	1.419	17.736	73.664	1.419	17.736	73.664	2.296	28.703	60.917
3	.651	8.141	81.805	.651	8.141	81.805	1.671	20.887	81.805
4	.404	5.044	86.849						
5	.306	3.825	90.673						
6	.284	3.549	94.223						
7	.249	3.109	97.332						
8	.213	2.668	100.000						

Extraction Method: Principal Component Analysis.

Rotation Matrix: The rotation matrix table shows the factors that have convergence and distinction. At the same time, the load factor of the factors > 0.5 should meet the criteria (Hair và cộng sự, 2015).

Rotated Component Matrix[a]

	Component		
	1	2	3
SN2	.834		
SN1	.823		
SN3	.813		
PBC2		.895	
PBC3		.788	
PBC1		.720	
AT1			.894
AT2			.880

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

3.2.3. Correlation Matrix

The correlation matrix table shows that the pairs of independent and dependent variables are all correlated at the 0.1% significance level. At the same time, no pair of independent variables has a correlation coefficient greater than 0.8, so there is no serious multicollinearity (Hair và cộng sự, 1998).

Correlations

		TC	NT	TD	YT
SN	Pearson Correlation	1	.742**	.304**	.734**
	Sig. (2-tailed)		.000	.000	.000
	N	420	420	420	420
PBC	Pearson Correlation	.742**	1	.256**	.790**
	Sig. (2-tailed)	.000		.000	.000
	N	420	420	420	420
AT	Pearson Correlation	.304**	.256**	1	.259**
	Sig. (2-tailed)	.000	.000		.000

	N	420	420	420	420
EA	Pearson Correlation	.734**	.790**	.259**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	420	420	420	420

**. Correlation is significant at the 0.01 level (2-tailed).

3.2.4. Linear regression analysis by least squares (OLS)

The Durbin-Watson coefficient is 1,828 and lies within (1,3), so there is no autocorrelation. In addition, the adjusted R-squared coefficient is 0.671, showing that the independent variables explain 67.1% of the variation of the dependent variable.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.821[a]	.673	.671	.48808	1.828

a. Predictors: (Constant), AT, PBC, SN

b. Dependent Variable: EA

The P Value of the linear regression analysis is 0.000, so the model is statistically significant at the 0.1% significance level.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	204.291	3	68.097	285.858	.000[b]
	Residual	99.099	416	.238		
	Total	303.390	419			

a. Dependent Variable: EA

b. Predictors: (Constant), AT, PBC, SN

The estimated results show that the Pvalue coefficients of SN and PBC are both 0.000, indicating that Standard (SN) and Perception (PBC) have a positive impact on Consciousness (EA) at the significance level of 0.1%. Besides, the Pvalue coefficient of Attitude (AT) is 0.490 > 0.05, so Attitude has little impact on Consciousness at the 5% significance level. In addition, all variance exaggeration factors (VIF) < 4 should not cause serious multicollinearity (Hair và cộng sự, 1998). At the same time, PBC's standardized Beta coefficient is 0.545 > SN's standardized Beta coefficient is 0.324, so PBC's impact on EA is larger than SN.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.581	.127		4.571	.000		
	SN	.306	.040	.324	7.629	.000	.436	2.293
	PBC	.519	.040	.545	13.030	.000	.449	2.227
	AT	.018	.026	.020	.691	.490	.905	1.105

4. Discussion and Conclusion

Environmental protection is a very important action in the current period, especially for the young generation and students in universities. Based on the results of the study on factors affecting the awareness of environmental protection through the use of plastic-related products of university students in Hanoi, the authors would like to offer some discussion as follows:

Firstly, attitude (AT) is an important factor contributing to environmental protection, however, in this study, there are only 2 observed variables in the factor that have the strong influence on awareness of environmental protection. According to the author (Creswell, 2009) the difference in language, meaning in observed variables for different research environments can be accepted in a factor with 2 observed variables. In fact, in this study, attitude (AT) has an influence on Environmental Awareness (EA), but compared with the other factors, it is not high. Therefore, the author would like to share his opinion as follows: Sometimes we have a good attitude in protecting the environment, but the actual objective conditions, the current social environment does not meet the needs, For example, the majority of students "have a habit of using plastic-related products", and they think that using "plastic-related products is very convenient in life". The problem here is to change habits by educating awareness, propagandizing, launching campaigns and providing eco-friendly alternatives, orienting new consumption habits with reasonable prices. If so, the attitude towards environmental protection consciousness will have higher results.

Secondly, the subjective norm factor (SN) has a strong impact on the awareness of environmental protection (EA), through the observed variables, we see the average value of SN: 4.111 (SN1: 4.0261; SN2: 4.0357; SN3: 4.2714). Most of the students support environmental protection by using alternative products, or support people to use substitutes for plastic-related products; According to survey statistics, 78% agree and completely agree, 16% are confused and 6% disagree with the above opinion. Regarding the idea of limiting the use of plastic products, 78% said that it is a good behavior to protect the environment; 14% are confused and 18% disagree. For the collection and classification of plastic waste, 85% agree, 8% are confused and 7% disagree.

Thirdly, the perceived behavioral control factor has the strongest impact on the awareness of environmental protection through the use of plastic-related products. According to the research results, among all the regression coefficients Beta, the independent variable PBC has the largest value of 0.545 compared to other factors.

Raising individual awareness about environmental issues and changing the behavior of using plastic-related products will contribute to a better living environment, reducing pollution and indiscriminate waste discharge into the environment. Therefore, students need to fully absorb information related to environmental issues. Along with the most practical actions such as participating in campaigns to collect and recycle waste to protect the environment. Propagating and spreading the value of raising awareness of environmental protection. Students can actively choose to use environmentally friendly organic products. This is also a good opportunity for businesses and organizations in society to develop environmentally friendly substitutes, orient new consumption habits by applying advances in biodegradable polystyrene and Prospective solution for plastic waste pollution. Faced with these realities, the Vietnamese government, the Ministry of Natural Resources and Environment, the Ministry of Health, agencies and social organizations have adopted policies and propaganda activities on preserving and protecting the living environment through specific actions such as waste segregation, use of alternative products, campaigns to clean up the environment. Especially control the implementation of the environmental protection law for organizations and individuals living and working in the territory of Vietnam. Having policies to attract and promote businesses to develop environmentally friendly substitutes in order to promptly meet the demands of life for consumer goods

5. References

1. Ajzen, I. (1991). Theory of planned behavior. Organizational Behavior and Human Decision

2. Processes, 50(2), 179-211. doi:10.1016/0749- 5978(91)90020-T

3. Ardoin, N. M., & Bowers, A. W. (2020). Early childhood environmental education: A systematic review of the research literature. *Educational Research Review, 31*, 100353. https://doi.org/10.1016/j.edurev.2020.100353

4. Balwada, J., Samaiya, S., & Mishra, R. P. (2021). Packaging Plastic Waste Management for a Circular Economy and Identifying a better Waste Collection System using Analytical Hierarchy Process (AHP). *Procedia CIRP*, *98*, 270–275. https://doi.org/10.1016/j.procir.2021.01.102

5. Chen, L., & Yang, X. (2019). Using EPPM to Evaluate the Effectiveness of Fear Appeal Messages Across Different Media Outlets to Increase the Intention of Breast Self-Examination Among Chinese Women. *Health Communication*, *34*(11), 1369–1376. https://doi.org/10.1080/10410236.2018.1493416

6. Herrera, A., Garrido-Amador, P., Martínez, I., Samper, M. D., López-Martínez, J., Gómez, M., & Packard, T. T. (2018). Novel methodology to isolate microplastics from vegetal-rich samples. *Marine Pollution Bulletin*, *129*(1), 61–69. https://doi.org/10.1016/j.marpolbul.2018.02.015

7. Jones, A. L., Fahrenwald, N., & Ficek, A. (2013). Testing Ajzen ' s Theory of Planned Behavior for Faculty Simulation Development. *Clinical Simulation in Nursing*, *9*(6), e213–e218. https://doi.org/10.1016/j.ecns.2012.01.005.

8. Creswell, J.W. (2009). Research design:Qualitative, quantitative, andmixed meth- ods approaches (3rd ed.). Thousand Oaks, CA: Sage.

9. Trang, H. L. T., & Thảo, P. T. P. (2018). Applying the theory of planned behavior to analyze the intention of responsible tourism behavior on environmental protection of domestic tourists in Can Tho city. In *Can Tho University, Journal of Science: Vol. 54(9)* (p. 124). https://doi.org/10.22144/ctu.jvn.2018.189

10. Yurttaş, G. D., & Sülün, Y. (2010). What are the most important environmental problems according to the second grade primary school students? *Procedia - Social and Behavioral Sciences*, *2*(2), 1605–1609. https://doi.org/10.1016/j.sbspro.2010.03.244

DEVELOPING INDUSTRIAL PARKS ASSOCIATED WITH ENVIRONMENTAL PROTECTION IN BAC NINH PROVINCE

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Abstract

After more than 20 years of re-establishment, from a purely agricultural province, Bac Ninh has basically become a modern industrial province. Industrial zones of Bac Ninh province began to be formed and developed in 1998. By December 2000, Tien Son was the first concentrated one of Bac Ninh to be built. By the end of 2015, the province had 16 concentrated industrial parks with a total area of 6,381.68 hectares and 12 industrial parks that have been granted investment certificates and decisions on establishment with a total planning area of 4,552.91 hectares. In which, there are 10 industrial parks operating with a planned land area of 3,696.94 hectares, with infrastructure investment capital of 775.30 million USD. By 2018, industrial parks had created a production value of 1,166,572 billion VND, export value reached 35,873 million USD, import value was 24,540 million USD, contributed 11,268 billion VND to the state budget, surpassing Ho Chi Minh City, becoming the leading locality in the country in terms of industrial production value and making great contributions to the socio-economic development of Bac Ninh province. In recent years, environmental protection in industrial parks in Bac Ninh has always attracted the attention of all authorities and investors, contributing to the sustainable development of industrial parks of the Province. Within the scope of this article, the author focuses on evaluating the achievements of the development process of industrial parks and the current situation of environmental protection in industrial zones in the province of Bac Ninh. On that basis, some solutions to protect the environment in industrial parks in Bac Ninh in the coming time are proposed.

Keywords: *Enterprises, environment, industrial parks.*

1. Introduction

Bac Ninh is a province located at the northeast gateway of Hanoi, with the smallest acreage in the country (823.1 square kilometers) and a population in 2019 of 1.446 million people. After more than 20 years of re-establishment, under the leadership of the Provincial Party Committee, the People's Council, the People's Committee of Bac Ninh, with the efforts, the spirit of solidarity and creativity of the whole political system, business community and people in the province, Bac Ninh has achieved many outstanding and comprehensive achievements in various fields. From a purely agricultural province, up to now, Bac Ninh has basically become an industrial province in the direction of modernity, with many socio-economic indicators leading the country. The economy has developed comprehensively, the growth rate has always maintained at double digits. Average growth in the period of 1997-2016 reached 15.1%/year, in 2017 the figure was 18.6%. Bac Ninh's economic scale has continued to expand, accounting for 3.11% of the gross domestic products, ranking fourth in the country and the economic structure has continued to shift towards industrialization and modernization.

Industrial parks in Bac Ninh began to be formed and developed in 1998, along with that, the province's Industrial Parks Management Board was established under Decision No. 152/1998/QD-TTg dated August 25th, 1998 by the Prime Minister. It performs the function of direct state management of Bac Ninh's industrial parks; manages and organizes the performance of the function of providing public administrative services and other supporting services related to investment and production and business activities for investors in industrial parks of the province. By December 2000, the construction of Tien Son, the first concentrated industrial park of Bac Ninh, was started. Since then, construction planning management in industrial parks has been carried out in accordance with the order and regulations, meeting the requirements of investors and the province's socio-economic development orientation. Up to now, Bac Ninh has had 16 concentrated industrial parks approved to adjust and supplement by the Prime Minister according to Document No. 1511/TTg-KTN dated August 20th, 2014 and Document No. 2007/TTg-KTN dated November 6th, 2015, with a total acreage of 6,381.68 hectares; 12 industrial parks have been granted investment certificates and decisions of establishment with a total planning acreage of 4,552.91 hectares, industrial lands for lease are 3,181.94 hectares. In which, there are 10 industrial parks put into operation with a planned acreage of 3,696.94 hectares, acreage of industrial land for lease is 2,000.10 hectares, acreage of the leased one is 1,670.4 hectares, occupancy rate on the planned land area reached 83.49%, on the recovered land area reached 88.52%. The registered infrastructure investment capital was about 775.30 million USD (including 02 FDI projects with registered capital of 160 million USD, 12 domestic projects with registered capital of 11,390.69 billion VND) (Bac Ninh Provincial Statistical Office, 2017; Management Board of Bac Ninh's Industrial Parks, December 2018, December 2020). In recent years, environmental protection in industrial parks in Bac Ninh has always attracted the attention of all authorities and investors. Environmental protection has been strengthened, contributing to the reduction of pollution, improving environmental quality, gradually solving pressing environmental problems, making positive contributions to the sustainable development of industrial parks of the province.

Within the scope of this article, the author only analyzes the contents based on statistics, summarizes the process of construction and development of industrial parks in the province of Bac Ninh associated with environmental protection by by the authorities of Bac

Ninh from 1998 to 2020. At the same time, the article is also based on Circular No. 07/2007/TT-BTNMT dated July 3rd, 2007 of the Ministry of Natural Resources and Environment, on guiding the classification of the list of establishments causing environmental pollution that need to be dealt with in order to evaluate the achievements of the development process of industrial parks and the current situation of environmental protection in industrial parks in Bac Ninh. On that basis, the author proposes some solutions to protect the environment in industrial parks in the province in the coming time.

2. Method

Data collection methods: The documents and data used in this article are mainly imported from the Bac Ninh statistical yearbook, data from agencies such as: Statistical Department, Management Board of industrial parks and Department of Natural Resources and Environment of Bac Ninh province in the period from 1998 to 2020.

Data analysis and processing methods: The data in the article are analyzed and processed using Microsoft Word software to clarify the construction and development process of industrial parks in province of Bac Ninh and the situation of environmental protection in industrial parks, on that basis, solutions to protect the environment to ensure that industrial parks in Bac Ninh develop sustainably are proposed.

3. Results

3.1. Achievements in combining development with environmental protection in industrial parks in Bac Ninh

a) The development of industrial parks in Bac Ninh province over the past time

Firstly, the results of attracting investment in industrial parks in Bac Ninh.

In the early years of industrial parks' construction, there were mainly small projects with low capital scale, focusing almost on agro-food processing, production of consumer goods and materials and high-end construction materials. In the electronics industry, there are only two projects of Canon Company, accounting for 14% of the total investment capital in industrial parks of the province (130 million of 896 million USD). At this stage, the investment rate was only 1 to 2 million USD per hectare and about 3 million USD per project. Since 2007, the industrial parks have attracted many foreign investment projects. The quantity and quality of which, especially FDI ones, increased sharply with investment rates reaching 13.07 million USD per project and 9.03 million USD per hectare. The structure of industries has changed drastically, forming a spearhead electronics - telecommunications industry. In the period from 2014 to 2018, the industrial parks attracted the number of projects increasing from 153% to 193% and the amount of registered investment capital increased from 237% to 431% compared to the period from 2009 to 2013 and the period of ten years between 1998 and 2008. By the end of 2018, there had been 1,329 projects, with a total registered investment capital of 17,830.03 million USD. Investment rate in the period between 2014 and 2018 reached 17.72 million USD per project. In 2018, there were 901 enterprises operating in industrial parks, creating a production value of 1,166,572 billion VND. As a result, Bac Ninh industrial parks saw export value of 35,873 million USD, import value of 24,540 million USD and a payment of 11,268 billion VND to the state budget. Industrial production in the province surpassed Ho Chi Minh City, becoming the leading locality in the country. The industrial development index in 2018 increased by 7.4% compared to 2017. In which, the manufacturing industry increased by 7.4% due to the growth of 7.4% in manufacturing electronic, computer and optical products. Besides, production and distribution of electricity, gas and hot water increased by 13.5% and industry of water supply, waste treatment and wastewater increased by 1.5% (Management Board of Bac Ninh's Industrial Parks, December 2018; Table 1).

In 2020, 97 Certificates of Investment were newly issued for 71 FDI projects (328.73 million USD) and 26 domestic projects (2,798.64 billion VND, being equivalent to 121.68 million USD) with total registered investment capital of 450.41 million USD and 393 turns of adjusted projects were granted. There were 91 projects adjusted to increase investment capital by 408.04 million USD (the investment capital of 79 FDI projects increased by 374.06 million USD and that of 12 ones increased by 781.44 billion VND, being equivalent to 33.98 million USD), however, there were 4 FDI projects seeing the reduce of investment capital to 4.08 million USD. By the end of 2020, industrial parks in Bac Ninh had attracted 1,584 projects, with a total registered investment capital of 20,317.80 million USD. That of 1,089 FDI projects and 495domestic ones reached 17,778.66 million USD and 2,539.14 million USD respectively. Currently, in Bac Ninh's industrial parks, there are 1,100 projects in operation, creating jobs for 331,609 workers. The average income of indirect workers is 9.5 million VND per capita a month and that of direct ones is 7.5 million VND per capita a month (Management Board of Bac Ninh's Industrial Parks, December 2020; Table 1).

In terms of territories, there are 37 countries and regions investing in industrial parks in Bac Ninh, of which South Korea has the largest number of projects and investment capital (499 projects with the capital of 11.6 billion USD), the second is Japan (79 projects with the capital of 1.34 billion USD) and followed by Taiwan… The proportion of FDI capital is increasing in industrial parks. All projects are in the fields of electronics, telecommunications and supporting industries, using modern technology to produce clean, non-invasive products that do not generate factors affecting the environment negatively, including projects of large corporations such as: Canon, Samsung Electronics, Samsung Display, Fushan Technology Co., Ltd… (Bac Ninh Provincial Statistical Office, 2019). This is an important factor promoting technology value of products, improving competitiveness and thereby improving the value of industrial production and export turnover in the province's industrial parks.

Table 1: Results of attracting investment into industrial parks in Bac Ninh province in the period from 2010 to 2020

Year	Total of industrial zones	Business es in operation	Projects with new certificates of investment in the year	Total of new and adjusted capital in the year*(Million USD)*	Total of projects granted certificates of cumulative investment	Total of capital newly granted and cumulativel y adjusted *(Million USD)*
2010	13	209	62	461,40	447	3.442,00
2011	13	263	68	558,68	527	4.100,00
2012	13	285	39	334,37	564	4.400,00
2013	13	353	77	1.420,00	645	6.660,00
2014	13	420	67	820,31	774	8.364,21
2015	15	555	137	989,23	892	9.572,13
2016	16	715	135	794,45	1.050	13.099,51
2017	16	827	135	3.422,75	1.024	16.619,52
2018	16	901	125	1.210,51	1.329	17.830,03
2019	16	1.007	134	1.390,46	1.463	19.220,49
2020	16	1.100	97	854,38	1.584	20.317,80

Source: Industrial Park Management Board of Bac Ninh.

Secondly, the contribution of industrial parks to Bac Ninh's socio-economic *development.*

Industrial production value: In 2005, industrial parks in Bac Ninh only contributed 13.5% of the total industrial production value of the province, but by 2011, the number reached 142,704 billion VND, accounting for 58.6%. In 2012, the figure was 273,065 billion VND, which accounted for 65.4% of the province's total industrial production value. Industrial production value of the industrial parks increased sharply after 2012. In 2013 Bac Ninh saw a growth of 510,000 billion VND, an increase of 86.76% compared to 2012. In a period of four years, between 2013 and 2016, the value of industrial production of industrial parks in the province increased insignificantly, remaining at a stable level of more than

500,000 billion VND per year. In 2017, this increased 28.20% compared to 2016, reaching 664,674 billion VND. From 2018 to 2020, the production value of industrial parks in Bac Ninh province reached over 1.5 million billion VND. In 2020, due to the impact of the Covid-19 pandemic, the industrial production value reached 1,162,394 billion VND, 4,178 billion VND lower than that in 2018, which is 1,166,572 billion VND.

Exports: In 2005, when enterprises in Bac Ninh's industrial zones initially stabilized their production with the contribution of foreign-invested enterprises, export turnover reached 12.278 million USD, accounting for 24% of the province's export value. In 2007, the number was 346.82 million USD. Especially, in 2009, with the operation of the project by Samsung Electronics Vietnam Company in Yen Phong Industrial Park, Bac Ninh's export turnover had a remarkable growth, making Bac Ninh gain trade surplus in 2009. By 2012, industrial parks had become a major contributor to Bac Ninh's export value with 13,620 million USD, accounting for 99.1%. From 2013 to 2017, the export value of industrial parks in the province reached over 20 billion USD (in 2017 the figure was 28,428 million USD). In the period between 2010 and 2020, the industrial parks reported the highest export value, reaching 37,392 million USD in 2019. In 2020, their export turnover reached 35,056 million USD, accounting for 97.22% of the export value of the whole province (lower than that in 2019 due to the impact of the covid-19 pandemic).

Payment to the state budget: From 2010 to 2020, the rate of payment to the state budget of industrial parks in Bac Ninh continuously increased. In 2011, enterprises in the industrial zones paid the budget of 2,653 billion VND, that accounts for 36.8% of the total budget revenue of the province. In 2012, the number reached 3,980 billion VND, which was 43.9% of total budget revenue of Bac Ninh. From 2013 to 2017 (except 2015), industrial parks' contribution to the state budget, on average, increased by about 1,000 billion VND per year. In 2018 there was a sharp increase in state budget payments compared to 2017, increasing from VND 8,700 billion in 2017 to VND 11,268 billion in 2018. Between 2018 and 2020, these industrial parks paid over VND 11 trillion to the state budget every single year. In 2020, the number paid to the budget was 11,342 billion VND, accounting for 37.10% of the budget revenue of the whole province (125 billion VND lower than in 2019 because the covid-19 pandemic affects the production and business results of enterprises in the province) (Management Board of Bac Ninh's Industrial Parks, December 2018, January 2020, December 2020; Table 2).

Industrial zones in Bac Ninh have become an important economic entity, promoting the transformation of the province's economic structure and labor structure towards modern industry, contributing to increase local budget revenue, turning Bac Ninh into a province with surplus value and promoting its sustainable socio-economic development.

Table 2: Production and business results of industrial parks in Bac Ninh between 2010 and 2020

Year	Value of the industry production *(Billion VND)*	Export *(Million dollars)*	Import *(Million dollars)*	Payment to national budget *(Billion VND)*
2010	48.350	3.458	2.837	2.146
2011	142.704	7.630	5.995	2.653
2012	273.065	13.620	12.200	3.980
2013	510.000	25.000	21.000	4.500
2014	500.600	23.600	19.700	6.500
2015	511.500	23.300	18.500	6.000
2016	518.446	25.432	17.095	7.414
2017	664.674	28.428	23.462	8.700
2018	1.166.572	35.873	24.540	11.268
2019	1.151.265	37.392	22.686	11.467
2020	1.162.394	35.056	23.468	11.342

Source: Industrial Park Management Board of Bac Ninh

b) Environmental protection in Bac Ninh's industrial parks over the past time

Along with the process of socio-economic development, Bac Ninh always pays attention to and focuses on environmental protection, determining that industrial development associated with environmental protection is one of important tasks and conditions to promote its socio-economiy to develop sustainably in the coming years. The Provincial Party Standing Committee of Bac Ninh issued Action Program No. 80-CTr/TU on May 27th, 2005 to implement resolution No. 41-NQ/TW dated November 15, 2004 of the Politburo (the IX term) on "Environmental protection in the period of accelerating industrialization and modernization of the country". On November 11th, 2005, the Provincial People's Committee of Bac Ninh approved the "Project on environmental planning of Bac Ninh for the period from 2006 and 2020, the environmental protection plan for the period from 2006 and 2010". On November 8th, 2016, the Provincial Party Standing Committee of Bac Ninh issued Resolution No. 05-NQ/TU on "Strengthening the Party's leadership in environmental protection" with the view: Protecting environment is the foundation to ensure the socio-economic development of Bac Ninh sustainably;

Environmental protection is the responsibility and obligation of each organization, enterprise, household and individual; For environmental protection, prevention is consider the main measure, combined with pollution treatment; Avoid focusing on economic development and neglecting environmental protection. Understanding and implementing the policy of the province, the development of industrial parks must always be closely associated with environmental protection. In recent years, the environmental management of industrial zones in Bac Ninh has basically come into order.

Firstly, on environmental management in industrial parks.

The Management Board of Bac Ninh Industrial Parks has developed and implemented the Regulation on coordination in environmental management and protection in industrial zones with the Department of Natural Resources and Environment, the Bac Ninh Provincial Police and the People's Committees of the districts, city and towns. Carrying out overall environmental monitoring of industrial parks and enterprises in industrial zones in Bac Ninh, guiding and appraising new investment reports and environmental protection commitments of enterprises in these industrial zones. Since June 2012, the Management Board of Bac Ninh Industrial Parks has joined the new investment appraisal council for investment projects in industrial parks, coordinating with relevant departments and agencies in the province and with industrial park infrastructure development investment companies to propagate the law on environment in industrial parks, solve problems about waste discharge, wastewater treatment of enterprises in industrial zones and chairing, inspecting and supervising the environment in Bac Ninh’s industrial parks (Management Board of Bac Ninh’s Industrial Parks, December 2018).

Secondly, on the proportion of industrial parks with infrastructure for environmental treatment.

By the end of 2007, Bac Ninh province had had only 10 industrial parks approved, 04 industrial parks starting their operation, 02 new industrial parks established and finishing ground clearance and 04 industrial parks in the process process of completing the establishment dossier and attracting investors to build infrastructure. Among them, there were 03 industrial parks (Tien Son, Que Vo I, Yen Phong I) investing in building environmental treatment infrastructure, while Dai Dong - Hoan Son industrial park had not been built yet. Up to now, Bac Ninh has had 16 industrial parks approved to be planned by the Prime Minister, 10 industrial parks being in operation with synchronous transport infrastructure and basic installation of the infrastructure system for environmental treatment in industrial parks; seven out of ten operating industrial parks have a complete clean water supply plant with a total design capacity of 52,300 cubic meters per day. The total amount of water actually being used is 48,565 cubic meters per day. The water supply stations of the industrial zones take into account the amount of clean water supplied to the communes adjacent to the industrial park and the urban centers and social houses around it. In 2020, industrial parks in Bac Ninh will use about 100,000 cubic meters per day. Up to now, ten out of ten industrial parks have basically implemented the regulations on environmental protection in general and wastewater treatment in particular, 100% of industrial parks have operated with concentrated wastewater treatment systems. The investors of the industrial parks' infrastructure has synchronously deployed technical infrastructure for environmental protection such as the collection and drainage system of rain water and wastewater, and a centralized wastewater treatment plant. All 10 industrial parks, that have been operating, have installed automatic environmental monitoring systems to regularly and continuously monitor the quality of wastewater before being discharged into the environment (Department of Natural Resources and Environment of Bac Ninh province, April 2019).

Thirdly, on the proportion of enterprises with infrastructure for environmental treatment.

Along with the process of investing in building factories, businesses in industrial parks in Bac Ninh have built a system of environmental treatment infrastructure at their factories. All of them are invested with wastewater collection systems, rainwater drainage, and shallow tanks to collect solid waste. Domestic wastewater is filtered through the tank to treat sediment and garbage; Wastewater from the process of production is collected to the tank, filtered through a foam system, and then treated to ensure level B in accordance with regulations on industrial wastewater before being discharged into the general wastewater drainage system of the industrial parks. Domestic waste, production scrap, and toxic waste are collected in shallow tanks and classified before being transported to the garbage collection place for treatment by Environmental Company. Secondary enterprises have invested in preliminary wastewater treatment systems that meet the discharge standards of the industrial parks, connected to the centralized wastewater treatment system to treat it up to Vietnamese standards before being released into the environment. The system of environmental treatment infrastructure at enterprises has been tested and put into operation together with the enterprises' operation, so 100% of enterprises in industrial parks in Bac Ninh have been operating. The general environmental treatment infrastructure system of the whole industrial zones has handled well the factors affecting the environment arising from the operation of the industrial park. Therefore, the operation does not create a huge impact on the living environment of the population around the industrial parks.

3.2. Drawbacks in environmental protection in Bac Ninh's industrial parks

Wastewater: Industrial parks in Bac Ninh all develop multi-sectoral and multi-field production, so they release many different types of wastewater. Collecting and general treatment is very difficult. Although the number of centralized wastewater treatment plants has increased, according to the report of the Management Board of Industrial Parks, in the surrounding area of some industrial zones, some wastewater standards exceeds the permissible limit.

Emissions: Although companies have consciously implemented regulations on emissions, the equipment for this is still sketchy, simple, and has not thoroughly minimized the impact of emissions on surrounding environment. Air quality in industrial parks has had a significant impact on workers' health.

Hazardous waste and solid waste: Some enterprises in industrial parks do not register for waste sources as prescribed, some even store their own wastes, that causes local pollution. There are no company which collect and treat hazardous waste for secondary enterprises in industrial parks, so those are not preserved and treated according to regulations, creating a risk of pollution. In some industrial zones, it is difficult to collect solid waste for treatment because of lack of locations for this.

3.3. Causes of drawbacks in environmental protection in Bac Ninh's industrial parks

The first, industrial parks still attract a number of projects with low investment capital, limited financial capacity, leading to limited investment in infrastructure construction. They have not given priority to building waste treatment systems, and some do not even have waste treatment systems and their waste is released directly into the environment.

The second, investors in the construction of industrial park infrastructure are not fully aware of their responsibilities for environmental protection as prescribed by law. Awareness of environmental protection of companies in industrial parks is still limited, many owners do not understand clearly or accurately and do not even update the regulations of the current law of environmental protection.

The third, many businesses have built a waste treatment system, committing to environmental protection, but failed to fulfill their promises, leading to more serious pollution. The investment in environmental protection increases the enterprises' operating costs, directly affecting the profits achieved, so environmental protection has not been voluntarily implemented by them. The inspection and supervision is still not effective and the authorities are still slow in controlling and urging enterprises to protect the environment.

4. Discussion and Conclusion

Since its establishment, industrial parks in Bac Ninh have been constantly developing, making great contributions to the province's socio-economic development. Along with the development of industrial parks, environmental protection has always been concerned and has achieved good results. In order to ensure the effectiveness of environmental protection in industrial zones in the coming time, Bac Ninh needs to well implement the following solutions:

Planning: The province needs to review and adjust the planning of industrial parks to ensure that it is synchronous and consistent with Bac Ninh's socio-economic development plan. The planning process must immediately take into account the factors causing environmental pollution and propose solutions to reduce pollution and protect the environment. The establishment and development of industrial parks must ensure compliance with the approved planning.

Investment attraction: Attracting investment in industrial parks in the direction of prioritizing clean, low-pollution industries, ensuring the industry structure is suitable to the ability and reality of Bac Ninh's pollution solving. The province needs to attract key investments to develop key economic sectors as well as create favorable conditions for factory layout and environmental protection plans.

Mechanisms and policies: Bac Ninh should review and continue to adjust and amend legal documents related to the decentralization of environmental management in the direction of promoting decentralization and give direct rights and responsibilities for environmental protection to the Management Board of Bac Ninh's Industrial Parks. In addition, the documents also need to clearly define the responsibilities of the industrial parks' investors for the secondary enterprises investing in the industrial park in terms of environmental protection. Besides, there is a need of developing mechanisms and policies to encourage enterprises to carry out cleaner production and save energy in industrial parks.

Decentralization and assignment of centralized management responsibilities: The Management Board of Bac Ninh's industrial parks must have full authority and responsibility for environmental management in the industrial parks and implementation of relevant environmental protection regulations. Measures should be taken to improve the environmental management capacity for the Management Board of Bac Ninh's Industrial Parks in terms of both human resources and equipment, enabling them to be more proactive in performing their duties on environmental protection in industrial parks. The investors are responsible for fully implementing the commitments according to the industrial parks' environmental impact assessment report; building and completing centralized wastewater treatment systems which need to be properly designed, suitable to actual conditions, constructed and installed according to the design, maintaining stability and effectiveness during the operation process of the industrial parks; participating in responding to environmental incidents in industrial parks. Investors also need to arrange locations for construction of temporary storage and transit areas for solid and hazardous wastes from enterprises in the industrial parks. All companies in the industrial parks having wastewater must preliminarily treat it up to the input standards of the centralized wastewater treatment system before discharging it into the wastewater collection system of the industrial parks. Enterprises that generate emissions must have an exhaust gas treatment system that meets

Vietnamese standards before discharging. If hazardous waste is generated, they must have a contract with a competent and capable agencies to collected and disposed of properly.

Supervision of enterprises' dealing with environmental pollution: Periodically Periodically monitoring the environment to take timely measures to deal with arising pollution. Proactively propagating and disseminating environmental legislation for industrial park infrastructure development enterprises as well as secondary enterprises to help companies clearly and fully realize their responsibilities for environmental protection inside and outside the industrial parks.

5. References

1. Bac Ninh Provincial Statistical Office (2017), *Bac Ninh Statistical Yearbook from 1997 to 2016,* Statistical Publishing House, Hanoi.

2. Bac Ninh Provincial Statistical Office (2018), *Bac Ninh Province Statistical Yearbook 2017*, Statistical Publishing House, Hanoi.

3. Bac Ninh Provincial Statistical Office (2019), *Bac Ninh Provincial Statistical Yearbook 2018, Statistical Publishing House*, Hanoi.

4. Bac Ninh Provincial Statistical Office (2020), *Bac Ninh Provincial Statistical Yearbook 2019*, Statistical Publishing House, Hanoi.

5. Department of Natural Resources and Environment of Bac Ninh province (April 2019), *Report on provincial statistical indicators in the field of society and environment,* Bac Ninh.

6. Management Board of Bac Ninh's Industrial Parks (December 2018), *Summary report of 20 years of construction and development of industrial parks in Bac Ninh province*, Bac Ninh.

7. Management Board of Bac Ninh's Industrial Parks (January 2020), *Report on performance of tasks in 2019, orientations and tasks in 2020,* Bac Ninh.

8. Management Board of Bac Ninh's Industrial Parks (December 2020), *Report on performance of tasks in 2020, orientations and tasks in 2021,* Bac Ninh.

THE ROLE OF MYANMAR IN ASEAN ENERGY SECTOR

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Abstract

As the government of the union of Myanmar has made significant progress towards the marked oriented economy, the government has been striving hard to promote all-round development of national economy to upgrade the living standards of its people, results that have been achieved. So far are quite favorable for the general well-being of the people, what is really needed for further development is the influx of capital and appropriate technology, managerial Skills and access to international market in order to reap the most effective benefit of its endowment in natural and human resources. This is the most opportune time for foreign investors to do business in Myanmar. Myanmar Industries Association and ASEAN organization is most desirable at the present moment to obtain the successful development of an economic trade and investment atmosphere that will ultimately lead to the prosperity of the Southeast Asia country.

Keywords: *Myanmar, ASEAN, Energy programs, commerce and trade*

1. Introduction

Myanmar has been a full time of ASEAN Since July 1997. Indonesia, Malaysia, Philippine, Singapore and Thailand founded the ASEAN of Bangkok on 1 August 1967. ASEAN countries were developed in economy since last three decades. Myanmar was more than twenty years ago with socialist economy. After 1988, the state law and order Restoration council (SLORC) Government was in Myanmar. SLORC Governments economy policy was market oriented economy. In 1997, Myanmar become a ASEAN member and also a BIMST-EC member So ASEAN nations will have opportunity to cooperate in the economic programs. In 1992, ASEAN nations agreed to AFTA agreement ASEAN nations competed to get the good prices in raw materials and enhance to develop the production. ASEAN economic co-operations persuaded external investors.

Myanmar started the agreements to elaborate in 1st January 1998. Myanmar firstly Started the AICO program. Economic cooperation was to expand the ASEAN Industrial markets. The AICO program could be utilized in independent companies in ASEAN region. ASEAN Economic program committee was organized in April 1998. This committee collaborated with UMFCC and National (AFTA) unit.

In 1998 Hanoi in Vietnam had many attitudes to develop the AESAN Vision 2020. The ASEAN plant of Action for Energy cooperation (1994-2004) had six programs by Hanoi plan of Action1998. Myanmar worked in ASEAN program in an energy cooperation. Myanmar also agreed to the program of natural gas pipeline connection and coal production. Myanmar also studied energy sector of the ASEAN plus 3 countries of china, South Korea and Japan. In the Future Myanmar may be important in ASEAN Energy sector.

This paper aims to analyze the tasks from the The Role of Myanmar in ASEAN energy sector, major objectives of this paper are: (i) to study the Associating of the South East Asia Nation (ASEAN); (ii) to cooperate Myanmar and BIMST-EE; (iii) to find out the major factor to develop benefits from ASEAN energy programmed for Myanmar.

2. Method

This study user descriptive method based on available secondary data and information from ASEAN countries economic of BIMST-EC from libraries and internet.

3. Results

According to the studies, to establish interconnecting arrangement in the field of energy and utilities for electricity, natural gas and water within ASEAN through the ASEAN power Grid and Trans-ASEAN Gas pipeline and promote cooperation in energy efficiency and conservation, as well as the development of new and renewable energy resources of the country and systematically implementing plants of Energy Sector.

The Founders of the Association of Southeast Asian Nations (ASEAN) envisioned it as eventually bringing together all the countries of Southeast Asia and getting them to cooperate in securing the region's peace, stability and development. Only five countries Indonesia, Malaysia, the Philippines, Singapore and Thailand-signed the ASEAN Declaration of 8 August 1967. Thirty-two years later on 30 April 1999 ASEAN encompassed all ten countries of Southeast Asia by admitting Cambodia. Brunei Darussalam had been admitted in 1984, Viet Nam in 1995 and Laos and Myanmar in 1997.When the east Asian financial crisis broke out in July 1997, many people thought the Southeast Asian countries would retreat into isolationism and protectionism-ending ASEAN's vision of regional economic integration. Even at the height of the crisis, in December 1997, ASEAN leaders had spelled out their vision of an integrated ASEAN economy in the first two decades of the century. As their ASEAN Vision 2020 put it, the leaders committed themselves to "closer cohesion and economic integration". The Declaration reads: "We will create a stable, prosperous and highly competitive ASEAN Economic Region in which there is a free flow of goods, services and investments, a freer flow of capital, equitable economic development, reduced poverty and social-economic disparities."

ASEAN's path to economic integration has evolved over the years. The very first sentence of the Bangkok Declaration, which set up the organization in 1967, spoke of "mutual interests and common problems among countries in Southeast Asia" and called for a “firm foundation for common action to promote regional cooperation”. Economic cooperation at the time dealt with programs for joint ventures and complementation schemes among ASEAN governments or companies.

The most important move towards this new model was made at the Fourth ASEAN summit in 1992, at which member countries agreed to create the ASEAN Free Trade Area. A market of close to half a billion people would allow corporations in ASEAN to take advantage of economic of scale. They would also have access to the best prices for the raw materials they require, even as competition among them would stimulate their productivity and efficiency. An integrated ASEAN Economy would be a potent attraction for investors outside the region-who generally prefer large, integrated and efficient markets to small, fragmented and in efficient ones.

The 1992 agreement to set up the ASEAN Free Trade Area (AFTA) was the organization’s first breakthrough towards creating an integrated ASEAN economic region. The main implementing mechanism for AFTA is the Common Effective Preferential Tariff (CEPT) Scheme, also adopted in 1992. Under the CEPT, tariffs on a wide range of products traded within the region are progressively either lifted totally or limited to a maximum of 5 percent. Quantitative barriers -limits on the volume of certain products a country imports and other non-tariff barriers such as outright prohibition ad unnecessary technical requirements are being eliminated.

AFTA’s final goal is to eliminate altogether import duties on all products to create a truly free-trade, or tariff-less, region. The Third ASEAN Informal Summit in Manila in 1999 advanced the time table for this goal to 2010, ahead of the original schedule of 2015, for the six original signatories to the CEPT scheme - Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore and Thailand. The newer ASEAN members - Cambodia, Laos, Myanmar and Viet Nam - have committed themselves to eliminating all import duties by 2015, with some sensitive products to follow these members’ original target for 2018.

Table 1: Year 2001 CEPT (Common Effective Preferential Triff)

Product List	Percent
Sensitive	0.55
Temporary	13.21
General exception	1.27
Inclusion	84.97

According to the CEPT Agreement, member countries have to complete the establishment of AFTA within ten years. As Myanmar is a new member country, the commencing will start from 1st January 1998. In order to achieve the ASEAN free trade area the main instrument is the CEPT scheme. The year 2002 and 2003 ending date is applicable to Brunei, Indonesia, Malaysia, Philippines, Singapore and Thailand i.e. ASEAN-Six. For Vietnam, it will be in the year 2006, for LAOS PDR and Myanmar in 2008, for Cambodia in 2010. So there is a phase-in period here, of the year 2003, 2006, 2008, 2010. Now that's the background, so call ASEAN free trade area exercise.

The focus of ASEAN free trade area is trading activities. CEPT scheme is actually a trading scheme. When we look at the intra-regional trade share, we find that since the implementation of CEPT scheme in 1993 and after one year, the share of intra regional trade of ASEAN is 21%. In 1997 it is 25%. For the year 2000, it is about 23 to 24 percent. That means ASEAN trade among ourselves in terms of total export is 25%. That is for every dollar that ASEAN earned only 25 cent come from the intra ASEAN trade. In order to increase this percentage of Intra- ASEAN Trade, the CEPT scheme was used as one tool and the other tool that could be used in the ASEAN Industrial Cooperation scheme. Simply because there is this lack of industrial complementarily between companies operating in the region.

Therefore, the objective of the AICO scheme is to enhance that complementarily, so that a company in Myanmar get supplied of it's intermediate goods in the production of the final products somewhere else in the region or vice versa. The objective of the AICO scheme is also to enlarge the ASEAN market through this complementarily. It is also to improve the competitiveness of the companies operating in ASEAN, if there is a combination of a market bigger than own domestic market, then it can reap the advantage of economies of scale and the economies of production. It can also stimulate investment within the ASEAN. So, those are the primary objectives of AICO scheme.

Within this AICO scheme, the first benefit or the most visible is the 0 to 5 percent preferential tariff rate. When AICO scheme was launched in 1996, the CEPT tariff of all ASEAN countries is above 5%. If companies apply for the AICO scheme and if they are approved, then they will get a head-start and will get the 0 to 5% immediately compare to others. This situation, so-called the privilege, the Preferential Tariff Rate, will slowly diminish for companies operating in ASEAN-SIX countries. By 2002 or 2003 the latest, the CEPT tariff rate will have been 0 to 5%. Therefore, the AICO rate that we granted will no longer be special. But this is only applicable to ASEAN Six. For Cambodia, Myanmar, Laos and Vietnam, this 0 to 5% target will only be reached in the year 2006 and 2008, 2010. Therefore, any company that apply for AICO scheme from the CLMV (Cambodia, Laos, Myanmar & Vietnam) countries will have this head-start of 0 to 5%. This is the number one benefit.

Myanmar cooperation with ASEAN as a member attacked India to stimulate for promotion of bilateral trade between the two countries. It also pared away for Myanmar to be member of BIMST.Ec. The Government of union of Myanmar has formed the steering committee headed by Secretary (1) of the State Peace and Development Council (SPDC), the minister and Deputy Ministry of the Ministry of Commerce is a member in the BIMST Committee. Ministry of commerce has assigned to participate the two categories among the BIMST-EC projects such as BIMST-EC Economic form and Senior official meeting to promote intra-regional cooperation on elimination of non-tariff barriers, on market access issues and preferential trading arrangements among BIMST-EC member states.

To achieve the economic reforms in Myanmar, a serious of economic reform measured were undertaken by the government since 1988. Some of reform measures can be summarized as follows:

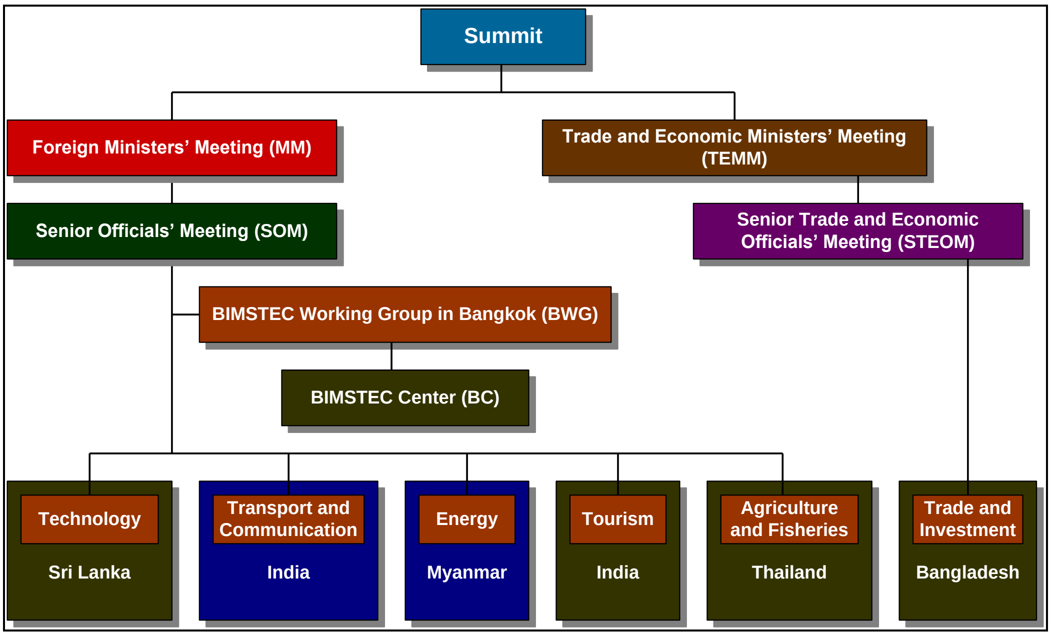
- Introduction of Myanmar Foreign investment law in 1988.
- Revocation of 1965 law that established the Socialist economic system, Introduction of state-owned Economic Enterprise law delineating of the scope of the state sector and Regularization of border trade in 1989.
- Introduction of private Industrial Enterprise law, Introduction of Central Bank of Myanmar law, Introduction of Financial Institutions Myanmar law. Introduction of commercial Tax Law in 1990.
- Initiation of Industrial Zone in Myanmar, Announcement of the Central Bank of Myanmar Rules and Regulations, Introduction of Financial Institutions of Myanmar law.
- Initiation of Industrial Zone in Myanmar, Announcement of the Central Bank of Myanmar Rules and Regulations Introduction of promotion of cottage Industries law and Re-establish of Myanmar chamber of Commerce and Industry in 1991.
- Introduction of Tariff law and Introduction of Saving bank law in 1992.
- Introduction of Myanmar Insurance law in 1993.
- Introduction of Myanmar Citizens law in 1994.
- Announcement of the formation of privatization committee in 1995.
- Permission given to local private banks to conduct foreign exchange in 1996.
- Entry of Regional organization (ASEAN & BIMST-EC) in 1997.

Accordingly, the market-oriented system was adopted in March 1989. The private sector was allowed to participate both in domestic and the external trade with some restrictions. Foreign and domestic enterprise were allowed to invest in the country.

When BIST-EC was established in June 1997, Myanmar was approached by India through diplomatic channel to join the group as a founding member. However, it was the time for Myanmar preparing to join the regional groupings such as ASEAN and BIST-EC so that she attended the first meeting as an observer. Consequently, Myanmar decided to join the group, and was unanimously accepted as a full member at a special Ministerial Meeting held in Bangkok on 22nd December 1997. The name of the group was renamed as BIMST-

EC. Myanmar is now serving as a leading country in Energy sector for three consecutive terms since the inception of BIMST-EC.

Figure 1: BIMST-EC



In the sector, the ASEAN member countries are Myanmar's largest trading partners. This fact also covers the danger of China's influence in Myanmar's economy and one of the counter balance activities to take out Myanmar from China's orbit. For ASEAN, although ASEAN members such as Singapore and Thailand, are the main investors in Myanmar, they can not give aids and loans like China. Nowadays, China's massive investment in oil and gas sector can change the position of China in Myanmar's investment list.

Now, Myanmar leaders realize that China is not a negative factor for them. But they always notice China's influence and they try to reduce and balance China's dominance to Myanmar. In doing so, Myanmar became a member of ASEAN and other regional organizations. "Constructive engagement" policy moved Myanmar to co-operate more closely with other countries in the world. To reduce Myanmar's over-reliance in China, Myanmar needs the countries and but also from other industrialized countries of the world.

On the other hand, to overcome the prediction of some scholars, Myanmar need to establish good relations with, ASEAN, India and other industrialized countries such as Japan, United States, United Kingdom, Germany by holding of strategic neutralist policy between China and other counties of world.

The ASEAN vision 2020 had adopted the energy sector. The special Meeting of the ASEAN seminar officials meeting on energy on 26 Novembers 1998 at Hanoi, Vietnam, Hanoi plan of Action 1998 had ASEAN plan of action for energy co-operation 1998-2004.

1. ASEAN power Grid.

2. Trans- ASEAN Gas pip-line.
3. Energy Efficiency and conservation
4. New and Renewable sources of Energy
5. Coal
6. Regional Energy outlook, Energy Policy Land Environment Analysis.

The implementing or the organization or the energy subsector organization are:

1. HAPUA - Heads of Power Utilities and Authorities
2. ASCOPE - ASEAN Council on Petroleum
3. EEC - SSN - Energy Efficiency and Conservation Subsector Network
4. NRSE-SSN- New and Renewable sources of Energy Sub-Sector Network
5. AFOC - ASEAN Form of Coal
6. ACE - ASEAN Centre for Energy

Myanmar is effectively participating in ASEAN plan of Action of Energy cooperation. The Deputy Ministry of Energy's is a chairman in Myanmar committee. The Director General from Section Ministry of Foreign Affairs, Electrical power Department, Mining Department, Ministry of Science and Technology, and Forest Department are the member of Myanmar committee in ASEAN. The Director General form Energy Management Department is a secretary in Myanmar Committee.

Myanmar Signed the agreement chatters, and projects for ASEAN energy sector

(A) Agreement on the Establishment of the ASEAN center for Energy.

Myanmar Foreign Affair Ministry signed the agreement on the Establishment of the ASEAN Center for Energy at Manila, Philippine on 22 May 1998. This agreement is to manage the energy sector in ASEAN countries, and ASEAN Region for economic development, to support the regional energy activities, and funding the development program.

(B). ASEAN Memorandum of understanding on the Trends

ASEAN Gas Pipeline project. This MOU was signed in Ministerial Meeting of ASEAN at Bali, Indonesia on 5 July 2002.

(C) ASEAN forum on Coal Chatter

Myanmar signed coal charter on 16 October 2000. Myanmar participation in ASEAN Energy Cooperation program.

(D) By Energy Efficacy and Conservation program, the ASEAN Auditing group have arrived Myanmar on 2001 and 2003. This group visited Man Then Payakan Factory of petroleum and pan sea Hotel, FMI building. This group studied the energy efficacy and - conservation dates, and they gave the data, and suggestions to Myanmar petroleum and Chemical Product Department.

(E) The Kanbawza Banking Building, Pyay Road, Myanmar was a ward the Appropriate Technology form 2002, ASEAN, Energy Efficiency can serration Building competition.

(F) Myanmar received the Energy Planning Model (Market) form ASEAN - Castration Economic Co-operation program (AAECP).

Myanmar technician, and engineer scholars are attending the scholarship grants from Indonesia. This program was sponsored by Initiative on ASEAN Integration. This program is to prevent the different advantages between original ASEAN six member countries and newly four member countries.

Above mentioned, ASEAN energy co-operation program is to sponsor the meetings, conferences, and workshops are held in available sectors. The responsible persons attend, and concert the energy affairs. So Regional ASEAN meeting other ASEAN plus 3 countries participate and ASEAN members learn about. ASEAN plus 3 are China, South Korea and Japan. Gil and National Gas production in early member of ASEAN (Brunei, Indonesia, Malaysia, Philippine, Singapore, Thailand and Vietnam.)

Myanmar is a rich country of mineral resources, because of geographical background and weather condition. Estimation of Myanmar energy resources in April 2003 is as follows. Future Recoverable Resources as at (1.4.2003).

(a)	Oil	3208.438 million barrel
(b)	Natural gas	87.085 trillion cubic
(c)	Hydro-electronic power	3.9720 Mega watt
(d)	Coal	7 10.773 million ton

Myanmar is an under developing country. Myanmar's energy demand is more less than other developing countries, but energy demand is yearly progressing.

No. Description 1999-2000, 2000-2001, 2002-2003

(a) Gas and oil products

(b) Natural gas

(c) Coal

(d) Hydro electronic power

(e) Biomass

After 1988, Myanmar invited the International Oil Companies for especially production of oil and natural gas. Myanmar shared with the foreign companies for production of oil and Natural Gas. Myanmar signed the contract of cooperation and sharing production.

Table 2: Gas Suppply to Thailand from Myanmar

Gas Supply to Thailand from Myanmar		
FROM	AMOUNT	PERIOD
	(MMCFD)	
Yadana Field	525	30 Years (July 1998)
Yetagun Field	200-400	20 Years (April 2000)

Table 3: Hydroelectric Power Projects for Export

Hydroelectric Power Projects for Export		
Export To	MW	Projects
Thailand	11110 MW	Tasang / Ywathit / Hutgyi / Tanintharyi
India	2350 MW	Tamanthi / Mawlaik / Shwezaye / Homelin
Total	13460 MW	

In 1998, Yadana offshore Natural Gas project at Mataban offshore, and in 2000, Yetagun offshore Natural Gas Project at Taninthayi produced the natural gas and sold it to neighboring Thailand with pipeline. Now, that projects production is 1000 mill cubic facts for Thailand. This daily production of Natural gas is 30%. Fulfillment to Thailand's energy demand. Myanmar continued to produce the natural gas form Yetagun offshore project.

Other projects from Mataban and Taninthayi offshore are signing the production sharing contract with PTT Petronas and other companies. That offshore natural gas project has many expectations for economic progress. The offshore Natural project was starting in A-I site at Rakihine offshore. In January 2004, we were finding huge natural gas in A-I site. Daily, production of A-I site is 32 million cubic feet. The recoverable gas reserves are 4.2 to 5.8 trillion cubic feet. Estimation of A-1 site have 14 trillion cubic feet.

Beside the A-1 site of A-3 have not only the natural gas also finding the oil. The production of natural gas site A-1 shall change the gas to LNG. This LNG shall be sold to Asia and ASEAN countries to Myanmar location and geographical background are supposed to plenty of hydro electronic power. The estimation of World Bank is 108000 megawatt of hydro-electronic power in Myanmar. Myanmar Electronic Ministry estimates the Myanmar Electronic energy production electricity.

Myanmar and neighboring countries agreed the cooperation of hydroelectricity. Those projects are following:

	Country	Electricity
1.	Thailand	11,110 (Tasan, Yorathit, Uutkyi, Thantlayi projects)
2.	India	2250 (Tamanthi, Mawlyke, Shwesuryay, Homalin project)
	Total	13,460

Present Myanmar coal resources is 710,773 million tons. Myanmar sold the coal to India and China, and also used in local.

Above mentioned facts were local energy production and division of energy supply. Myanmar has many projects for electricity projects, natural gas projects and oil production projects. Developing countries of ASEAN will be return to import the energy in coming decades. In Myanmar energy sector, Myanmar has many natural and mineral resources. So Myanmar may be important in ASEAN sphere in coming decade.

4. Conclusion

As the government of the Union of Myanmar has made significant progress towards the market oriented economy, the government has been striving hard to promote all-around development of national economy to upgrade the living standards of its people, results that have been achieved. This is the most opportune time for foreign investors to do business in Myanmar, and to make the best use of its abundant resources for mutual benefits. Close cooperation between the Union of Myanmar chamber of commerce and industry. Myanmar chamber of commerce and industry of Myanmar Industries Association and ASEAN organization is most desirable at the present moment to obtain the successful development atmosphere that will ultimately lead to the propriety of the South East Asia Country. As Myanmar is rich in oil and natural gas resources, the government is trying to extend the exploration of on shore and off shore oil fields to meet the domestic consumption and to develop the national economy Energy sector of Myanmar has developed year by year. by making the effective use of energy resources of the country and systematically implementing plants on the Energy sector. The development of energy sector of Myanmar can contribute to the uplift of social life of the country ASEAN leaders adopted the “constructive engagement” policy on Myanmar. This policy intends to encourage Myanmar to move gradually towards democracy and a market economy and to contribute to outcome the ASEAN community in 2015. In the age of knowledge within the process of “globalization, education is the key for improving all kinds of development. It has played an important role in the development a highly knowledgeable and skilled labor force, which is crucial for sustaining development in youth cooperation has focused on enhancing quality education among ASEAN youth, increasing employment opportunities for youth and creating and atmosphere of frank and friendly discussion.

5. References

1. ASEAN Information Seminar Series (fy 2003-2004) Seminar on ASEAN Economic co- operation c/My doc AICO (2004).
2. Asian Development Bank (ADB). Key Indicators of Developing countries in Asian and Pacific Countries, Manila, 2003.
3. Central Statistical Organization, Ministry of National Planning and Economic Development Statistical year book, 2003.
4. ESCAP Overview and Sectoral Cooperation of BIMSTEC, 1997.
5. Research and Information For the Non-Aligned and other Developing Countries "Issues and Challenges of FTA" Discussion paper, 2003.
6. ASEAN Annual Report 1997-1998, Jakarta, ASEAN Secretarial, Indonesia, 1998.
7. ASEAN Annual Report 1998-1999.
8. Southeast Asia IN perspective by John Kerry king published simultaneously in Canada printed in the United States of America 1956.
9. Techno-Indo China Abstracts and Proceedings at the United Nation Conferences Center Bangkok, Thailand, 18-24 August, 1994.
10. ASEAN Economic Co-operation (Hand book) complied by Hans Christoph Rieger, 1991.
11. Mya Than Introduction: Optimism For Myanmar's Economic Transition in the 1990s.
12. Myat Them Economic Development of Myanmar, Institute of Southeast Asia Studies, Singapore, 2004.
13. Todaro, Michael, P. Economic Development, 7th Edition person Education Limited, Edinburgh Gate, Harlow, England, 2000.

NATURAL RESOURCE CONSUMPTION TAX FOR GREEN ECONOMIC DEVELOPMENT IN VIETNAM: LEGAL ISSUES AND SOLUTIONS

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Abstract

How is natural resource consumption tax for green economic development regulated in legal documents in Vietnam? What are the legal issues that arise during the implementation? Studies in Vietnam have not been studied and fully reviewed. So, this study is aimed at two goals: (1) assessment of the legal framework for natural resource consumption tax for green economic development in Vietnam; (2) recommendations on remedial measures when implementing the legislation of natural resource consumption tax for green economic development in Vietnam. To achieve the purposes set out in this study, the study was conducted as a survey of the Law on Natural Resource Consumption Tax for green economic development in Vietnam. The research objects are the Law on Natural Resource Consumption Tax in 2009, decrees and circulars guiding the Law on Natural Resource Consumption Tax in 2009. The methods used in this study are: Desk Research and Theoretical Research. These are typical methods of the legal science industry. Results of this study show that the legal framework of natural resource consumption tax for green economic development is incomplete. Besides, results of this study also show that the legal framework of natural resource consumption tax for green economic development still faces many limitations and problems, which requires the need to complete the law.

Keywords: *Green economic development, law, natural resource consumption tax, tax*

1. Introduction

The legal framework of natural resource consumption tax for green economic development is promulgated by the State of the Socialist Republic of Vietnam to regulate the exploitation of natural resources in Vietnam.

The theoretical basis for the promulgation of the legal framework of natural resource consumption tax for green economic development is: Natural resources are owned by the State, most of them are non-renewable, so they need to be exploited and managed reasonably and effectively. When individuals and organizations exploit natural resources, they must pay the owner (the state) a sum of money. The money must pay the state is tax. The more natural resources are exploited, the more depleted resources become, environmental pollution and climate change. The legal framework of natural resource consumption tax for green economic development must be in the context of implementation “National strategy on green growth for the period 2011- 2020 with vision to 2050” in Vietnam”. So, the Socialist Republic of Vietnam must issue a legal framework to regulate the behaviours of individuals and organizations towards green economic development.

Research on the legal framework of natural resource consumption tax for green economic development in Vietnam has attracted attention in recent years. But, researches on the legal framework of natural resource consumption tax for green economic development is is extremely limited.

Thu, N.T.G (4/2009), *Develop the Law on Natural Resource Consumption Tax in Vietnam,* Hanoi Law review of Vietnam No4. The study comments on the contents of the draft the Law on Natural Resource Consumption Tax in 2009 such as: Scope of regulation; taxable object; tax payers; tax-liable price and tax rate. In which, the author points out that new types of resources such as channel are not subject to tax; responsibility must pay natural resource consumption tax if there is a joint venture with foreign countries.

Truong, L.X and Tung, P.T (7/2016), *Complete the legal provisions on natural resources tax to both ensure the target of budget collection and create a favourable environment,* Journal of Finance and Accounting Research of Vietnam No7. This study has given the inconsistencies between the Law on Natural Resource Consumption Tax in 2009 and the legal system of taxation in Vietnam about severance tax-liable price and finalization of natural resource consumption tax.

Thao, L.T and Tuan, N.Q (2011), *Using economic and legal instruments in environmental management and protection,* Journal of Legislative Studies Electronics of Vietnam No9. This study has given solutions for environmental management and protection through the Law on Environmental Protection Tax, the Law on Natural Resource Consumption Tax, and the Law on Enterprise Income Tax v.v.

The above studies have studied natural resource consumption tax in many different aspects. However, none of the above studies have conducted research on the Law on Natural Resource Consumption Tax in relation to green economic development in Vietnam today. In addition, the above studies do not give a legal framework of natural resource consumption tax for green economic development in Vietnam. Therefore, this research of the author has two goals: (1) assessment of the legal framework of natural resource consumption tax for green economic development in Vietnam; (2) recommendations on remedial measures when implementing the legislation of natural resource consumption tax for green economic development in Vietnam.

2. Method

This study must be in the context of implementation “National strategy on green growth for the period 2011- 2020 with vision to 2050” in Vietnam”. The study was conducted as a survey of the Law on Natural Resource Consumption Tax for green economic development in Vietnam. The research objects are the Law on Natural Resource Consumption Tax in 2009, decrees and circulars guiding the Law on Natural Resource Consumption Tax in 2009.

To conduct this research, the author has collected legal documents, including: The Law on Natural Resource Consumption Tax in 2009, decrees and circulars guiding the Law on Natural Resource Consumption Tax in 2009. The methods used in this study are: Desk Research and Theoretical Research. First, the author read documents and study legal theories. After, the author compares with the theoretical basis when building a legal framework of natural resource consumption tax for green economic development in Vietnam, relevant legal theories and practice to find the conflict points. Finally, the author recommends how to resolve those conflicts.

3. Results

"National strategy on green growth for the period 2011- 2020 with vision to 2050" in Vietnam" with three main contents as follows: first, reducing the intensity of greenhouse gas emissions and boosting the use of clean energy, renewable energy; second, production greening; third, greening lifestyle and boosting sustainable consumption. Inside, "Green Economy: It creates and distributes environmentally friendly products and services, renewable energy, transport and clean fuels and green works, reduces energy consumption, raw materials and water through effective strategy of energy and natural resources and switching from carbon components to non-carbon". After using research methods are: Desk Research and Theoretical Research, results show:

3.1. Advantages

First, the legal framework of natural resource consumption tax for green economic development has synced with the legal system in Vietnam.

The State of the Socialist Republic of Vietnam uses legal instrument to regulate economic relations, helping economic relations develop according to its will. After economic relations are regulated by law, these economic relations become legal relations. Objects participating in these legal relations will have objective rights and must perform object obligations. The legal framework of natural resource consumption tax for green economic development promulgated by Socialist Republic of Vietnam to encourage the efficient, economical exploitation and use of natural resources towards a green economy, no-environmental pollution and sustainable development.

The legal framework of natural resource consumption tax for green economic development is fully promulgated, with a transparent and clear legal framework. This legal framework is established by Law No. 45/2009/QH12 of November 25, 2009, on Natural Resource Consumption Tax; Law No. 71/2014/QH13 dated November 26, 2014, amendments to tax Laws; Decree No. 50/2010/ND-CP of May 14, 2010, detailing and guiding a number of articles of the Natural Resource Consumption Tax; Decree No.

12/2015/ND-CP dated February 12, 2015, on elaboration of the Law on amendments to tax Laws and amendments to some articles of decrees on taxations; Circular No. 152 /2015/TT-BTC dated October 02, 2015, guidance on Natural Resource Consumption Tax. This legal framework is consistent with the provisions of the Law on Tax Administration in 2019 regarding on the order and procedures to collect natural resources consumption tax; taxable object; tax exemption; tax reduction is consistent with the Law on Petroleum, the Law on Investment, the Law on Mineral; Taxable price of natural resource is consistent with the Law on Customs. Furthermore, the Article in the Law on Natural Resources Consumption Tax in 2009 is consistent with the legal system of environmental protection, non-renewable resources are object to a higher tax rate than renewable resources. This regulation helps to efficiently, economically exploit natural resources and reduce environmental pollution towards green economic development and sustainable development.

Second, the legal framework of natural resource consumption tax for green economic development has undertaken Vietnam's commitments to the international community about environmental protection direction, green economic development and sustainable development.

The Law on Natural Resource Consumption Tax has prescribed the natural resources in taxable object, including: (1) Metallic minerals; (2) Non-metallic minerals; (3) Crude oil; (4) Natural gas, coal gas; (5) Natural forest products, other than animals; (6) Natural aquatic products, including marine animals and plants; (7) Natural water, including surface water and groundwater; (8) Natural swallow's nests. This action demonstrates Vietnam's commitment to the many international commitments to which it is a member. Normally, for a State party to an international commitment to fulfil the international commitments to which it is a party, that country will “Internalize international treaties”. Internalize international treaties will be done by incorporating such international commitments into the relevant legal frameworks. As such, Vietnam has fulfilled such international commitments by means of regulations or by reference to such international commitments in the Law on Natural Resource Consumption Tax. Up to now, Vietnam has " internalize international treaties" into the Law on Natural Resources Consumption Tax and Decrees and Circulars with the following commitments: Convention on the Law of the Non-navigational Uses of International Watercourses May 21, 1997; Convention on Biological Diversity, May 22, 1992; Convention RAMSAR 1971; v.v.

Third, the legal framework of natural resource consumption tax helps the State of the Socialist Republic of Vietnam to manage and exploit natural resources to develop a green economy.

Legal instrument helps Vietnam to orient economic relations according to its will. Natural resources are owned by the state, so when individuals and organizations exploit natural resources, they must pay to the State. The money must pay the state is tax. In order to collect money from natural resource consumption tax, the state must issue a full, clear and transparent legal framework. The Socialist Republic of Vietnam must issue a legal framework to have three main purposes: first, show state ownership over natural resources; second: the state is the manager of the exploitation of natural resources; Third: through the collection of taxes on the exploitation of natural resources, the State has a direct impact on the behaviour of exploiting natural resources by individuals and organizations. This impact is that individuals and organizations that exploit non-renewable resources will have to pay higher taxes than exploiting renewable resources. Since then, natural resources are exploited efficiently, economically, towards green economic development and sustainable development.

3.2. Problems

First, regulations on taxable object in the Law on Natural Resource Consumption Tax.

In Article 2 of Law on Natural Resource Consumption Tax, Article 2 of Circular No. 152 /2015/TT-BTC, Decree No. 50/2010/ND-CP, taxable objects are: "The items object to natural resource consumption tax prescribed in this Circular are natural resources within the land, islands, internal waters, territorial sea, contiguous zones, exclusive economic zone, and continental shelves under the sovereignty and jurisdiction of Socialist Republic of Vietnam". As such, Vietnam's taxable objects is very wide, including natural resources under Vietnam's sovereignty on land, islands, and sea. In addition, these articles also list the taxable objects such as: Metallic minerals; Non-metallic minerals; Crude oil; Natural gas, coal gas; Natural forest products, other than animals; Natural aquatic products, including marine animals and plants; Natural water, including surface water and groundwater; Natural swallow's nests. However, in the Law on Natural Resource Consumption Tax, Decrees and Circulars guiding the Law on Natural Resource Consumption Tax is not regulated natural resources in the airspace under Vietnam's sovereignty are taxable object; and is not regulated wind energy to be a taxable object. Meanwhile, wind energy is an abundant resource that has been exploited in Vietnam.

Second, regulations on natural resource output used for natural resource consumption tax calculation

Natural resource output used for natural resource consumption tax calculation regulated in Article 5 of the Law on Natural Resource Consumption Tax; Article 5 of Circular No. 152 /2015/TT-BTC; Article 3 of Decree No. 50/2010/ND-CP. Accordingly, natural resource output used for natural resource consumption tax calculation is divided into the following cases: "(1) For an exploited natural resource the quantity, weight or volume of which can be determined, the natural resource output used for royally calculation is the quantity, weight or volume of natural resource actually exploited in a natural resource consumption tax period; (2) For an exploited natural resource the quantity, weight or volume of which cannot be determined because this natural resource contains different substances and impurities, the natural resource output used for natural resource consumption tax calculation shall be determined based on the quantity, weight or volume of each substance obtained from sorting and classification; (3) For natural resources which are not sold but used for turning out other products, if their actually exploited quantity, weight or volume cannot be directly determined, the natural resource output used for natural resource consumption tax calculation shall be determined based on the output of products turned out in a natural resource consumption tax period and the use norm of natural resource per unit of product; (4) For natural water used for hydropower generation, the natural resource output used for natural resource consumption tax calculation is the output of electricity sold by a hydropower generation establishment to an electricity buyer under an electricity purchase and sale contract or the output of delivered electricity, in case such contract is unavailable, which is determined according to the metering system up to Vietnam's measurement and quality standards, certified by the purchaser and seller or the deliverer and recipient; (5) For natural mineral water, natural thermal water and natural water used for industrial purposes, the natural resource output used for natural resource consumption tax calculation shall be determined in cubic meter (m^3) or litre (l) according to the metering system up to Vietnam's measurement and quality standards; (6) For natural resources exploited on a manual, scattered or mobile, irregular basis, if the planned output of exploited natural resources in a year is valued at under VNI) 200 million, a fixed output of exploited natural resources may be determined on a regular or seasonal basis for natural resource consumption tax calculation. Tax offices shall coordinate with local concerned agencies in determining the fixed output of exploited natural resources for natural resource consumption tax calculation".

Whereby, natural resource output used for natural resource consumption tax calculation is based on the declared behaviour of the resource exploiter. Practice has proven that the consequences of self-declaration have led to loss of revenue for the state budget and inefficient exploitation of natural resources. All of this is due to the fact that the output of natural resources exploited is not the output used as a basis for calculating natural resource tax.

Third, regulations on jurisdiction stipulates the types of natural resources that are taxable objects.

In Article 2 of the Law on Natural Resource Consumption Tax, the law prescribed the types of natural resources as object to tax, including: (1) Metallic minerals; (2) Non-metallic minerals; (3) Crude oil; (4) Natural gas, coal gas; (5) Natural forest products, other than animals; (6) Natural aquatic products, including marine animals and plants; (7) Natural water, including surface water and groundwater; (8) Natural swallow's nests. Besides, other resources prescribed by the National Assembly Standing Committee of Vietnam in Clause 9 Article 2 of the Law on Natural Resource Consumption Tax.

According to the regulations on the Constitution in 2013 of the Socialist Republic of Vietnam, the National Assembly of Vietnam is the highest state power body of the Socialist Republic of Vietnam. It shall exercise constitutional and legislative powers. So, it decides on the tax Laws or change or abolish them. Therefore, in Vietnam, only the National Assembly has the authority to decide which natural resources are taxable objects. However, according to the current provisions of the Law on Natural Resource Consumption Tax, the

National Assembly Standing Committee of Vietnam has this authority. This provision is inconsistent with the Constitution in 2013.

4. Discussion and Conclusion

4.1. Discussion

The results of this study show problems that need to be discussed:

First, regulations on taxable objects in the Law on Natural Resource Consumption Tax.

Natural resources are owned by the state. So, the state has right to imposed on the act of natural resource consumption within its territory. In Vietnam, Natural resource consumption tax is a type of tax to imposed on the act of natural resource consumption under the sovereignty of Vietnam. However, up to now, in the Law on Natural Resource Consumption Tax has only regulated natural resources in water and land areas under the sovereignty of Vietnam are taxable objects, but there are no regulations the natural resources in airspace under Vietnam's sovereignty are taxable objects.

According to research by D. Truong - D. Tuan (2009), "Wind energy is an important resource with wind energy with a total capacity of 13,360 MW, 200 times the capacity of Son La Hydropower Plant and 10 times the total forecasted capacity of the whole electricity industry by 2020". So, wind energy should be regulated a taxable object in the Law on Natural Resource Consumption Tax, because of the following two reasons: first, wind energy exploitation will bring the state revenue to support economic development. This activity is consistent with "National strategy on green growth for the period 2011- 2020 with vision to 2050" in Vietnam; second, wind energy is a kind of clean energy, so using them will reduce environmental pollution. Meanwhile, reducing environmental pollution is one of the key tasks in green economic development in Vietnam.

Second, regulations on natural resource output used for natural resource consumption tax calculation.

In the Law on Natural Resource Consumption Tax, tax bases include: natural resource output used for tax calculation, tax-liable price and tax rate. Therefore, the correct determination of natural resource output used for tax calculation will determine the amount of natural resource tax to be paid to the state. However, at present, the method of determining the output for calculation of natural resources tax in the Law on Natural Resources Tax in 2009 is appropriate, because of the following reasons: first, resource operators decide on their own that natural resource output used for tax calculation is not suitable. Because they only choose high-value resources to mine, while other times, to find this resource, they must also exploit low-value resources. This is extremely profitable for them. But as a result, low-value natural resources are left in the mines. This is a waste; The wasteful exploitation of resources is the reason why the state does not collect natural resource exploitation tax from the portion of resources that have been exploited but left in the mines. And as a result, the state budget is reduced because it cannot collect natural resources consumption tax. The above consequences show that it is difficult for Vietnam to achieve the important goals of the “National strategy on green growth for the period 2011- 2020 with vision to 2050” if it does not provide solutions to overcome this problem.

Third, regulations on jurisdiction stipulates the types of natural resources that are taxable objects.

According to the regulations on the Constitution in 2013 of the Socialist Republic of Vietnam, the National Assembly of Vietnam is the highest state power body of the Socialist Republic of Vietnam. It shall exercise constitutional and legislative powers. Therefore, in Vietnam, only the National Assembly has the authority to decide which natural resources are taxable objects. Article 44 of the Law on organization of the National Assembly of Vietnam, “the Standing Committee of the National Assembly shall draft law- and ordinance-making programs and submit them to the National Assembly for decision; direct the implementation of the law- and ordinance-making programs; adjust these programs and report the adjustments to the National Assembly at its next session; set up drafting committees and designate agencies to verify bills and draft ordinances in accordance with law; give comments on bills before they are submitted to the National Assembly; direct the study, assimilation and justification of opinions of National Assembly deputies in order to revise and finalize bills and submit them to the National Assembly for consideration and passage”. Therefore, Standing Committee of the National Assembly has no authority to decide on the tax Laws or change or abolish them. Therefore, the provision in Clause 9 Article 2 of the Law on Natural Resources Consumption Tax is a "constitutional violation". And these provisions will have no legal effect. Therefore, it is necessary to improve this provision.

4.2. Recommendations

First, amendment to the Law on Natural Resource Consumption Tax. Accordingly, to regulation that wind energy is an object to natural resource consumption tax.

This regulation is consistent with current practice in Vietnam and some countries around the world when it is considered that wind energy is an inexhaustible natural resource. And the exploitation of wind energy can bring high economic benefits to Vietnam. In addition, wind energy is clean energy, so consuming this energy will reduce environmental pollution. This is essential for a green economy. It uses clean energy, reduce environmental pollution and develop sustainably.

Besides, the regulation of wind energy as a object of natural resource consumption tax also brings the state an abundant and stable revenue for the state budget. Legally, this regulation also demonstrates the state's right to collect taxes on natural resources in its territory. Moreover, this regulation is the legal basis for wind energy exploiters and users to be economical, efficient and according to the will of the state. However, at the initial stage of applying this new legal regulation, the state needs to stipulate a lower tax rate or apply a tax rate bracket according to the roadmap from low to high. And stipulate a number of other cases when exploiting wind energy is exempted from tax or reduced tax to encourage the exploitation and use of wind energy efficiently and economically.

Second, amendment to the Law on Natural Resource Consumption Tax on natural resource output used for natural resource consumption tax calculation.

In Vietnam, natural resource output used for natural resource consumption tax calculation is based on the declared behaviour of the resource exploiter. Consequences of self-declaration have led to loss of revenue for the state budget and inefficient exploitation of natural resources. So, amendment to the Law on Natural Resource Consumption Tax on natural resource output used for natural resource consumption tax calculation.

Recommendations for this issue are given as follows: Natural resource operators must have a natural resource extraction plan. This plan must clearly show how much potential future production is, how long it will take and what resources will be extracted. Tax authorities will base on this potential catch to temporarily collect tax money. This tax amount will correspond to the potential catch in the natural resource extraction plan. At the end of the year, when finalizing tax, the resource exploiter will provide records and papers to prove that the exploited output is in fact. This mining output is used to compare with the potential yield in the previous resource mining plan. Based on this, the tax authority will decide to collect more tax or refund the tax. This solution will solve two problems: first, avoid loss of tax revenue for the state budget; secondly, it is imperative that natural resource exploiters have a plan to exploit resources efficiently and economically. Only then, "National strategy on green growth for the period 2011- 2020 with vision to 2050" can be implemented in reality.

Third, amendment to the Law on Natural Resource Consumption Tax on jurisdiction stipulates the types of natural resources that are taxable objects

In Article 74 on the Constitution in 2013 of the Socialist Republic of Vietnam, the National Assembly Standing Committee of Vietnam has only the authority to issue ordinances. Ordinance is a legal document with lower validity than law. And, the National Assembly Standing Committee has the power to interpret the Constitution and laws. So, the National Assembly Standing Committee of Vietnam has no authority to change or abolish the law that has been promulgated by the National Assembly of Vietnam. This authority belongs to the National Assembly of Vietnam.

Therefore, it is necessary to change in Clause 9, Article 2 of the Law on Natural Resource Consumption Tax in 2009. Accordingly, the National Assembly of Vietnam must cancel the authority of the National Assembly Standing Committee of Vietnam in Clause 9 Article 2 of the Natural Resource Consumption Tax and give this authority to itself. This solution will solve a very important problem: in accordance with the Constitution in 2013 of the Socialist Republic of Vietnam (The Constitution is the legal document with the highest legal validity in Vietnam. All documents must be complied with. its effect).

4.3. Conclusion

The practice of implementing the 2009 Law on Natural Resources in Vietnam has shown that: First, regulations on taxable object in the Law on Natural Resource Consumption Tax are incomplete; Second, regulations on natural resource output used for natural resource consumption tax calculation are not consistent with the practice of natural resource exploitation in Vietnam. The wasteful exploitation of resources is the reason why the state does not collect natural resource exploitation tax from the portion of resources that have been exploited but left in the mines; Third, regulations on jurisdiction stipulates the types of natural resources that are taxable objects are not consistent with the Constitution. Therefore, in order to achieve the goals set out in "National strategy on green growth for the period 2011- 2020 with vision to 2050", Vietnam needs to: first, regulation that wind energy is an object to natural resource consumption tax; second, amendment to the Law on Natural Resource Consumption Tax on natural resource output used for natural resource consumption tax calculation; third, amendment to the Law on Natural Resource Consumption Tax on jurisdiction stipulates the types of natural resources that are taxable objects.

5. References

1. Thu, N.T.G (4/2009), *Develop the Law on Natural Resource Consumption Tax in Vietnam*. Hanoi Law review of Vietnam No4.

2. D. Truong - D. Tuan (2009), *The National Assembly discusses in the project team the Law on Natural Resources Tax,* http://cand.com.vn/Xa-hoi/Quoc-hoi-thao-luan-o-to-du-an-Luat-thue-tai-nguyen-83099/

3. The National Assembly of Vietnam (2009), the Law on Natural Resource Consumption Tax.

4. The Government of Vietnam (2010), Decree No. 50/2010/ND-CP of May 14, 2010, detailing and guiding a number of articles of the Natural Resource Consumption Tax

5. Thao, L.T and Tuan, N.Q (2011), *Using economic and legal instruments in environmental management and protection*, Journal of Legislative Studies Electronics of Vietnam No9.

6. Prime Minister of Vietnam (2012), Decision No. 1393/QD-TTg dated September 25, 2012, National strategy on green growth for the period 2011- 2020 with vision to 2050.

7. The National Assembly of Vietnam (2013), The Constitution.

8. The Ministry of Finance of Vietnam (2015), Circular No. 152 /2015/TT-BTC dated October 02, 2015, guidance on Natural Resource Consumption Tax.

9. Truong, L.X and Tung, P.T (7/2016), *Complete the legal provisions on natural resources tax to both ensure the target of budget collection and create a favourable environment*, Journal of Finance and Accounting Research of Vietnam No7.

IMPACTS OF CLIMATE VARIABILITY ON LIVELIHOOD ACTIVITIES OF VIETNAM COASTAL FISHERS COMMUNITY TODAY*

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Abstract

Currently, climate variability is taking place on a global scale and has profound impacts on human life. Vietnam is considered as one of the countries most affected by climate change, especially for the livelihoods of fishing communities in coastal areas. The main content of the article clarifies the concept of climate change, the manifestations of climate change, on that basis, analyzes the impacts of climate change on the livelihoods of fishermen in coastal fishing community in Vietnam today in aquaculture, exploitation and supply of fisheries products.

Keywords: *Climate variability; livelihoods; coastal fisher.*

1. Introduction

Climate variability is a global issue, posing many challenges to countries, especially developing countries like Vietnam. According to international organizations, Vietnam is one of the countries heavily affected by climate variability. This has had a great impact on the livelihoods of people, especially fishermen in coastal areas. Climate variability causes floods, sea level rise, saltwater intrusion..., has seriously affected the livelihoods of coastal fishermen in aquaculture, exploitation and provision of aquatic services. Therefore, research on climate variability and its impact on the livelihoods of coastal fishing communities is an urgent issue today.

2. Method

On the basis of using methods of analysis, synthesis, systematization and generalization of relevant documents on climate variability, livelihoods, coastal fishing communities combined with actual surveys, sociological investigations in some coastal localities. The article clarifies the concept of climate variability, its manifestations and its

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causes; explain the impact of climate variability on the livelihood activities of coastal fishing communities in Vietnam today in three aspects: aquaculture, exploitation and provision of fisheries services.

3. Results

3.1. The concept of climate variability

The term climate variability first appeared in the United States in 1968, referred to in a report by the Stanford Research Institute, USA (SRI) titled "Resources, Redundancy and Fate of gases that pollute the environment" to the American Petroleum Institute (API), a trade organization involved in the fossil energy industry. The report was assessed by scientists from the Center for International Environmental Law as the first alarm to alert the world about the harmful effects of excessive CO2 in the air. In the study, scientists from Stanford University said that if the amount of CO2 is not controlled, it will cause "climate variability " through specific manifestations such as increasing temperatures, melting ice at the poles and rising sea levels.

Following the phrase "climate variability " in 1968, the world appeared the term "global warming". "Global warming" was first used in a scientific journal by geochemist Wallace Broecker from the Lamont-Doherty Geological Observatory at Columbia University, USA. This article is titled "Climate variability: Are we on the brink of a climate variability?".

In 1988, the famous NASA scientist - James Hansen convinced the US Congress that climate variability had begun despite the suspicions of many other scientists. Hansen said that Earth's temperature in the first five months of 1988 was the warmest in 130 years since scientists started recording annual temperatures. Hansen asserts with 99% certainty that the cause of climate variability is not natural but man-made. Since then, the world has begun to pay more attention to climate variability.

Some achievements to date can be mentioned such as the Kyoto Protocol signed in 1997 and came into effect in 2005 and later the Paris Agreement within the framework of the United Nations Framework Convention on Climate Change (UNFCCC) governs CO2 reduction measures from 2020.

Currently, the concept of climate change has many different views:

According to the definition of the United Nations Framework Convention (UNFCCC): Climate change is a change in climate, which is directly or indirectly caused by human activities that change the composition of the atmosphere, and contribute further to the observed natural climate variability over comparable time periods.

According to researchers from the Vietnam Administration of Seas and Islands: Climate variability is a change of weather that normally occurs in a certain place. It can be the variation in rainfall in a year, or it can be the variation in temperature in a month or in a season. Climate variability is also a change in the earth's climate. It could be a variation of the usual temperature of the earth. Or it could be the variation of rain and snowfall on the earth [5].

Climate variability is a change in climate and related components including the oceans, land, Earth's surface, and the cryosphere, such as increasing temperatures, melting ice, and rising sea levels. Previously, climate change occurred over a long period of time due to the impact of natural conditions, however, recently, climate change occurs due to the impact of human activities such as the use of natural resources. use fossil fuels in transportation and industrial production, emit greenhouse gases (eg CO2) [6].

Climate variability is changes in the physical or biological environment that cause significant adverse effects on the composition, resilience or reproduction of natural ecosystems or on the functioning of natural ecosystems. socio-economic system or to human health and welfare [7].

Climate variability is adverse changes in natural physical or biological environments that have harmful effects on the living things on earth with specific and direct effects on weather, all The manifestation of the weather becoming more severe is due to the adverse effects of the climate. As a result, the climate situation also develops in a more extreme direction, and at the same time brings about bad manifestations that the whole world is facing such as floods, natural disasters, tsunamis or heat and drought.... [8].

3.2. Manifestations of climate variability and its causes.

3.2.1. Manifestations of climate variability

- The greenhouse effect and global warming.

The greenhouse effect is the effect that makes the earth's atmosphere warm because the shortwave radiation of the Sun can penetrate the atmosphere and reach the ground; The absorption ground heats up, creating long wave radiation into the atmosphere for CO2 to absorb, making the air warmer. The CO2 in the atmosphere is like a thick layer of glass covering the Earth, making the earth no different from a large greenhouse. According to calculations, without the atmosphere, the average temperature at the earth's surface layer would drop to -23 degrees Celsius, but the actual average temperature is 15 degrees Celsius, which means that the greenhouse effect has made for the earth to warm up to 38 degrees Celsius. In addition to CO2, there are also methane, ozone, halogens and water vapour, which also have an important effect on the greenhouse effect. Along with population and industrial development at an increasing rate, CO2 emissions into the atmosphere also increase. The forest is over-cut, CO2 should be absorbed by the forest, but the forest area is cut down, so the amount of CO2 is increasing, the greenhouse effect is increasing continuously. According to analysis in the past 200 years, the concentration of CO2 has increased by 25%, the average temperature of the Earth has increased by 0.5 degrees Celsius. It is estimated that by the middle of the next century, the Earth's surface will be hotter by 1.5 more. - 4.5 degrees Celsius; in which the temperature in middle and high latitudes increases more and more [9].

According to the 2nd National Notice of the Ministry of Natural Resources and Environment: From 1958 to 2007, the average annual temperature in Vietnam increased by about 0.5 - 0.7 degrees Celsius. Winter temperatures increased. faster than summer temperatures, and temperatures in the northern regions rise faster than those in the south. Specifically, in 2007, the average annual temperature in Hanoi, Ho Chi Minh City and Da Nang was 0.8 - 1.3 degrees Celsius higher than the average of the decade 1931-1940; higher than the decade 1990 - 2000 is 0.4-0.5 degrees Celsius [10].

- Increasing temperature, hot weather, and drought appear more.

According to experts, the recent warming phenomenon in many parts of the world is the result of huge hot air masses "swirling" around the northern half of the planet, leading to the phenomenon of heat, heat, and heat. growth in the Americas, Europe and Asia.

In Vietnam, according to hydrometeorological experts, the ongoing heat wave has caused temperatures in some areas to exceed the highest levels in history (in 2019). According to statistics from meteorological and hydrological centers across the country, the hottest area is the North Central region with a temperature of up to 43 degrees Celsius (previously, the highest temperature in this locality at the same time was also the highest in the central region). only reach 41 to 42 degrees Celsius). Even an area with a cool climate like the Northwest also recorded a record temperature increase of 40 to 43 degrees Celsius [11].

- Sea level rise.

A worrying manifestation of climate change is that sea level rise has been causing widespread flooding, salinization of water sources, great impacts on agricultural production, and risks to industry and ecosystems. future socio-economic system. Observational data at Vietnam's coastal hydrographic stations show that the current average sea level rise rate is 3mm/year, equivalent to the average growth rate in the world. Over the past 50 years, sea level at Hon Dau Hai Van Station has increased by about 20cm [10]. Global climate change is causing global warming every day, resulting in countless consequences such as melting ice, rising sea levels... Only in the past decade, the rate of increase has increased. of sea level has almost tripled over the last century.

According to United Nations statistics, due to the direct impact of climate *variability*, sea level in the global ocean has increased by 15-20cm since 1900 [12]. Until recently, sea level rise was due to increased water volume due to higher temperatures. Today, the phenomenon of melting glaciers, especially the ice sheets at the top of Greenland in the North Atlantic and Antarctica, have become the main cause of rapid sea level rise.

Around the world, many countries have had to warn about sea level rise or people have to evacuate because sea water has submerged coastal areas. In Vietnam, according to 2018 data, if the sea level rises 1m, there will be about 40% of the Mekong Delta area, about 10-12% of Vietnam's population will be directly affected, and about 10 % GDP. Recently, forecasts have also confirmed that our country's sea level may increase by 33.3cm in 2050 and 45cm in 2070, about 1m in 2100 [13]. If this scenario plays out, many coastal land areas and low-lying areas will be submerged. Some areas will even be permanently flooded.

Sea level rise not only shrinks the land area, but also salinizes some freshwater sources, adversely affecting agricultural production, threatening people's lives. The most affected area is the Mekong Delta. Accordingly, it is forecasted that by 2030, about 45% of this area will be locally saline and cause heavy damage to the crop industry (about 17 billion USD) as well as the water supply system in the low-lying areas of the South [12].

- The phenomenon of saline intrusion.

The most obvious impact of climate variability is to greatly change the flow regime on most rivers and streams, causing many rivers and streams to have their flow severely reduced, in many places to reach record lows and increase increasing the situation of floods, pipe floods, flash floods, riverbank and stream erosion in many localities across the country. Its consequences are leading to drought, water shortage, saltwater intrusion, especially lack of clean water for people's living purposes in many localities as we have seen in recent times.

- Present flash floods and landslides.

Flash floods and landslides are clearly seen in the mountainous terrain of Vietnam. Climate change is likely to make natural disasters more severe and potentially catastrophic, posing great risks to economic and social development or erasing many years of development gains. The regions and areas that are expected to be most affected by negative climate phenomena are the Central Coast, the Northern and North Central Highlands, the Northern Delta and the Mekong River Delta.

According to the Central Hydro-meteorological Forecasting Center, the main impacts of climate change on the factors causing floods, flash floods and landslides are very large; it changes precipitation in the seasonal, spatial distribution; increase the intensity of rain in most situations of floods, flash floods, landslides; increased evaporation and decreased soil moisture. In addition, it causes changes in the vegetation cover due to changes in temperature and precipitation; increased inundation and loss of coastal wetlands due to sea level rise.

According to climate change scenarios, for the Northern mountainous region, the impact of climate change will cause summer rainfall to increase, spring rainfall to decrease; The rainy season as well as the dry season becomes more irregular: starting and ending can be too early or too late, rain is more intense in the peak months of the rainy season and drier in the last months of the season. dried.

In particular, in recent years, flash floods and landslides with unexpected, fast, and devastating characteristics often occur in small and medium-sized basins in the high mountains of the North, Central and West regions. Original. According to experts, flash floods and landslides are increasing in frequency and intensity.

Flash floods and landslides occur in river basins of the Northern and North Central mountainous regions with favorable features for formation: Dissected topography, large slopes of basins and streams, and high degree of elevation. The stability of the topsoil is weak due to strong weathering and the climate seasons of the year are sharply contrasted, the vegetation cover is strongly destroyed, and water concentrates rapidly when there is heavy rain.

3.2.2. Causes of climate variability.

There are many reasons leading to climate variability, but basically it can be reduced to the following two causes:

- Objective causes (due to natural variations), including: changes in solar activity, changes in the earth's orbit, changes in the position and size of the continents, the changes in ocean currents, and circulation within the atmospheric system.

Natural causes of climate variability include changes in the intensity of the sun's brightness, the appearance of sunspots (Sunspots), volcanic activity, ocean changes, and changes in the Earth's orbit.

The change in the intensity of the sun's light causes the energy reaching the ground to change, thereby changing the temperature of the earth's surface. Specifically, since the formation of the Sun until now, nearly 4.5 billion years the intensity of the Sun's brightness has increased by more than 30%. Thus, it can be seen that for such a long time, the change in sunlight intensity does not significantly affect climate change.

Volcanic eruption - When a volcano erupts, it releases into the atmosphere an extremely large amount of sulfur dioxide (SO2), water vapor, dust, and ash into the atmosphere. Large volumes of gas and ash can affect the climate for many years. Small particles called aerosols are ejected by volcanoes, aerosols reflect solar radiation (energy) back into space so they have the effect of reducing the temperature of the earth's surface layer.

Oceans Today - The oceans are a major component of the climate system. Ocean currents move large amounts of heat across the planet. Changes in ocean circulation can affect climate through the movement of CO_2 into the atmosphere.

Change the orbit of the earth - the earth revolves around the sun with one orbit. The axis of rotation has an inclination angle of 23.5°. Changing the tilt of the Earth's orbit can lead to small changes. The rate of change is extremely small, can take into account the time of billions of years, so it can be said that it does not have a big impact on climate change.

It can be seen that the causes of climate change due to natural factors contribute a very small part to climate change and are cyclical from the past to the present. According to research results and published from the Intergovernmental Panel on Climate Change, the cause of climate variability is mainly due to human activities. Invite readers to follow the next article on the causes of climate variability due to human activities.

- Subjective causes (due to human impacts) stem from the change in land and water use purposes and the increase in emissions of CO_2 and other greenhouse gases from human activities.

Thus, climate change is not only a consequence of the greenhouse effect (warming of the earth) but also of many other causes. However, there is a lot of scientific evidence to show that there is a relationship between the increase in earth's temperature and the increase in the concentration of CO_2 and other greenhouse gases in the atmosphere, especially in the industrial era. . During the nearly 1 million years before the industrial revolution, the concentration of CO_2 in the atmosphere ranged from 170 to 280 parts per million (ppm). It is now much higher at 387 ppm and will continue to grow at an even faster rate. Therefore, an increase in the concentration of CO_2 in the atmosphere will cause the earth's temperature to increase and the cause of climate change is because the earth cannot absorb all the CO_2 and other gases, causes the greenhouse effect and other effects due to an excess of gases in the atmosphere.

Since pre-industrial times (circa 1750), humans have used more and more energy, mainly from fossil fuel sources (coal, oil, gas), which have been released into the atmosphere. increasing greenhouse gases of the atmosphere, leading to an increase in the temperature of the earth.

Atmospheric CO_2 data determined from ice cores drilled in Greenland and Antarctica show that, during glacial and thaw cycles (about 18,000 years ago), CO_2 levels in the atmosphere the atmosphere is only about 180 -200ppm (parts per million), which is only about 70% of the pre-industrial period (280ppm). From around 1,800, the CO_2 content started to increase, surpassing 300ppm and reaching 379ppm in 2005, which is about 31% increase over pre-industrial times, outstripping natural CO_2 levels by about 650 thousand past year.

Concentrations of other greenhouse gases such as methane (CH_4), nitrous oxide (N_2O) also increased from 715ppb (parts per billion) and 270ppb in pre-industrial times to 1774ppb (151%) and 319ppb (17%). 2005. Particularly, chlorofluorocarbons (CFCs) are both a greenhouse gas with a global warming potential many times greater than CO_2, as well as a stratospheric ozone-depleting substance, which has only been found in the atmosphere produced by humans since the development of refrigeration and cosmetics industries.

The scientific assessment of the Intergovernmental Panel on Climate Change (IPCC) shows that the energy consumption due to burning fossil fuels in energy production, industry, transportation, construction... contributes about approx. half (46%) to global warming, tropical deforestation contributes about 18%, agricultural production about 9% chemical manufacturing industries (CFC, HCFC) about 24%, the rest (3%) is from other operations.

Between 1840 and 2004, the total CO_2 emissions of rich countries accounted for 70% of total global CO_2 emissions, of which the United States and Great Britain emitted an average of 1,100 tons per person, about 17 times more than in China and 48 times in India.

In 2004 alone, US CO_2 emissions were 6 billion tons, about 20% of total global CO_2 emissions. China is the second largest emitter with 5 billion tons of CO_2, followed by Russia 1.5 billion tons, India 1.3 billion tons, Japan 1.2 billion tons, Germany 800 million tons, Canada 600 million tons, UK 580 million tons. Developing countries emit a total of 12 billion tons of CO_2, accounting for 42% of total global emissions compared to 7 billion tons in 1990 (29% of total global emissions), which shows the rate of emissions. The CO_2 emissions of these countries have increased quite rapidly over the past 15 years. Some developed countries rely on it to require developing countries to also commit under the Climate Change Convention.

In 1990, Vietnam emitted 21.4 million tons of CO_2. In 2004, emissions of 98.6 million tons of CO_2, an increase of nearly 5 times, per capita 1.2 tons/year (world average is 4.5 tons/year, Singapore 12.4 tons, Malaysia 7). 5 tons, Thailand 4.2 tons, China 3.8 tons, Indonesia 1.7 tons, Philippines 1.0 tons, Myanmar 0.2 tons, Laos 0.2 tons).

Thus, Vietnam's CO_2 emissions have increased quite rapidly over the past 15 years, but are still low compared to the global average and many countries in the region. It is estimated that Vietnam's total greenhouse gas emissions will reach 233.3 million tons of CO_2 equivalent in 2020, an increase of 93% compared to 1998 [14].

However, it is worth noting that, while rich countries account for only 15% of the world's population, their total emissions account for 45% of total global emissions; African and sub-Saharan countries with 11% of the world's population emit only 2%, and the least developed countries with a third of the world's population emit only 7% of total global emissions. That is what developing countries raised about equality and human rights at the negotiations on the Climate Convention and the Kyoto Protocol.

Therefore, a fundamental principle, first enshrined in the United Nations Framework Convention on Climate Change, is: Parties must protect the climate system for the benefit of present and future generations of mankind, on the basis of equity, in accordance with common responsibilities, developed countries must take the lead in combating climate change and its harmful effects.

3.3. Impact of climate variability on livelihoods of coastal fishing communities

Livelihood is the activity of making a living of people through the use of resources (human, natural, material, financial, social...) managed by organizations, institutions, and policies [4].

Vietnam currently has about 480,000 people directly involved in fishing; 100,000 people work in the seafood processing industry and about 2,140,000 people are engaged in fisheries services [15]. Fishery livelihoods, including fishing and aquaculture, which depend on water availability and the abundance of coastal resources, should be among the most sensitive and vulnerable to impact of CC. The survey results of the Ministry of labour, Invalids and Social Affairs in 2011 showed that the surveyed localities had a high percentage of workers working in the aquaculture sector, the number ranging from over 50 % to 90% of the workforce. Due to limited investment capital and knowledge/technique, people's aquaculture activities are almost dependent on the natural environment, weather, etc. Losses in aquaculture tend to increase increase in recent years due to the influence of sea level rise, drought, saline intrusion, unseasonal rains and floods, changes in water environment. The loss of aquaculture production in some provinces, such as Bac Lieu, Ben Tre, Ca Mau, etc. has increased by 30-40%/year.

Climate variability has negatively impacted the livelihoods of coastal fishermen in our country in the following ways:

Firstly, the impact of climate change on livelihood activities of coastal fishing communities in aquaculture.

Climate variability causes sea water temperature to increase, which is detrimental to the habitat of some aquatic products; The faster process of mineralization and decomposition affects the organism's food source, making it more expendable in respiration and other activities. The oxygen content in the water decreases rapidly, slowing the growth of aquatic products, creating unfavorable conditions for aquatic organisms that have adapted to the aquatic environment so far, reducing the amount of food for fisheries species.

Climate variability causes changes in the position and intensity of tidal currents and upwelling areas and increases the frequency and intensity of storms and small vortices. The changing hydrological and hydrological conditions have affected the quality of life and the growth rate of aquatic resources. Inundation due to sea level rise will lead to loss of arable land for agriculture. If sea level rises by 1m, it is estimated that about 40% of the Mekong Delta and 3% of other coastal provinces will be inundated [16]. Flooding will cause loss of arable land in coastal agricultural and fisheries areas of Vietnam, especially in the Mekong Delta and Central Coast. On a national scale, Vietnam will lose more than 2 million hectares of agricultural land (about 50%) if the sea level rises by 1m.

Due to limited investment capital and knowledge and technology, people's aquaculture activities are almost dependent on the natural environment, weather, etc. Damages in aquaculture tend to increase increased in recent years due to the influence of sea level rise, drought, saline intrusion, unseasonal rains and floods, changes in water environment. Losses in aquaculture production have increased markedly in recent years.

Second, the impact of climate variability on livelihood activities of coastal fishing communities in fishing.

Climate variability not only negatively affects aquaculture activities in terms of both scale and output, but also negatively impacts fishing activities. Climate variability with the erratic changes of weather at sea (heavy rain, big storms, rising sea level...) has caused many difficulties and dangers for fishermen's ships going out to sea to exploit fishery products. In addition, the time to sail for fishermen is longer and farther from the shore due to the reduction of fishery output, which has a significant impact on human costs and costs incurred in the fishing process of fishermen, affecting the lives and livelihoods of fishermen. In general, climate change tends to change the habitats of aquatic species, leading to changes in the stock of aquatic species due to migration or deterioration of habitat quality; thereby narrowing the fishing ground, catch and aquaculture output.

Third, the impact of climate variability on livelihood activities of coastal fishing communities in the provision of aquatic services.

Aquaculture - exploitation - services in aquaculture are three closely linked stages. Therefore, the negative impacts of climate change on aquaculture and fishing activities have also negatively impacted on aquaculture service provision.

Climate variability also has a direct impact on the activities of aquaculture, because the complicated and erratic changes of the weather have made transportation services from the place of exploitation to the place of processing and consumption meet. many difficulties, especially in the cross-regional and cross-border supply services facing many interruptions. This not only affects the quality of the product, but also the economic efficiency of the product, because the additional costs from providing services increase, but sometimes the product price decreases due to disadvantages of climate variability.

In addition, due to climate change leading to more and more negative weather phenomena (rainstorms, floods, droughts...) Service equipment is increasing, the cost of repairing, maintaining and rebuilding wharves, fishing ports, ships... has greatly affected the livelihoods of fishermen.

4. Conclusion

Currently, climate variability has been causing the greenhouse effect and global warming; temperature increases, heat and drought appear more; sea level rise; saltwater intrusion; flash floods and landslides are becoming more and more complicated. This has had a negative impact on people's livelihood activities, especially on the livelihoods of coastal fishing communities in aquaculture, exploitation and provision of aquatic services. This is a hindrance and a big problem in achieving the goal of stabilizing and improving the lives of fishermen in coastal areas. Faced with that reality, it is required that the Party, State and authorities at grassroots levels have quick response measures in order to minimize negative impacts and adapt to climate variability, and improve the quality of life. life for fishermen in coastal areas.

5. References

1. Ministry of Natural Resources and Environment (2008), National Target Program to Respond to Climate variability - implementing Resolution No. 60/2007/NQ-CP dated December 3, 2007 of the Government.
2. Tran Tho Dat and Vu Thi Hoai Thu (2012), Climate variability and coastal livelihoods, Hanoi Transport Publishing House, Hanoi.
3. Tran Tho Dat (2012), “Sustainable Livelihoods and Climate Variability Adaptation for Coastal Regions of Vietnam”, Journal of Economic and Development, No. 10, Hanoi.
4. Hoang Phan Hai Yen (2018), Resources and livelihood status of female workers in the coastal areas of Nghe An province, Journal of Scientific, Vol. 47, No. 2B, Vinh University, p.61-68.
5. http://www.vasi.gov.vn/khoa-hoc-cong-nghe/bien-doi-khi-hau-la-gi/t708/c304/i419
6. https://vietnam.opendevelopmentmekong.net/en/topics/climate-change/
7. https://www.quangnam.gov.vn/CMSPages/BaiViet/Default.aspx?IDBaiViet=25409
8. https://khbvptr.vn/bien-doi-khi-hau-la-gi/, vol.1, Hanoi.
9. https://khoahoc.tv/hieu-ung-nha-kinh-5383
10. http://www.quangnam.gov.vn/CMSPages/BaiViet/Default.aspx?IDBaiViet=27873
11. https://www.michaelmossbooks.com/tai-sao-nang-nong-keo-dai-o-viet-nam
12. https://kinhtemoitruong.vn/nuoc-bien-dang-he-luy-cua-bien-doi-khi-hau-9625.html

13. https://thanhnien.vn/doi-song/neu-nuoc-bien-dang-cao-1-m-khoang-40-dong-bang-song-cuu-long-bi-ngap-50974.html

14. http://redsvn.net/trach-nhiem-cua-con-nguoi-voi-tinh-trang-bien-doi-khi-hau2/

15. http://tapchitaichinh.vn/nghien-cuu-trao-doi/nghien-cuu-anh-huong-cua-bien-doi-khi-hau-toi-kinh-te-nong-nghiep-viet-nam-313379.html

16. https://thanhnien.vn/doi-song/neu-nuoc-bien-dang-cao-1-m-khoang-40-dong-bang-song-cuu-long-bi-ngap-50974.html

ECONOMIC ANALYSIS OF CLIMATE PROOFING MEASURES FOR INFRASTRUCTURES: PRELIMINARY RESULTS FROM A CASE STUDY OF CAI LON - CAI BE SLUICE GATES IN VIETNAM

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Abstract

In Vietnam's Mekong Delta, drought and salinity intrusion are among the dominant natural disasters that have a significant impact on the whole region. Cai Lon - Cai Be sluice gate system is being constructed to regulate water resources with the aim of creating stable and sustainable production conditions for agricultural land; proactively responding to climate change, sea level rise, and reducing damages caused by drought and salinity in the dry season to benefit the Ca Mau peninsula with the agricultural area of nearly 350,000 ha. However, the sluice gates can also be exposed to the climate risks which may negatively affect the functions and operation of the infrastructure. Climate proofing measures are necessary to protect the sluice gates from failure due to extreme climatic events. The application of proofing measures requires higher investment and operational cost while the benefit is in question. This paper presents preliminary results of a cost - benefit analysis of applying two climate proofing measures, which are (1) upgrading concrete for pillars and ship locks, and (2) using epoxy coating for the sluice gates. The costs of applying climate proofing measures are the increments in investment and operational costs. The investor's benefits are less repairing cost and less maintenance costs for pillars, ship locks and the *sluice gates. The social benefits also are estimated to include the avoided damages of agricultural households in the area. Using the social discount rate, the net present value (NPV) estimated for two measures are all positive. The results of benefit/cost ratio (BCR) indicate that every dollar spent on the first measure would bring benefit of 17 dollars, and each dollar spent on the second measure would result in 32.5 dollars benefit to the whole society. The results show that the two climate proofing measures for Cai Lon – Cai Be Sluice Gates are very economically efficient.*

Keywords: *cost - benefit analysis, climate proofing, Mekong Delta.*

1. Introduction

Cai Lon – Cai Be (CL-CB) Sluice Gates project is the largest sluice system being conducted in the Mekong Delta of Vietnam, with the estimated cost of VND3.3 trillion (equivalent to US$142 million) (Government of Vietnam, 2017). The main functions of the infrastructure include regulating water sources (e.g. sea water, brackish water, and fresh water), creating stable and sustainable production conditions for production models (fresh, salty - brackish, fresh - brackish alternately) for the beneficiary area with the natural area of 384,120 ha, of which land for agricultural and fishery production is 346,241 ha; combining with the west sea dyke to form a cluster of works proactively responding to climate change, sea level rise and natural disaster prevention; reducing inundation in lowlands in flood season; reducing the damage of drought and salinity intrusion in the dry season for regional production models; and supplying fresh water for domestic use and agricultural production.

However, the Mekong Delta of Vietnam is one of the world's river deltas, most vulnerable to climate change (IPCC, 2007; World Bank, 2011). With the unpredictability of climate change and its impacts, there is worrying that infrastructure projects, such as the CL-CB sluice gate project, might not hold up to its designed function for the lifespan of 100 years. Thus, the United Nations (UN) set Sustainable Development Goal (SDG) 9 to "build resilient infrastructure, promote sustainable industrialization and foster innovation". Many countries, including Vietnam, have committed to achieving this goal and have identified this in their Nationally Determined Contributions (NDCs). To address this objective, it is necessary to assess climate risks on infrastructures and (Comprehensive Climate Risk Assessment13) and analyse cost – benefit of climate proofing measures, as well as mainstreaming these tools into investment planning processes, to secure a resilient future for the country's infrastructures. While CCRAs examine the main climate and hydrological thresholds, probabilities and severity of impacts

[13] The CCRA has been based on the Canadian PIEVC protocol to assess existing and newly planned physical infrastructure in a 5 step process which can be added by a so-called triple-bottom analysis to not only assess current and future risks in relation to climate change, but to provide adaptation options. For further information refer to www.pievc.ca

posing on components of infrastructures and recommend concrete improvements to make the infrastructure more resilient towards climate change and climate variability, an economic analysis helps to ensure the best possible use and allocation of society's limited resources, a concept referred to as economic efficiency.

A climate risk assessment has been conducted for the planning phase of the CL-CB sluice gates since 2018/19 (GIZ, 2019). The CCRA results indicate that the sluice gates will be exposed to the climate parameters such as high temperature, heat wave, heavy rain, tropical storms, drought, high wind, tornadoes, and thunderstorm/lightning. High water level, salinity combined with high temperature and high-water level combined with heavy rain would affect the lifetime and the operation of the structures.

Given the role of the CL-CB Sluice Gates project, it is important to ensure that it operates stably throughout the infrastructure's life cycle against climate impacts. Measures to improve the project's resilience to climate change impacts have been recommended by CCRA, but the question is with limited resources, which measures should be applied from the society's point of view. This study was conducted to perform an economic analysis of CL-CB Sluice Gates climate proofing measures to provide information to decision makers. The analysis provides a means to identify, quantify, and wherever possible value all impacts of each option, including private impacts, which are the cost/benefits of the investor and its social impacts where relevant. The outcome of the analysis will shed light on the economic efficiency of the approved climate proofing measures in Cai Lon – Cai Be Sluice Gates Project.

The detailed objectives of this study are as follows:

1. To review the climate risk of CL-CB Sluice Gates based on Climate Risk Assessment report and the recommended climate proofing measures;
2. To identify and quantify the social cost and benefit of the recommended climate proofing measures for CL-CB sluice gate; and
3. To assess if these climate-proofing measures are socially efficient and make recommendations for the authorities.

2. Method

2.1. Study site

The scope of this study is the area of CL-CB sluice gate project, including the Cai Lon sluice, Cai Be sluice and the dike connecting the sluices to the National Highway 61 and the National Highway 63. The study area is within the Cai San canal in the North – West, Quan Lo – Phung Hiep canal in the South – East, the Hau River (the Bassac River) in the North – East and the West Sea in the West. The total area is 909,248 ha, spreading over 32 districts/cities of 6 provinces of the Mekong Delta of including: Bac Lieu, Ca Mau, Kien Giang, Hau Giang, Soc Trang and Can Tho City.

2.2. Theoretical framework

The climate proofing of infrastructure can be conceptualized from an economics standpoint as insurance against the adverse impacts of climate change (Kotchen, 2011). Determining the right amount of climate proofing requires consideration of both the costs and benefits. Based on Kotchen (2011)'s ideas, the following paragraphs present models of the costs and benefits of climate proofing measures.

- *The costs of climate proofing measure*

Climate proofing measures designed for infrastructure projects (e.g. roads, bridges, etc.) seek to reduce the vulnerability of the investments to changes in climatic conditions (e.g. increased rainfall, high-speed winds, flooding, etc.). In principle, the effectiveness of an infrastructure project can be in the range between 0 and 100 %, where 100 % means that with certainty floods or winds will not damage or destroy the infrastructure. Climate forecasts, as well as input from engineers, can be used to determine such effectiveness and the specifications need. Market valuation can be used to evaluate the direct costs of climate proofing based on the additional costs necessary to increase effectiveness.

- *The benefits of climate proofing measures*

The benefits of climate proofing measures are avoided damages to the property (e.g. structural or operational failures of infrastructures), forgone economic activity as a result of damages (e.g. electrical outages, failed bridges), effects on health and human life, and impacts on environmental services (e.g. erosion, loss of natural capacity to protect from future climate risk). Typically, these benefits are not straightforward to monetize because they are not observable through market transactions and do not have prices. Quantification of them, therefore, usually requires some form of nonmarket valuation.

The benefit and cost of implementing each measure should be adjusted with the time value for money. The introduction of time increases the complexity of the analysis because the monetary value of costs or benefits at some point in the future is not directly comparable to the same monetary value of costs or benefits today mainly due to market changes, individual preferences and inflation. Comparison of measures over time is hence achieved by discounting costs and benefits in each future time period and summing them to arrive at their net present value. The net present value is calculated in the following formula:

$$NPV = \sum_{t=0}^{n} \frac{B_t - C_t}{(1+r)^t}$$

In which, NPV is net present value;

B_t: total social benefit in the year t;

C_t : total social cost in the year t;

r: social discount rate; and

n: project lifespan.

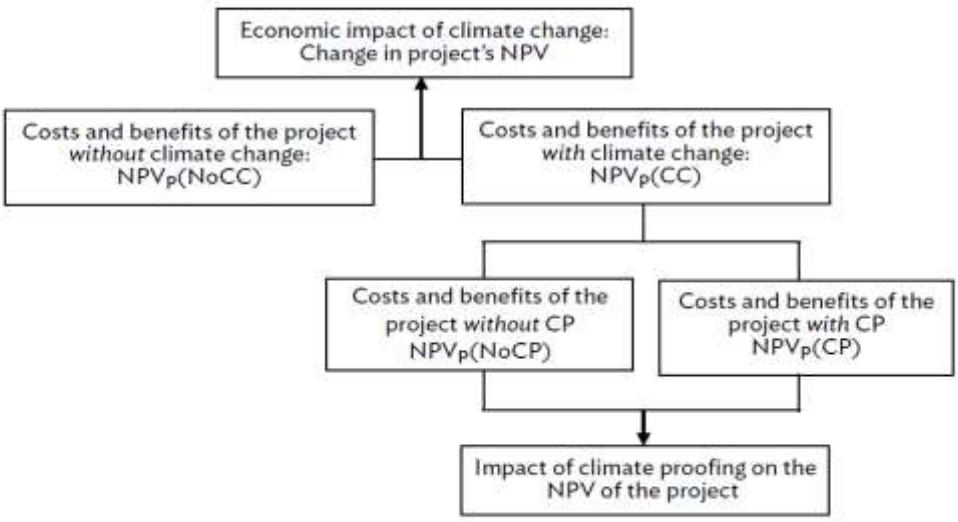
Subject to budget constraints and other considerations, and assuming that there are no alternative measures under consideration, a measure may be accepted if the sum of its discounted benefits exceeds the sum of its discounted costs; that is, where its net present value exceeds zero. Where mutually exclusive measures are under consideration (that is, where projects offer alternative solutions to a single problem), the measures which maximises net present value should be selected.

Another criterion used in CBA is the benefit/cost ratio (BCR). A benefit-cost ratio (BCR) is a ratio used in a cost-benefit analysis to summarize the overall relationship between the relative costs and benefits of a proposed measure. BCR can be expressed in monetary or qualitative terms. If a measure has a BCR greater than 1.0, it is expected to deliver a positive net present value. The formula for BCR is:

$$BCR = \frac{\sum_{t=0}^{n} B_t}{\sum_{t=0}^{n} C_t}$$

According to ADB (2015), a key objective of a cost–benefit analysis is to estimate the net benefits of climate-proofing measures. At the project level, it is important to distinguish between (i) the costs of climate change and (ii) the benefits of climate proofing. As illustrated in Figure 1, given a scenario with climate change, the impact of climate proofing is estimated as the difference between the Net Present Value (NPV) of the project without climate proofing measures (noted NPV_P(NoCP) - where CP stands for climate proofing measures) and the NPV of the project with climate proofing (NPV_P[CP]) - where NPV_P(CP) includes the cost of climate proofing measures.

Figure 5. Impact of Climate Change and of Climate Proofing measures



Source: ADB (2015)

A key feature of the approach is to recognize that the costs and benefits of the climate proofing measures must be assessed by identifying and quantifying the climate change along two scenarios:

➢ Scenario ***without adaptation***: What are the expected of climate change on the project in the future if there were to be no climate-proofing measures in place?

➢ Scenario ***with adaptation***: What are the expected of climate change on the project in the future if there were to be climate-proofing measures in place?

2.3. Data collection

Data for analysis was collected from primary and secondary sources. The secondary data includes the climate risks and their impacts on CL-CB sluice gates as well as on production and properties of residents in Kien Giang provinces; the possible climate proofing measures that can be undertaken; and the additional cost and avoided cost of applying climate proofing measures. They were collected from Kien Giang's General Statistics Office; Kien Giang People's Committees and the Water Resources Investment and Construction Board 10 (PMU10 - the investor). Data on climate risk and its impact were collected through technical reports and interviews with experts from the Southern Institute for Water Resources and Planning (SIWRP) and GIZ on climate risk assessment.

Primary data includes the damages caused by climate change on economic activities when the climate proofing measures are undertaken. In-depth interviews and discussion were conducted with 13 officials, 6 farming households to collect information and opinions on the costs and benefits of sluice gates, production costs and benefits of different farming models and the climate proofing measures for sluice gates. Based on this information, the questionnaire was designed and surveyed by face-to-face interview.

The survey areas include rice farms and shrimp-rice farms. For comparative analysis purpose, the survey focused on the farms within the protected area of CL-CB sluice gates (in Binh An Commune, Minh Hoa Commune of Chau Thanh District and in Hung Yen Commune, Dong Yen Commune of An Bien District) and also the farms outside of the beneficiary area of CL-CB sluice gates (in Binh Giang Commune, Linh Huynh Commune and Son Binh Commune of Hon Dat District. The survey had a total of 213 respondents, consisting of 50 rice farming households and 55 shrimp-rice farming households in the protected area of CL-CB sluice gates and 70 rice farming households and 38 shrimp-rice farming households outside of the protected area of CL-CB sluice gates.

2.4. General assumptions for the economic analysis

Time-horizon

The time-horizon of the evaluation is directly linked to the discount rate. The horizon depends on the lifespan of the options under consideration. The lifespan of CL-CB is expected to be 100 years, which is based on the design of the physical structures (cast-in-situ concrete composition).

Social discount rate

Boardman et al. (2014) suggested that a declining discount rate should be used in long-time project They defined an intragenerational projects as one whose effects occur within a 50-year horizon. Projects with significant effects beyond 50 years are considered intergenerational. They also suggested a social discount rate of 3.5% from year 0 to year 50 and 2.5% from year 50 to year 100. However, the rate of 3.5% is relevant for developed countries. The social discount rate for developing countries should be higher as it ought to incorporate a higher risk premium. In Vietnam, the interest rate of 30-year government bond is 3-4%. The interest rate of social housing loan is 4.8%. Thus, in this analysis, the social discount rate is chosen at 5% for the year 0 to year 50 and 2.5% from the year 50 to year 100.

Exchange rate

The exchange rate used in this report is the average daily central rate of VND versus USD quoted by the State Bank of Vietnam in 2021, which is 23.180.

3. Results

3.1. Economic analysis of the climate proofing measure of upgrading concrete for pillars and ship locks

In order to adapt to the increasing risk due to exposure to high temperature, heat waves and salinity intrusion to pillars and ship locks, the CRA analysis suggested to upgrade the concrete of pillars and ship locks from grade M300 (in the 1st preliminary design) to grade M500 with sulphate resistant cement and anti-corrosion additive mixture. This suggestion has been considered and in fact, the climate proofing measure has turned out as follows:

- M300 concrete was upgraded to M400 concrete (for the pile parts deep below the ground);
- M300 concrete was upgraded to M400 concrete with sulphate resistant and anti-corrosion additive mixture (for the parts in contact with sea water/at risk of corrosion);

Our economic analysis then examines the according actual costs and benefits of the climate proofing measure of CL-CB sluice gates.

Firstly, the according costs can be identified as follows:

- Increased cost to upgrade from M300 concrete to M400 concrete;

- Increased cost to upgrade from M300 concrete to M400 concrete with sulphate resistant and anti-corrosion additive mixture (12 pillars of Cai Lon and Cai Lon ship lock and 3 pillars of Cai Be + Cai Be ship lock).

The increased costs are calculated based on the amount of upgraded concrete, the upgrade level (from M300 to M400, from M300 to M400 with sulphate resistant and anti-corrosion additive mixture), and the prices of different concretes (**Table 1**).

Table 8: Cost identification of upgrading concrete for pillars and ship locks

Item	Cai Lon Sluice Gate	Cai Be Sluice Gate
Amount of M300 concrete updated to M400 concrete (in tons)	11,000	2,200
For the Pillars: Amount of M300 concrete updated to M400 concrete with sulphate resistant and anti-corrosion additive mixture (in tons)	66,000	13,500
For the Ship locks: Amount of M300 concrete updated to M400 concrete with sulphate resistant and anti-corrosion additive mixture (in tons)	20,000	12,500
Price of M300 concrete (VND/ton)	780,000	
Price of M400 concrete (VND/ton)	940,000	
Price of M400 concrete with sulphate resistant and anti-corrosion additive mixture (VND/ton)	1,204,000	
Cost increase (VND)	**49,600,000,000**	
Cost increase (USD)	**2,139,775.6**	

Secondly, the investor's according benefits of the climate proofing measure are identified as follows:

- Benefit from higher endurance to climate risk: less repairing cost for pillars and ship locks during a 100 years' time horizon.
- Benefit from increased expected lifespan: less cost of replacement for pillars and ship locks during a 100 years' time horizon.

In terms of the benefit from increased expected lifespan, our expert consultations (using questionnaire) resulted that the average increase is 21 years, meaning, pillars and ship locks and last 71 years (instead of 50 years) with the upgradation.

In addition, the benefit from higher endurance to climate risk is measured based on the saving of maintenance cost (or sometime called repairing cost). This saving is estimated according to the maintenance cost and the probability of such cost occurs.

- Since the maintenance cost was not identified in the design of CL-CB sluice gates. This cost is expected to be estimated by the management board when needed (after the construction finished), which is very common in the region. In fact, Circular No. 03/2017/TT-BXD on Guideline for determination of costs of maintenance of construction works set the standard maintenance cost from 0.18 to 0.25% of the total investment. In order to avoid over-estimation of the saving, we chose 0.18 % for our calculation.
- The probability of occurring maintenance cost is, in fact, equivalent to the percentage change in risk scores (R) in PIEVC analysis, which reflects how vulnerable a component of CL-CB sluice gate system would be due to effects of climate factors (e.g. heat wave, high temperature, salinity intrusion). According to the formula (R = P*S), R scores take into account both probability (P) of climate extreme occurrence and the severity (S) of impacts associated with individual climatic factor. It is also noteworthy that the application of adaptation measures (including the concrete upgradation) is expected to reduce S but not P. In our calculation, when an adaptation measure is applied, the decrease in the probability of repairing cost occurs is measured as the percentage decrease in R scores from future levels to baseline levels. Accordingly, the average reduction of risk score Δ R is estimated at 2.05% (**Table 2**).

Table 9: The percentage change in risk scores (R) for pillars and ship lock

Climate factor	**Risk Baseline (R0)[a]**	**Risk Future (R1)[a]**	**Standardized[b] change in R: [(R1-R0)/R0]/49**
Pillars			
Heat wave (≥ 8 consecutive days with temperature ≥35°C)	6	12	2.04%
Water level (0.9m)	7	14	2.04%
Salinity (3g/l)	7	14	2.04%
Salinity intrusion + high temperature (Salinity = 3g/l and high temperature ≥ 35°C)	12	20	1.36%

Climate factor	**Risk Baseline ($R0$)[a]**	**Risk Future ($R1$)[a]**	**Standardized[b] change in R: [(R1-R0)/R0]/49**
High water level + heavy rain (Water level ≥ 0.9m and heavy rain ≥ 100mm/day)	4	8	2.04%
Average ΔR of Pillars			**1.90%**
Ship lock			
Lock chamber			
Heat wave (≥ 8 consecutive days with temperature ≥35°C)	3	8	3.40%
Water level (0.9m)	21	28	0.68%
Salinity (3g/l)	7	14	2.04%
Salinity intrusion + high temperature (Salinity = 3g/l and high temperature ≥ 35°C)	12	20	1.36%
High water level + heavy rain (Water level ≥ 0.9m and heavy rain ≥ 100mm/day)	8	20	3.06%
Lock head			
Heat wave (≥ 8 consecutive days with temperature ≥35°C)	3	8	3.40%
Water level (0.9m)	21	28	0.68%
Salinity (3g/l)	7	14	2.04%
Salinity intrusion + high temperature (Salinity = 3g/l and high temperature ≥ 35°C)	12	20	1.36%
High water level + heavy rain (Water level ≥ 0.9m and heavy rain ≥ 100mm/day)	8	20	3.06%
Filling and discharge culverts			
Heat wave (≥ 8 consecutive days with temperature ≥35°C)	3	8	3.40%
Salinity (3g/l)	7	14	2.04%
Salinity intrusion + high temperature (Salinity = 3g/l and high temperature ≥ 35°C)	8	15	1.79%

Climate factor	Risk Baseline (R0)[a]	Risk Future (R1)[a]	Standardized[b] change in R: [(R1-R0)/R0]/49
Leading jetty			
Heat wave (≥ 8 consecutive days with temperature ≥35oC)	3	8	3.40%
Salinity (3g/l)	7	14	2.04%
Salinity intrusion + high temperature (Salinity = 3g/l and high temperature ≥ 35°C)	12	20	1.36%
Average ΔR of Ship lock			**2.19%**
Average ΔR of Pillars and Ship lock			**2.05%**

a Risk score R = P*S, where P: probability of climate extreme occurrence; S: severity of impacts associated with individual climatic factor. The values of P and S were collected from the climate risk assessment results for the planning phase of the CL-CB sluice gates (GIZ, 2019).

b Standardized change in R is calculated based on dividing by 49 because both P and S scores are based on the scale of 1 to 7

Increasing the climate-resilience of the sluice gates would also benefit the agricultural production households in the project area. Thanks to the climate proofing measures, the CL-CB sluice gates are resilient enough to work stably, creating favourable conditions for agricultural production households in the project area. The climate proofing measures are to avoid damages because of inadequate water availability for agricultural production when the sluice gates fail due to extreme weather and climate induced hazards. The avoided damage estimate is based on the average household income lost during salinity intrusion.

For rice farming households, the average revenue and cost per hectare per year are shown in the Table 3. The survey shows that the largest percentage of loss that the households have faced in recent years due to salinity intrusion is 35% on average. Taking this as the maximum level and considering the minimum level as 0%, that is, people fully adapt to salinity intrusion by, the average loss is 17.5%. Thus, thanks to the CL-CB sluice, an average of one hectare of production by rice growers will avoid losses of VND 12,474,836. Using the average reduction in risk score Δ R estimated at 2.05% above, the application of climate change adaptation measures for CL-CB project will help rice growers avoid losses. The avoided losses is estimated at 255,734 VND/ha/year (= 12,474,836 x

2.05%) or USD11/ha/year. It is noteworthy to remember that the benefit value of 255,734 VND/ha/year is the benefit of climate proofing measure for CL-CB sluice gates and is not the benefit of the whole CL-CB sluice gate.

Similarly, with shrimp - rice production households, the survey shows that largest percentage of loss that the households have faced in recent years due to salinity intrusion is 26% on average. Taking this as the maximum level and considering the minimum level as 0%, the average loss is 13%. It is notable that the loss reported by the households is for the income from rice crop. With the same calculation method as mentioned above, the application of climate change adaptation measures for the CL-CB project will help shrimp-rice farming households avoid the potential damage of 152,836 VND/ha/year or USD 6.6/ha/year.

Table 10: Benefit of climate proofing measures for rice farming households

Items	Value (VND/hectare)
Annual revenue	71,797,619
Annual cost	28,539,286
The highest loss (in percentage) in recent years due to salinity intrusion	35%
Average loss (in percentage)	17.5%
Decrease in net income due to salinity intrusion or benefit of the Sluice Gates	12,474,836 (17.5% of annual revenue)
Average ΔR	2.05%
Benefit of climate proofing measures	255,734

Table 11: Benefit of climate proofing measures for shrimp-rice farming households

Items	Value (VND/hectare)
Annual revenue	143,174,793
Annual cost	40,535.256
The highest loss (in percentage) in recent years due to salinity intrusion	26%
Average loss (in percentage)	13%

Decrease in net income due to salinity intrusion or benefit of the Sluice Gates	7,455,392
Average ΔR	2.05%
Benefit of climate proofing measures	152,836

According to the Feasibility Study of CL-CB Sluice Gates, the areas affected by drought and salinity intrusion are as follows: Kien Giang province: 65,679 ha of rice crop; Ca Mau province: 35,221 ha of shrimp-rice crop and 14,121 ha of rice crop; Hau Giang province: Total area of damage is 1,203 ha of rice crop; Bac Lieu province: 8,057 ha of shrimp-rice crop and 3,326ha of rice crop; and Soc Trang province: 13,565 ha of rice crop. Using this information and assuming that the provinces near CL-CB including Kien Giang and Ca Mau would suffer the average percentage of loss which is calculated above and the other provinces (Hau Giang, Bac Lieu and Soc Trang) would suffer half of the average percentage of loss, the annual avoided damage of climate proofing measures in CL-CB Sluice Gates is VND 28,719,930,019 or USD 1,238,951.58.

Applying NPV formula with the discount rate as discussed and the original year of 2020, the Present value of the benefit is estimated at VND 843,011,971,718.12 or USD 36,366,767.30.

Recall the cost of VND 49.6 billion or USD 2.14 million, the NPV of the adaptation measure (concrete upgradation for pillars and ship locks) is then estimated at VND 793,411,971,718.12 or USD 34,227,068.56 for the 100 years' time horizon. Comparing to the investor's benefit which is VND 23.6 billion (USD 1.133 million), the society's net benefit is much larger as the benefit of more than 100,000 households in the project area is counted in this analysis. The benefit/cost ratio (BCR) also increases from 1.52 to 17, meaning that every dollar spent on climate proofing would bring 17 dollars benefit to the whole society. This implies that such adaptation measure is economically beneficial from both investor and society's point of view.

Table 12: Benefit identification of upgrading concrete for pillars and ship locks

	Sum value of CL – CB (VND)
PV of maintenance cost saving due to adaptation	435,398,250.65
Cost of replacement in BAU scenario	441,768,000,000*
PV of cost of replacement in BAU scenario	131,742,181,271.2
Cost of replacement in adaptation scenario	441,768,00,000**
PV of cost of replacement in adaptation scenario	78,437,487,979.17

PV of benefits of increase the lifetime of concrete structure	**53,304,693,292.02**
Residual value of adaptation scenario	261,327,549,295.775***
PV of residual value	**22,120,689,335.18**
Annual households' avoided damage in adaptation scenario	28,719,930,019
PV of households' avoided damage in adaptation scenario	**767,151,190,840.28**

*Note: * cost occurs in 50th year; ** cost occurs in 71st year; *** residual value in 100th year*

Another approach to estimate the climate proofing measures' benefit for the agricultural households is using Willingness to Pay (WTP). WTP is a relevant measure of benefit that a good or service brings to the consumers when there is no market for such good/service. The very first estimation of WTP of agricultural households for a better sluice gates system in the project area is VND500,000/hectare or USD21.6/hectare for one year. Using the affected area of salinity intrusion in the Feasibility Study which is 141,172 in total, we can estimate the total WTP or the benefit of a better sluice gate system for the society is VND 57,510,500,000 per year. Then the total PV of benefit would be VND 1,612,050,058,898.29 (USD 69,542,369). With the cost stays the same at VND 49.6 billion, NPV of the adaptation measure (concrete upgrade for pillars and ship locks) is VND 1,562,450,058,898.29, equivalent to USD 67,402,669.97. In this estimation, the BCR is much higher at 32.5, meaning that every dollar spent on climate proofing would bring 32.5 dollars benefit to the whole society. This approach brings higher results because measuring benefit by WTP would capture both use value and non-use value of the sluice gates.

3.2. Economic analysis of the measure of using epoxy coating for the sluice gates

Based on climate risk assessment, the lift gate type was recommended for the design of both Cai Lon and Cai Be sluice gates. The primary duty of this infrastructure component is to control salinity intrusion. The sluice gate will be installed on the sluice gate structure and the gate(s) move up and down vertically along hydraulic cylinders. The three main components of the sluice gate are the gates, watertight gaskets and bolts. As the gates are closed (i.e., they are under water), they may be affected by water pressure (due to water level differences), flow velocity (obstructing the operation), sediment and salinity intrusion (increasing the corrosion). On the other hand, when opened (the gates are hanging), they are likely to be affected by high wind, heavy rain, storms and lightning. Water level affects the function of the sluice if overflowing, and its stability if the water level difference between front and back of the sluice is large. In addition, the water level also indirectly causes physical and chemical corrosion.

Study of mechanisms and causes of metal corrosion in the Mekong Delta showed that the suitable prevention measure is using a stainless steel together with coating method by epoxy.

Economic benefit of using epoxy coating for the sluice gates

Using coating method by epoxy will increase the corrosive-proof properties of the gates, thus increase the lifespan of the sluice gates. Results from interviewing the engineers participated in the climate risk assessment process of CL_-CB project showed that with the normal coating method (i.e. without the climate proofing measure) .e., the duration of the sluice gates is usually 15-20 years. Ackermann (1998) found that in the salty water, normal coatings may last the duration of steel structure to 10–15 years. To avoid overestimating the benefit, the upper value of 20 years is chosen as the lifespan of the sluice gates in the BAU scenario (without adaptation measure), or the sluice gates would be replaced 4 times during the operation of the whole CL-CB works (100 years).

If epoxy coating method is applied, the lifespan of the sluice gates will be longer. Bleile and Rodgers (2001) estimated that the lifespan of the steel with correct coatings would be 20 years. Our expert consultation indicates that with the special materials of the sluice gates (S355R which contains stainless steel, nickel and chromium) the sluice gates in CL-CB project can be used 30 to 40 years before replacement. For the same reason of avoiding overestimating the benefit, we assumed that the lifespan of the sluice gates with climate proofing measure would be 30 years. Therefore, in 100 years, the sluice gates will be replaced 3 times. The first benefit of using epoxy coating for the sluice gates is cost saving, which is the difference in the present value (PV) of replacement cost in BAU scenario and the PV of replacement cost in adaptation scenario.

The cost of replacement of sluice gates is estimated by the investor, PMU10, at VND 250 billion. In BAU scenario, the PV of replacement cost is VND 221,230,830,628.69 while the PV of replacement cost in adaptation scenario is VND 141,754,206,127.46. Then the value of the first benefit is VND 79,476,624,501.24, which is equivalent to USD 3,428,549.

The second benefit is cost saving due to expanding the lifetime of the coating. Using normal coating required that the sluice gates must be repainted every 3 years and in the year of replacement. The cost of normal coating includes cost of two layers of anti-rust coating and cost of one layer of surface coating. This cost which would be incur every 3 years and in the year of replacement in 100 years if no adaptation measure is applied will be discounted to present to calculate the savings.

The prices of anti-rust coating and surface coating were collected from the quotations of different suppliers in the market. The total amount of paint for in CL-CB sluice gates was estimated by the PMU10 as 35,000 liters, of which 3,889 liters would be used for surface coating and the remaining 31,111 liters would be used for anti-rust coating. PV of cost saving is VND 28,858,915,787.83 (USD 1,244,947).

Therefore, the PV of total benefit of using epoxy coating for the sluice gates is VND 108,335,540,289.07 or USD 4,673,296.

Table 13: The cost of coating the sluice gates in Cai Lon – Cai Be in one year

Item	Value (VND)
Unit price of normal surface coating (VND/liter)	109,437.44
Amount of paint used for surface coating (liter)	3,889
Unit price of normal anti-rust coating (VND/liter)	81,055.33
Amount of paint used for anti-rust coating (liter)	31,111
Total cost of normal coating (VND)	**2,947,311,543.21**
Unit price of epoxy surface coating paint (VND/liter)	163,190.22
Amount of epoxy paint used for surface coating (liter)	3,889
Unit price of epoxy anti-rust coating (VND/liter)	148,303.11
Amount of epoxy paint used for anti-rust coating (liter)	31,111
Total cost of epoxy coating (VND)	**5,248,503,209.88**

Economic cost of using epoxy coating for the sluice gates

The cost of using epoxy coating for the sluice gates is the incremental cost due to using more expensive paint. Two layers of anti-rust coating and one layer of surface coating are necessary for coating the sluice gates in CL-CB. Using epoxy coating required that the sluice gates must be repainted every 15 years. Then the cost of repainting would incur every 15 years in 100 years and in the year of replacement. This number will be discounted to present to calculate the cost of adaptation measure.

The prices of epoxy anti-rust coating and epoxy surface coating were collected from the quotations of different suppliers in the market. The amount of paint which would be used for CL-CB sluice gates is the same as estimation in the calculation of benefit, which is 3,889 liters for surface coating and 31,111 liters for anti-rust coating. PV of cost of using epoxy coating for the sluice gates is VND 11,588,202,424.05 (nearly USD 500,000).

Net benefit of using epoxy coating for the sluice gates

The investor's net benefit of using epoxy coating for the sluice gates or NPV is the difference between the PV of the total benefit and PV of the cost, which is VND 96,747,337,865.02 or USD 4,137,592. The BCR is 9.35, meaning that spending 1 dollar in this adaptation measure would bring 9.35 dollar of benefit to the investor. The NPV is a positive number and the BCR is larger than 1, showing that using epoxy coating for the sluice gates is a beneficial adaptation measure for the investor.

The society's net benefit can also be calculated by adding the benefit of the households in the project area. In this case, using WTP to measure the benefit is an appropriate method as coating the sluice gates with epoxy may not directly decrease the risk of failed operation of sluice gates, but it would enhance the efficiency of the sluice gates' operation. As calculated above, the PV of agricultural households' benefit is VND 1,536,189,278,020.45 or USD 66,269,083. Then the PV of total social benefit is VND 3,181 billion or USD137,2 million. The NPV would be VND 3,169 billion or USD 136.7 million (and the equivalent BCR is about 32.5). The NPV of society is much higher than NPV of the investor, which means that the adaptation measure is very beneficial for the whole society.

4. Conclusion

CL-CB sluice gates is still under construction and will be finalized in 2021 with the expectation of controlling the flood and salinity intrusion to create stable and sustainable production conditions in the Mekong River Delta, Vietnam. However, the climate risk assessment showed that sluice gate materials and components would be exposed and vulnerable to climate induced hazards such as high temperatures, heat waves, heavy rains, tropical storms, droughts, high winds, tornadoes, and thunderstorms/lightning. High water level, salinity combined with high temperature and high-water level combined with heavy rain would affect negatively on the lifetime and the operation of the structures. The results of the CBA of show that the two climate proofing measures: upgrading concrete for pillars and ship locks and using epoxy coating for the sluice gates are efficient both from the investor and the society's point of view as the Net Present Values are positive in all the cases. Thus, it is strongly recommended that the investor should invest in climate proofing measures at the beginning for long term benefit.

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References

1. Ackermann N., 1998. Choosing the Correct Coatings for Cargo Tanks, *Protective Coatings Europe* (April 1998), 44-51.

2. ADB, 2015, *Economic analysis of climate proofing investment projects*. Asian Development Bank, the Philippines.

3. ADB, 2015. *Economic Analysis of Climate-Proofing Investment Projects*. Asian Development Bank (ADB).

4. Bleile, H., Rodgers S.D., 2001. Marine Coatings, in Buschow, K.H.J., Cahn R.W., Flemings, M.C., Ilschner, B., Kramer, E.J., Mahajan, S., Veyssiere, P. (Eds.), Encyclopedia of Materials: Science and Technology. Elsevier, Oxford, pp. 5147-5185.

5. Boardman, A. E.; Greenberg D. H.; Vining A. R.; Weimer D. L., 2014. *Cost – Benefit Analysis: Concepts and Practice,* Pearson.

6. GIZ, 2019. *Climate risk analysis and assessment report for CL-CB sluice gate project based on the PIEVC protocol*. Enhancing Climate Services for Infrastructure Investment (CSI). Hanoi, Vietnam: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

7. Government of Vietnam, Prime Minister of Vietnam, 2017. Decision No. 498/QD-TTg: on the approval of investment policy for CL-CB Irrigation System project phase 1 (dated 17/04/2017). Hanoi, Vietnam.

8. IPCC, 2007a. Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the International Panel on Climate Change (pp. 976). [M. L. Parry, O. F. Canziani, J. P. Palutikof, P. J. van der Linden and C. E. Hanson (eds.)]. Cambridge, UK: Cambridge University Press.

9. Kotchen, M.J., 2011. An Economic Framework for Evaluating Climate Proofing Investments on Infrastructure, Paving the Way for Climate-Resilient Infrastructure: Conference Proceedings. United Nations Development Programme (UNDP).

10. OECD, 2018. Climate-resilient Infrastructure: Policy perspectives. OECD Environment Policy Paper No. 14.

11. State Bank of Vietnam, 2021. The central exchange rate, retrieved on May 10, 2021 from https://sbv.gov.vn/TyGia/faces/TyGiaTrungTamMobile.jspx?_afrLoop=23950624321399297&_afrWindowMode=0&_adf.ctrl-state=of5dp3c7i_4,

12. World Bank, 2011. Vietnam - First Climate Change Development Policy Operation Program. Washington D.C: The World Bank.

IMPACTS OF CLIMATE CHANGE ADAPTATION MEASURES ON RICE PRODUCTION IN YEN THANH, NGHE AN

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Abstract

In recent years, increasing climate change has caused natural disasters such as droughts, storms, floods and salination, leading to heavy losses in agricultural production, especially in the field of crop production. In Yen Thanh, the adaptation to climate change has faced many difficulties due to complex topography, along with pressure from rapid economic development and population growth. Based on 146 survey samples, this study addresses the impact of climate change adaptation measures that farmers have been implementing on rice revenue in Yen Thanh, Nghe An.

Keywords: *Climate change adaptation, rice, Yen Thanh, Nghe An*

1. Introduction

According to the World Bank (2018) and Eckstein, Hutfils and Winges - Germanwatch - (2019), Vietnam regularly suffers from extreme weather phenomena, causing serious damage to people and properties. According to statistics from the Ministry of Natural Resources and Environment, natural disasters tend to increase abnormally, with increasing frequency and increasing intensity, especially strong storms, floods, cold weather, drought, and salination. Climate change is warned to negatively affect human life. According to the IPCC scenario by 2050, climate change will reduce about 50% of the food production of Asian countries, including Vietnam.

As a semi-mountainous plain, Yen Thanh has a complex climate. Due to the great radiation from the Sun, Yen Thanh often suffers from drought. On the other hand, the average annual rainfall here is relatively high, from 1,500 to 1,700mm, Yen Thanh thus has been directly affected by many storms, accompanied by heavy rain, sometimes over 300mm per day. In recent years, climate change has caused the average rice-yield in Yen Thanh to decrease by 30% to 40%. In 2010 and 2018, storms and floods damaged thousands of hectares of summer-autumn rice, nearly 4000 hectares of rice crop, and about 700 hectares of vegetables. Although most of the negative weather phenomena are forecasted, in Yen Thanh, adaptation is still difficult.

Most studies in Vietnam focus on selecting climate change scenarios and assessing those scenarios' impacts on the economy and society without paying attention to quantifying the effectiveness of implemented climate change adaptation solutions. Therefore, this study aims to analyze climate change adaptation measures in relation to rice revenue, thereby, making recommendations to improve the effectiveness of these measures in the context of climate change in Yen Thanh, Nghe An.

2. Method

The data used in this study includes primary and secondary data. Secondary data is collected mainly from published documents such as domestic and foreign specialized reports, meteorological agency reports and local statistics. Primary data was collected by interviewing 146 rice growing households at the intensive research sites (Hoa Thanh, Phu Thanh and Dong Thanh communes) Yen Thanh district, Nghe An.

This study selected OLS regression to analyze the impact of climate change adaptation measures on rice cultivation of Yen Thanh households. The model is applied to cross-sectional data. The specific model is as follows:

$$Ln\_revenue_i = \beta_0 + \sum \beta_1 measure_{ij} + \sum \beta_2 household_{ij} + U_i$$

In which,

- The dependent variable $ln\_revenue_i$ is the base e logarithm of revenue from rice of household i. Since the revenue is relatively large compared to the values of other variables in the model, the study uses the base e logarithm of this indicator.

- The independent variable $measure_{ij}$ includes the group of j climate change adaptation measures that households apply. The variable is assigned to 1 when the household i applies measure j ; assigned to 0 when the household i does not apply measure j.

- Control variables are characteristics of the household ($household_{ij}$), including gender of the head of household i ($gender_i$), age of the head of household i (age_i), education level of the head of household ($academic\_level_i$).

- β_i are the coefficient of the variables and U_i are the random errors.

3. Results

3.1. Overview of adaptation to climate change

According to IPCC (2014), Adaptation to climate change is an adjustment to life in changing climate conditions. The purpose of this process is to minimize damage caused by harmful effects of climate change and further to help people prepare well in terms of living habits, and production techniques. Thereby, people can take the advantage of all potential opportunity to gain maximum benefits (for example, flexible crops or changes in crop and livestock structure to ensure productivity and farmers' incomes).

There are many adaptation measures that can be taken in response to climate change. The IPCC report mentioned 228 different adaptation measures, which will be divided into 6 groups, including (1) Loss acceptance (doing nothing); (2) Loss sharing through insurance packages or community supports; (3) Flood controls by reinforcing dams, ditches, dykes; (4) Prevention of negative impacts by strengthening irrigation systems, increasing fertilization, and controlling pests; (5) Change in production methods (switching to drought or moisture-tolerant crops, or changing in land use purposes); (6) Relocation of production activities such as shifting main crops to more favorable areas.

Climate change adaptation is a long-term process, requiring the attention of actors. Over the years, the system of legal documents on strengthening the capacity to respond to climate change has built a legal framework to improve management efficiency and implementation efficiency. Along with that, due to frequent natural disasters, people have been applying many measures to cope with climate change. According to experts, the community's awareness and understanding of climate change will result in an effective measure (Bryant et al. 2000; Wang et al. 2009). As a typical example, farmers in the Central region that are frequently affected by drought understand that planting drought-tolerant crops such as peanuts as an alternative to rice will achieve high production efficiency and reduce risks from natural disasters.

3.2. Climate change situation in Yen Thanh

Yen Thanh is located in the monsoon tropics with cold winters and divided into two seasons: hot, humid summers with a lot of rain and cold winters with little rain. The average annual temperature is from 24 to 25^0C. The temperature difference between months of the year is quite large. The average temperature of the hottest months (June to July) is 30-31^0C, the absolute high temperature is $42{,}7^0$C, while the average temperature of the coldest months (December to February next year) is 19^0C. and the absolute low temperature is $-0{,}5^0$C. The average number of sunshine hours per year in Yen Thanh is around 1.500 to 1.700 hours.

Yen Thanh is the area with average rainfall compared to other areas in Nghe An. The average annual rainfall ranges from 1,200 to 1,900 mm per year with around 123 to 152 rainy days and divided into two seasons. The dry season from November to April next year, the rainfall accounts for 15-20% of the annual rainfall; The driest months are January and February (rainfall reaches 7-60 mm/month). The rainy season from May to October, the rainfall makes up 80-85% of the year's rainfall; The most rainy months are August and September with a rainfall of 220-540mm per month and 15 – 19 rainy days per month. During these two months, rain is often accompanied by stormy winds.

Table 1: Climate change in Yen Thanh

	Rainfall (mm per day)			Max temperature (^{0}C per day)			Min temperature (^{0}C per day)		
Year	**Hoa Thanh**	**Phu Thanh**	**Dong Thanh**	**Hoa Thanh**	**Phu Thanh**	**Dong Thanh**	**Hoa Thanh**	**Phu Thanh**	**Dong Thanh**
2010	3.99	3.96	3.92	29.61	29.64	29.69	22.33	22.33	22.26
2011	6.80	6.68	6.61	27.27	27.24	27.29	20.90	20.90	20.85
2012	5.11	4.91	4.90	28.06	28.04	28.09	21.63	21.64	21.59
2013	5.22	5.04	5.04	29.24	29.19	29.26	22.47	22.45	22.41
2014	4.66	4.85	4.77	30.94	30.96	30.99	21.70	21.70	21.65
2015	3.75	3.66	3.62	29.50	29.51	29.57	22.10	22.04	22.00
2016	4.33	4.23	4.19	29.10	29.08	29.14	22.29	22.23	22.20
2017	5.99	5.32	5.36	29.17	29.10	29.17	22.81	22.74	22.71
2018	5.67	6.18	6.06	28.42	28.34	28.40	22.12	22.07	22.03
2019	5.72	5.48	5.34	29.46	29.32	29.41	22.13	22.03	21.89

Source: North Central Hydro-meteorological Center

The number of cold days in Yen Thanh has tended to decrease, however, the temperature has shown negative signs, the extremely low temperature has gradually decreased in recent years, especially reaching 4-7 degrees with frost in 2018 . Similarly, the number of heavy rainy days per year has slightly decreased, but the rainfall per has increased. In the period 1991-1999 the maximum rainfall was 320 mm/day, then in the period 2010 - 2018 the maximum rainfall was reported at 345.3 mm/day. Regarding the number of storms, although the number of storms affecting Yen Thanh has decreased, the storm intensity have been alarming. Due to climate change, the number of hot days tends to increase significantly, especially, in 2016 there were 12 times of 5-7 hot days, the temperature reached approximately 43^{0}C.

Table 2: Extreme weather phenomena in Yen Thanh

Periods	Number of days with heavy rain per year (over 100mm/24h)	Number of storms per year	Number of extreme cold days per year (less than 13^0C)	Number of hot days over 37 degrees per year
1991-1999	46	12	13	16
2000-2009	42	8	11	29
2010-2018	39	5	9	41

Source: North Central Hydro-meteorological Center

3.3. Impact of climate change on rice production

In Yen Thanh, agricultural production is heavily affected by climate change. Interviews with 146 farmer households showed that many extreme weather phenomena, namely salinity, severe cold, harmful cold, heat, drought, and storms have seriously affected their crops.

Table 3: Impact of climate change on rice production

	Cultivated area decreased	Productivity is reduced	Rice plants grow slowly	Lack of water for irrigation	More diseases	Plants are dead	Crops are lost	Not affected
Salinity	103	90	79	0	0	59	0	26
Cold	6	57	120	2	13	103	29	4
Drought	11	42	35	92	4	73	16	0
Heat	1	29	57	86	41	60	10	0
Storm	12	120	7	0	18	39	85	0

Source: Author's calculation from survey data

The above table shows that the cold weather in Yen Thanh in recent years caused slow growth and death of crops (82.19% and 70.55% of surveyed households, respectively). Salinity has also made many areas uncultivable. In fact, according to the survey, 70.55% of the households believed that salinity caused a decrease in the cultivated area, 61.64% of the households confirmed that the rice yield decreased. In Yen Thanh, heat and drought are the main environmental constraints. These two phenomena caused water shortage (63.01%), dead rice plant (50%), and a decrease in crop yield (26.1%). Prolonged periods of heat with high temperatures in the summer affected labor efficiency, spring rice harvest progress, and summer rice cultivation. The most severe impact on crop productivity is the storm. Storms have reduced productivity (82.19%), especially storms caused damage to crop areas accounting for a high proportion (58.22%). Since storms are often accompanied by heavy rains and floods, the disease on crops is very serious.

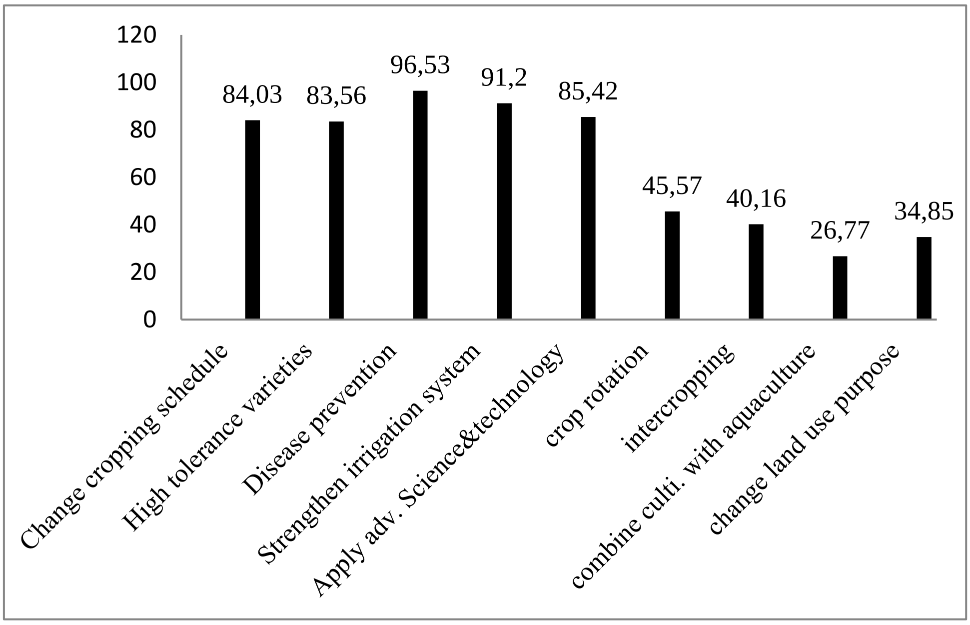
3.4. Climate change adaptation of rice farmers

3.4.1. Overview of climate change adaptation measures of households

According to the survey results, farmers in Yen Thanh have applied five main measures to adapt to climate change, including: (1) Changing the cropping schedule; (2) Select rice varieties with high tolerance; (3) Strengthen disease prevention; (4) Strengthen the irrigation system; (5) Application of advanced science and technology. In addition, some other measures used by households are crop rotation, intercropping, combination of rice cultivation with aquaculture, and change of land use purpose.

The chart shows that in adaptation activities, measures to strengthen disease prevention for rice made up the highest percentage (96.53%), followed by strengthening irrigation system (91.2%), applying advanced science and technology (85.42%), changing the cropping schedule (84.03%), and using rice varieties with high tolerance (83.56%).

In addition, according to the survey, to adapt to climate change, farmers use many different methods at the same time. Most of the households have applied two or more adaptation measures (accounting for 70%). That proves, climate change strongly affects production activities, farmers have to find many different ways to adapt. To have a more specific analysis on the impact of climate change adaptation measures on rice production results, the study will perform a regression.



Source: Author's calculation from survey data

Figure 1: Climate change adaptation measures applied by households

3.4.2. Impact of climate change adaptation measures on rice production results

To analyze the impact of climate change adaptation measures on rice production results, the study implements OLS regression as follows:

$$Ln\_revenue_i = \beta_0 + \sum \beta_1 measure_{ij} + \sum \beta_2 household_{ij} + U_i$$

Within the scope of the analysis, the study deals with the measures applied by farmers with the highest percentage, The variables used in the model are described in the table below:

Table 4: Descriptive statistics of variables in the regression model

Variables	Unit	Coding variables	Mean	Min	Max
Age		Age	46	23	78
Gender		Gender	0.601	0	1
Education level		Academic_level	3.6875	1	5
Revenue from rice	Mil. VND	Revenue	5.923	4.830	14.212
Changing the cropping schedule		Change_schedule	0.8403	0	1
Select rice varieties with high tolerance		Tolerant_varieties	0.8356	0	1
Strengthen disease prevention		Disease_prevention	0.9653	0	1
Strengthen the irrigation system		Irrigation	0.912	0	1
Application of advanced science and technology		Science_tech	0.8542	0	1

Source: Author's calculation from survey data

Since the rice revenue has a high value that exceeds the values of the variables, the topic uses the base e logarithm of the revenue from rice *(ln_revenue)* to make the data uniform. In addition, gender and the application of adaptation measures are coded 0 and 1, in which male takes the value 1; female takes the value 0; households have applied the measure of receiving value 1; otherwise it is 0.

OLS regression result with dependent variable the base e logarithm of the revenue from rice under the influence of household characteristics and dummy variables of climate change adaptation measures, after checking for defects including multicollinearity, heteroscedasticity and autocorrelation is as follows:

Table 5: Regression results

VARIABLES	model ln_revenue
Age	-0,00165
	(0,00347)
Academic_level	0,0673*
	(0,0524)
Gender	0,0256
	(0,0798)
Change_schedule	1,632***
	(0,141)
Tolerant_varieties	0,184**
	(0,0901)
Disease_prevention	0,154*
	(0,105)
Irrigation	0,0171**
	(0,127)
Science_tech	0,034***
	(0,083)
Constant	7,744***
	(0,234)
Observations	146
R-squared	0,782

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: Author's calculation from survey data

The above results show that all five main measures have a positive impact on rice revenue, in which, measure of changing in cropping schedule has the greatest effect.

Regarding the change in cropping schedule, because the weather and natural disasters forecast of Nghe An province are relatively good, the instructions from the authorities on natural disaster prevention are timely, resulting in reduced damage. Additionally, to cope with natural disasters such as storms, droughts, heat, cold or salinity, local authorities have instructed farmers to plant or harvest early. Regression results show that changing in cropping schedule can increase rice revenue by 1,632% compared to cropping in the usual schedule.

For the measure of selecting rice varieties with high tolerance, the agricultural extension agencies have useful advice on rice varieties for farmers. For pure rice, farmers have changed from Bac Thom to BC15 and RVT ,,…; for hybrid rice, farmers have changed from Tap Giao 838, 903, CT16 to TH3-3. According to the results of the regression, farmers that choose varieties with high tolerance in production can increase rice revenue by 0,184% compared to households that do not apply this measure.

Disease preventing for rice needs to be carried out regularly, especially before and after natural disasters. Accordingly, farmers who well apply these techniques can increase their rice revenue by 0,154%. This measure need to be learned from local communities and agencies.

In terms of strengthening the irrigation system, the improvement of economical irrigation methods, strengthening the irrigation system to ensure enough water for the winter-spring and summer-autumn crops, preventing salinization can increase tolerance of rice, thereby increasing revenue. The regression results also prove this, compared with farmers that do not regularly strengthen their irrigation systems, farmers with good irrigation systems could earn 0,0171% higher rice revenue.

For the measure of applying advanced science and technology, the regression results show that farmers applying this method could gain 0,034% higher rice revenue than traditional rice farmers. Currently, many Yen Thanh farmers have applied advanced farming methods such as Good Agricultural Practices (VietGAP), Integrated Crop Management (ICM), 3 decrease 3 increase rice cultivation techniques (3G3T), 1 must 5 reduce cultivation techniques (1P5G), System of Rice Intensification (SRI), Integrated food-energy system (IFES),... These successful models will create new directions in farming, contributing to soil protection, stabilizing productivity, increasing income and economic efficiency for farmers.

4. Discussion and Conclusion

The study has contributed to understanding the effects of climate change on rice production of farmers in Yen Thanh, Nghe An. Regarding the impact of climate change on rice cultivation, natural disasters such as cold, heat, salinity, drought, and storm have caused many adverse impacts on production activities to varying degrees. from low, medium to high. These effects generally cause difficulties for rice cultivation, affecting rice yield, growth and production output. Storms cause the most impact and damage, followed by drought and salinity.

Regarding measures to adapt to climate change of farmers, the study proposed nine main adaptation measures, however, there are five measures chosen by the majority of people, which are strengthen disease prevention for rice, strengthening irrigation system, applying advanced science and technology, changing the cropping schedule, and using rice varieties with high tolerance. The analysis results show that these measures, when applied, have a positive effect on rice revenue.

On the basis of the research results, the study makes some recommendations on solutions to increase the effectiveness of the response for households to changes in climate change as follows: (i) Local authorities play an important role in enhancing the response capacity of local communities. Therefore, it is necessary to effectively promote the role and responsibility of local authorities in climate change adaptation programs in the locality; (ii) With agricultural production as the main activity, farmers are the first to suffer the consequences of these adverse effects. Therefore, farmers must be the first and proactive in raising awareness and capacity to respond to climate change.

5. References

1. Bryant R.C., Smit B., Brklacich M., Johnston T.R., Smithers J., Chiotti Q. and Singh B. (2000), *Adaptation in Canadian agriculture to climate variability and change*, Climatic Change 45: 181-201. http://dx.doi.org/10.1023/A:1005653320241

2. IPCC (2014), *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment,* Report of the Intergovernmental Panel on Climate Change, Cambridge, United Kingdom: Cambridge University Press.

3. World Bank (2018), Vietnam National Conference on Disaster Risk Management. Speeches and transcripts, Retrieved from The World Bank: https://www.worldbank.org/en/news/speech/2018/03/29/vietnam-national-conference-on-disaster-risk-management

4. Wang J., Mendelsohnb R., Dinarc A., Huangd J., Rozellee S., Zhangd L. (2009), *The impact of climate change on China's agriculture,* Agricultural Economics, 40(3), 323-337.

THE TEMPORAL EVOLUTION OF THE RESEARCH IN CLIMATE CHANGE ADAPTATION

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Abstract

Research on climate change adaptation has increased in number and significance since the 1970s. Yet, the volume of information on adaptation is now difficult to manage given its vast scope and spread across journals, institutions, disciplines and themes. While an increasing number of researchers have used systematic literature reviews to analyse particular themes within this rapidly growing field of research, there is still missing an overall analysis of the current state of climate change adaptation science literature and its evolution. This paper provides a bibliometric review of climate change adaptation science literature that is focused on the human dimensions and how it has been constructed across time, disciplines, social relationships and geographies. Our novel review, spanning from 1978 to mid-2020, identifies the underpinning foundations of climate change adaptation literature, leading authors, countries and organisations as well as dominant research themes and priorities and explores how these have changed over time.

Keywords: *Climate change adaptation, Climate adaptation science, Bibliometric analysis, VOSviewer*

1. Introduction

Over the last two decades climate change adaptation has emerged as a central and now acknowledged component of the international climate change policy and research agenda (Klein et al., 2014; Owen, 2020; Swart et al., 2014). The Paris Agreement and its Article 7 have secured a prominent platform for climate adaptation as a key issue for global governance (Persson, 2019). Adaptation received its own ISO standard in 2019, cementing it further as a distinct area of research, policy and practice. Specific climate change adaptation conferences, such as the Adaptation Futures series, have been running since 2010 and new scientific degrees and professional certifications are being developed specifically for climate adaptation. That climate change adaptation literature is flourishing is evidenced also by the rapid expansion of the number of publications with a focus on climate adaptation. In fact, thousands of climate adaptation papers are now published each year (Noble, 2019).

Yet, to date, a focused analysis is still missing on the evolution of this literature, including its extent, growth and diversification over time. Adaptation science is both basic and applied (Moss et al., 2013) and includes knowledge about the processes of adaptation and knowledge generated about adaptation". This science however finds itself in a paradox: while it has quickly amassed a wealth of knowledge about the problem and potential solutions, it is "still characterized by an evolving epistemological base" (Eisenack and Stecker, 2012, p. 244). The field is plagued by "the dependent variable problem" (Biesbroek et al., 2018, p. 2) as to what counts as "adaptation" (Dupuis and Biesbroek, 2013). Large bodies of work exist that, even if not explicitly framed as climate change adaptation, still form a critical mass of knowledge that supports climate change adaptation ideas, theoretical development, and implementation (Biesbroek et al., 2018; Dupuis and Biesbroek, 2013; Keskitalo and Preston, 2019). The overall knowledge base remains fragmented (Cradock-Henry et al., 2019), including difficulties in capturing other forms of knowledge outside peer-reviewed literature such as the lived experiences in the Global South, and Indigenous knowledge in its different forms (Parsons et al., 2016). Method-focused reviews by Biesbroek et al. (2018) have focused on design, data and methods for adaptation policy reviews, Dupuis and Biesbroek (2013) reviewed underlying factors in conducting comparative studies on climate adaptation policies while Berrang-Ford et al. (2015) reviewed and synthesised methodologies for systematic reviews on adaptation. Lesnikowski et al. (2019) used topic modelling in adaptation governance research with UNFCCC COP (United Nations Framework Convention on Climate Change, Conference of the Parties) speeches and 25 Canadian municipalities as a methodological example of data analytics in adaptation research. Other recent review studies have looked at adaptation progress in Australia (Palutikof et al., 2019), public participation and engagement (Hügel and Davies, 2020), role of local knowledge (Klenk et al., 2017), and adaptive capacity (Siders, 2019). Others have used innovative methods to for example define generic trends across case studies such as adaptation finance archetypes that hold true across a range of local governments (Moser et al., 2019b). While these systematic reviews provide key insights into specific trends within particular themes and methodological advancements for adaptation science, they are limited by focusing on necessarily small sample sizes, specific topics and short time horizons. Complimentary methods, such as bibliometric analysis, provide therefore a significant opportunity to discover and examine broad trends through large datasets across long time periods (Hood and Wilson, 2001; Mingers and Leydesdorff, 2015; Mongeon and PaulHus, 2016). This broad scale analysis is particularly important since individual scientists do not operate in an intellectual vacuum but ideas are always intertwined with the "background knowledge of the time" (Chalmers, 1982, p. 56). Yet, to date the few papers that have attempted bibliometric reviews of climate change adaptation science literature have been too broad to provide robust explanations of the changes in research focus over time (e.g. Wang et al., 2018), not focused on climate adaptation per se (e.g. Di Matteo et al., 2018; Giupponi and Biscaro, 2015;

Haunschild et al., 2016) or are now outdated (e.g. Janssen, 2007; Janssen et al., 2006). Our aim therefore is to provide a novel analysis of the main trends in peer-reviewed literature that specifically focus on the human dimensions of climate change adaptation. We demonstrate the evolution of climate adaptation science, how the research topics have changed over time, the social networks of authors via co-authorship, and the most cited papers and the foundational literature that underpins the climate adaptation science literature. This broad overview is one of the first attempts to quantify the rapid growth of climate adaptation science literature, identify the geographical and institutional sources of this knowledge, and explain the evolution of adaptation science priorities over time. The paper is organised as follows: next, we explain the methodological choices in bibliometric analysis and the parameters that were used to search, include and exclude. Section 3 presents the result of the temporal evolution of the research (including core research topics and themes). This is followed by a discussion on what these underlying trends mean for the development of climate adaptation science and what they tell us at present how the field has and is behaving. We also reflect on the potential new areas that are likely to influence the field and discuss the intricacies of conducting large reviews given that these kinds of research methods are likely to increase in importance in the future.

2. Method

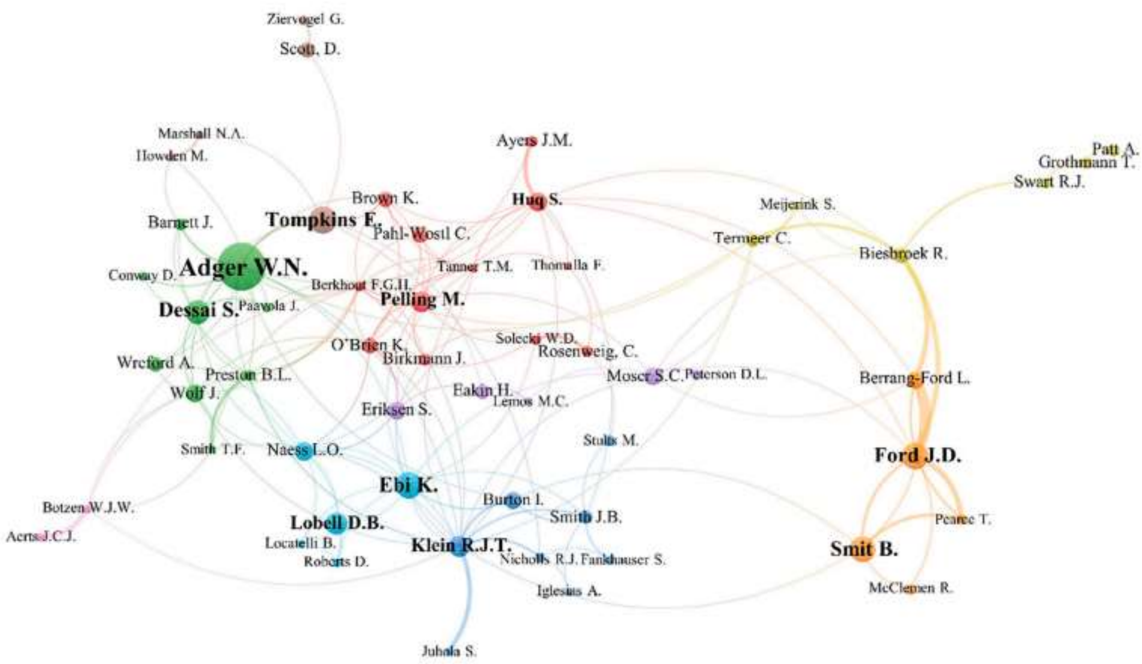
The production of knowledge within the field of climate change adaptation has exploded since the start of the century, with increases in both specialised and transdisciplinary research (Giupponi and Biscaro, 2015; Janssen, 2007; Janssen et al., 2006; Wang et al., 2018). These factors render it near impossible to stay on top all this literature and assess the collective developments made by J. Nalau and B. Verrall Climate Risk Management 32 (2021) 100290 3 this field. Thus, review methods that can assess massive and diverse sets of literature to track the rapidly evolving knowledge base are now more relevant than ever. Several literature review techniques exist such as narrative reviews (e.g. Baumeister and Leary, 1997; Wong et al., 2013), systematic reviews, and meta-analyses (e.g. Davis et al., 2014; Liberati et al., 2009; Moher et al., 2014) as well as bibliometric, visualisation and content analysis reviews (Mingers and Leydesdorff, 2015; Vinkler, 2010). While narrative, systematic and meta-analyses are well-established and explored review methods in this field, they are constrained by their ability to assess relatively small bodies of literature (e.g. less than 500 publications), whereas bibliometrics use statistical analysis of publication metadata and thus, can assess much larger literature sets (van Eck and Waltman, 2010). The current study employs a combination of bibliometric, visualisation and content analysis techniques to analyse the climate change adaptation science literature. And still, capturing all relevant publications related to a specific field is difficult (Buckland and Gey, 1994), especially with a rapidly developing, comprehensive and transdisciplinary research field like climate change adaptation. Historically, this field has been conceptualised under several collective phrases as it has evolved (Wang et al., 2018). Thus, determining an appropriate query requires a systematic approach, such as iterative query reformulation (Wacholder, 2011) where analysis of preliminary search results of key papers inform renewed searches (Wang et al., 2014). This study implemented a similar query formulation method to search for climate change adaptation literature in the well-regarded, international databases Scopus and Web of Science Core Collection (Fig. 1), where these databases were selected to prevent geographic biases and increase publication coverage (Falagas et al., 2008). However, initial search results returned numerous publications concerning biological adaptation to climate change, as terminology is shared between these research fields. Therefore, irrelevant publications that lacked a societal dimension where iteratively filtered out by adding exclusion terms to the query. This process included successively adding exclusion terms (e.g. physiology, phenology, genes, genetic, plasticity, genus, species or molecular), which were determined using iterative query reformulation (Wacholder, 2011) and do not reflect the human dimensions of climate change adaptation. Search results were then limited to articles, reviews, book chapters and books in addition to limiting to 'topic section' (title, keywords and abstracts) to identify publications primarily focusing on climate change adaptation. While this may not identify all relevant publications, it selects the publications where authors have prioritised climate change adaptation as a core focus of their publication. Thus, bibliometric metadata were retrieved from the Scopus and Web of Science database on 16 June 2020 (Fig. 1). Scopus returned 10,274 publications while there were 8,586 publications extracted from Web of Science Core Collection. Publication metadata from these two sources were compiled into a database and duplicates were removed (N = 7,070). Although the query used in this study included exclusion terms to filter those publications that concerned biological adaptation to climate change, a further 284 publications were removed from the database after careful review of abstracts, keywords and titles by both authors. The final database contained 11,506 publications, where metadata were manipulated to identify temporal patterns in the literature including splitting into three broad time periods (early research 1978–2010, emerging research 2011–2015 and the latest research 2016–2020) as well as on an annual basis. The parameters of these time periods were selected based on temporal distribution of publications, ensuring there was enough data within each period to make sound comparisons (Verrall and Pickering, 2020), and to highlight the rapid expansion of publications after 2010. The number of publications were not normalised by population given that the number of researchers within a population is unlikely to explain why some countries fare better in adaptation science than others. Main authors, organisations, journals, subject areas (Web of Science Core Collection Categories) and spatial trends in the research were assessed. Since subject areas differ between Scopus and Web of Science, we coded publications from Scopus to the Web of Science Core Collection Categories based on abstracts, titles and keywords (Verrall and Pickering, 2020). Publications assigned to countries for spatial analysis were calculated in two ways: (a) by author affiliation and (b) by content analysis of 'topic sections' to determine where research was focused. Determining where the research was focused was calculated by analysing the abstracts for the frequency of occurrences for each country to provide a relative measure of research density (Verrall and Pickering, 2020). All contributing authors and subject areas are included, so some publications may be counted multiple times (Haunschild et al., 2016; Mingers and Leydesdorff, 2015). To identify dominant research topics and themes as well as co-author and co-citation interconnections, the bibliometric analysis package VOSviewer (van Eck and Waltman, 2010) was used to visualise and map the literature (see www.vosviewer.com). To reduce ambiguity, keywords, authors and reference titles were clustered using thesauri prior to analysis (Waltman et al., 2010). The distancebased maps produced here are generated by bibliographic coupling as a method to position nodes (e.g. keywords, authors, reference titles) and are weighted by number of documents/citations and link strength (Waltman et al., 2010). The distance between nodes is relative to the bibliographic similarity and nodes are allocated clusters which identify closely interrelated nodes. VOSviewer uses a modularity-based clustering method, which is comparable to multidimensional scaling and is generated by the smart local moving algorithm (Waltman and Van Eck, 2013; Waltman et al., 2010).

3. Results

3.1. Temporal evolution of the research

The first recorded publication from this literature was published in 1978 and assessed the relationship between climatic variations and horticultural trade flows in Europe (Folley, 1978). There were only 1,188 publications (10.3%) over the next 32 years (1978–2010), after which there has been a rapid increase in research on this topic with 4,035 publications (35.1%) over the following five years in the emerging period (2010–2015) and a further 6,283 publications (54.6%) in the latest five years. The greatest increase in publications on this topic occurred between the five-year period of 2006–2010 (540% increase from previous five years). Overall, this literature has seen an average annual growth rate of 28.5% and is thus set to double in size by early 2022.

Figure 1: Co-authorship of leading authors with at least 10 publications and 500 citations (60 authors) with the data displayed as distance maps, using VOSviewer software



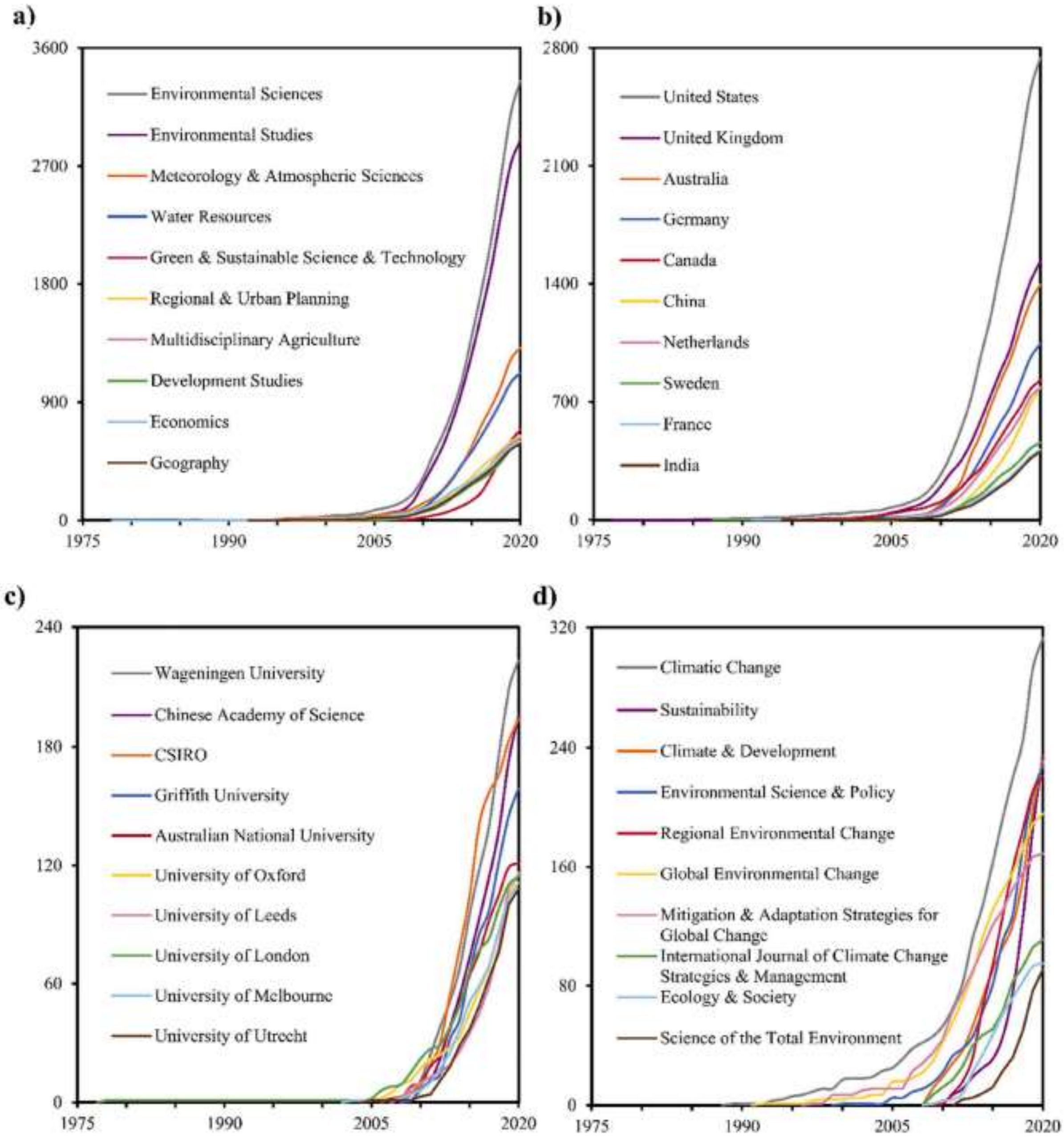
Source: Van Eck and Waltman, 2019 (Lines are weighted by the number of links, with minimum line strength indicating one co-authored publication. Circles are weighted by the number of citations and top ten cited authors denoted by bold labels).

The diversity of subject areas covered by this literature has expanded considerably through time (Figure 2a). The first publications from this literature focused on 'economics', 'meteorology and atmospheric sciences' and 'multidisciplinary agriculture' but 'environmental sciences' and 'environmental studies' have become the dominant subject areas through time. Both 'multidisciplinary agriculture' and 'economics' were key subject areas until 1995, after which research on 'water resources' increased considerably. Research focus began to diversify from natural sciences to better encompass human dimensions such as 'regional and urban planning', 'development studies' and 'geography' from 2005 onwards, and most recently, 'green and sustainable science and technology' has become a key research area. Considering the temporal publication dynamics of countries, the United States and the United Kingdom have led this literature since its inception while Canada was also an important early contributor (Figure 2b). Since 2010, Australia has emerged as a research powerhouse, with Germany also considerably increasing its research output. The research of these leading countries has been excelled by a handful of research organisations (Figure 2c), with several organisations from Australia (CSIRO, Griffith University, Australian National University), the United Kingdom (University of Oxford, University of Leeds and University of London) and the Netherlands (Wageningen University and University of Utrecht). University of London and University of Oxford were leading contributions to this literature before 2010, but more recently, Wageningen University, CSIRO, the Chinese Academy of Science and Griffith University have emerged as the core organisations publishing on this topic. The leading journals that have published this literature have also evolved over time (Figure 2d). Early work on climate change adaptation was naturally published in those journals that were forerunners in this area: Climatic Change (established 1978), Global Environmental Change (established 1990) and Mitigation and Adaptation Strategies for Global Change (established 1996). Regional Environmental Change (established 1999) has risen rapidly as a major publication outlet for climate adaptation since 2010. From 2004 onwards, journals such as Environmental Science and Policy (established 2001) have also increased their publication outputs on climate adaptation. After 2005, several newer journals began rapidly publishing on this topic including Sustainability (established 2009), International Journal of Climate Change Strategies and Management (established 2008) and Science of the Total Environment (established 2014). The overall strongest journal in this field remains Climatic Change.

3.2. Core research topics and themes

The most cited publications of this literature cover topics such as food security (Lobell et al., 2008; Pittelkow et al., 2015; Rosenzweig et al., 2013; Smit and Skinner, 2002), adaptive capacity (Adger et al., 2005, 2003; Bryan et al., 2009; Füssel, 2007; Grothmann and Patt, 2005; Kates et al., 2012; Pahl-Wostl, 2009; Pelling, 2010; Smit et al., 2000; Wilby and Dessai, 2010), health impacts (Costello et al., 2009), climatic extremes (Dore, 2005; Field et al., 2012; Littell et al., 2009; Taylor et al., 2013), social capital (Adger, 2003; Pelling and High, 2005), and limits (Adger et al., 2009; Riahi et al., 2017) and barriers (Moser and Ekstrom, 2010) to adaptation.

Figure 2: Temporal trends (1978–2020) of cumulative number of publications by leading subject areas (a), countries based on author affiliation (b), organisations (c), and journals (d). (All assigned subject areas and contributing authors are included, so some publications may be counted multiple times. Data from 2020 is incomplete as it was collected on June 16. Subject area categories are based on Web of Science Core Collection Categories).



Source: Author's statistic

4. Discussion and Conclusion

This paper has investigated the evolution of and current trends in peer-reviewed climate adaptation science. By using a bibliometric method, we have captured geographical representation, temporal trends in research priority topics and provided a review of the most cited papers, authors, foundational journals and research collaboration clusters. Overall, the subject of climate change adaptation is now truly global in its reach given its mainstreaming across journals, sectors and disciplines combined with rapid annual growth rate that is set to continue. The key topics have clearly diversified over time with new topics such as ecosystem-based adaptation and green infrastructure in particular in the last five years. Yet, despite this diversification and mainstreaming of climate adaptation science, the literature is still heavily dominated by developed countries. This leads to a pressing need to increase especially developing country contributions to this vast literature so that it adequately reflects the diversity of climate adaptation insights and experiences. Future research could also look into similar trends in grey literature to capture the implementation experiences across the world and provide additional insights into how adaptation has evolved as a topic over time and identify future directions on emerging trends that are relevant to adaptation science, policy and practice.

5. References

1. Adger, W.N., (2003), *Social capital, collective action, and adaptation to climate change*, Economic Geography 79, 387–404. https://doi.org/10.1111/j.1944-8287.2003.tb00220.x.

2. Adger, W.N., Arnell, N.W., Tompkins, E.L., (2005), *Successful adaptation to climate change across scales*, Global Environ. Change 15, 77–86. https://doi.org/10.1016/j.gloenvcha.2004.12.005.

3. Becken, S., (2013), *A review of tourism and climate change as an evolving knowledge domain*, Tourism Manage Perspectives 6, 53–62. https://doi.org/10.1016/j.tmp.2012.11.006.

4. Berrang-Ford, L., Ford, J.D., Paterson, J., (2011), *Are we adapting to climate change?*, Global Environ. Change 21, 25–33. https://doi.org/10.1016/j.gloenvcha.2010.09.012.

5. Biazin, B., Sterk, G., Temesgen, M., Abdulkedir, A., Stroosnijder, L., (2012), *Rainwater harvesting and management in rainfed agricultural systems in sub-Saharan Africa – a review*, Phys. Chem. Earth. 47–48, 139–151. https://doi.org/10.1016/j.pce.2011.08.015.

6. Boeckmann, M., Zeeb, H., (2016), *Justice and equity implications of climate change adaptation: A theoretical evaluation framework*, Healthcare 4 (3). https://doi.org/10.3390/healthcare4030065.

7. Bryan, E., Deressa, T.T., Gbetibouo, G.A., Ringler, C., (2009), *Adaptation to climate change in Ethiopia and South Africa: options and constraints*, Environ. Sci. Policy 12, 413–426. https://doi.org/10.1016/j.envsci.2008.11.002.

8. Conway, D., Schipper, E.L.F., (2011), *Adaptation to climate change in Africa: challenges and opportunities identified from Ethiopia*, Global Environ. Change 21, 227–237. https://doi.org/10.1016/j.gloenvcha.2010.07.013.

9. Gill, S.E., Handley, J.F., Ennos, A.R., Pauleit, S., Theuray, N., Lindley, S.J., (2008), *Characterising the urban environment of UK cities and towns: a template for*

landscape planning, Landscape Urban Plann. 87, 210–222. https://doi.org/10.1016/j.landurbplan.2008.06.008.

10. IPCC, (2013), Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, United Kingdom.

11. IPCC, (2014b), Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. IPCC, Geneva, *Switzerland.*

12. Juhola, S., Westerhoff, L., (2011), *Challenges of adaptation to climate change across multiple scales: a case study of network governance in two European countries*, Environ. Sci. Policy 14, 239–247. https://doi.org/10.1016/j.envsci.2010.12.006.

13. Waltman, L., van Eck, N.J., Noyons, E.C.M., (2010), *A unified approach to mapping and clustering of bibliometric networks*, J. Informetrics 4, 629–635. https://doi.org/10.1016/j.joi.2010.07.002.

ESTIMATION OF THE WILLINGNESS TO PAY FOR PRESERVATION OF LE QUY DON PARK IN THAI BINH CITY, THAI BINH PROVINCE, VIETNAM

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Abstract

The main objective of the study is to estimate the willingness to pay (WTP) for conserving the Le Quy Don park in Thai Binh city, Thai Binh Province, Vietnam. In doing so, contingent valuation method is applied. A survey of 128 households by face-to-face interview using questionnaire was conducted in Thai Binh city. The results of the study showed that each household of the Thai Binh City were willing to pay 27.1 thousand VND/quarter or VND 108,532.3 every year for preserving the public parks in the city. The WTP for preservation of Le Quy Don park is affected by household leaders' education level, income and distance from the park. The higher education level and higher income will bring higher WTP while the farther from the park, the lower WTP.

Keywords: *contingent valuation, willingness to pay, public parks.*

1. Introduction

Urban parks are considered as important contributors to a sustainable development of cities both in developed and developing countries. They bring the local people a wide range of benefits a such as recreational activities, fresh air, aesthetic, and ecological functions. Urban parks can sequester carbon dioxide emissions and produce oxygen (Jo, 2002). They are also a major contributor in stabilizing the urban climate, the growth of biodiversity (Konijnendijk et al., 2005) and economic development Besides many environmental and ecological services, urban nature provides important social and psychological benefits to human societies, which enrich human life with meanings and emotions (Chiesura, 2004). This maybe the reason for an increasing interest for their development in urban setting. Hence, a policy that aimsat improving on urban environmental amenities by the provision of public goods such as urban parks make life in cities easier (Warner and Hefetz, 2002). The creation of urban parks has become a major concern for policymakers who are greatly interested in the importance and value of urban parks (Jacobs, 1961). Therefore, the improvement of urban parks is aimed at harmonising town planning with the environment in the quest for sustainable cities. Due to a large increase in urban population, these open spaces are increasingly in demand for the numerous advantages they offer. Residents of urban areas generally place a lot of importance on urban parks and green spaces and some of them are more willing to directly or indirectly fund their creation to obtain the benefits or amenities they provide (Bolund and Hunhammar, 1999). The amount that the visitors are willing to pay for an improved urban park is relevant to stakeholders when making tariff decisions.

In Vietnam, the urban park which were defined public space in the Circular 19/2010/TT – BXD of Ministry of Construction is one of the criteria to rank the cities in Vietnam. However, urbanization, economic growth and rapid population growth is posing growing challenges to public space. In this study, we took the Le Quy Don Park in in Thai Binh city, Thai Binh province to investigate the state and condition of public parks and estimating the willingness to pay (WTP) for preserving it. In Thai Binh city, to meet the requirements of rapid urbanization and standards of grade I urban areas, the investment in upgrading and modernizing the urban technical infrastructure system, water supply and drainage, roads, public Members ... and development of public space is a policy set out by the City Party Congress for the term 2020 - 2025. At present, with the rapid urbanization rate and the rapid population growth, the green spaces of the park are no longer balanced with the urban areas. Besides, due to less investment, these parks do not meet the entertainment and entertainment needs of the people. Green parks are now “a luxury” for the city. Le Quy Don Park in De Tham ward, Thai Binh city, has a total land fund of nearly 34,000 m2, of which land for flower gardens and trees is more than 23,000 m2, including 360 trees. Although it is the park with the largest scale and located in the city center, Le Quy Don Park still has many shortcomings: the land area is used for wrong purposes; poor and degraded facilities; the loose management of functional agencies; status of hygiene, security, order and safety; does not attract people, especially young people; The percentage of trees in the park is not really “green” enough. From the above shortcomings, the research and assessment of the willingness to pay (WTP) for the maintenance and improvement of the park is extremely important and necessary to ensure the sustainable development and direction.

The main objective of this study is to value the Le Quy Don park in Thai Binh City, Thai Binh province by estimating the willingness to pay (WTP) for preserving it, which will provide us a monetary estimate about its importance. And the more specific objectives of the study are as follows: (i) To identify the explanatory factors influencing the willingness to pay; (ii) to trace out the main problem (s) prevalent in public parks, and (iii) to suggest ways to concerned bodies for improvement and development of public parks.

2. Methods

In valuing environmental goods like public parks, the value includes both use (value derived from actual use of a good or service) and non-use (also referred to as passive use values, are those not associated with actual use, or even the option to use a good or service) values. Accordingly, contingent valuation method (CVM) would be relatively more appropriate for our study, which is used to estimate both use and non-use values and can be applied to find economic values for almost all kinds of environmental amenities.

2.1. Questionnaire design

First of all, in order to ensure the quality of a large-scale investigation, the study developed a sample questionnaire and conducted a pilot survey with 10 people. The questionnaire was revised based on the observed shortcomings during the pilot investigation, so that it was included in a large-scale investigation. The research was conducted based on the survey of the people through the random assessment method (CVM) questionnaire. The structured questionnaire consisted of 4 parts: Part 1 contains questions on the perception of the benefits that the park brings to people in terms of health, spirit, environmental improvement, urban landscape construction. Part 2 has 6 questions to gather qualitative information on people's perceptions and perceptions about the renovation and maintenance of Le Quy Don Park, the important benefits the park brings, and the inadequacies of the park are given priority. overcoming and developing the development orientation of the park. Respondents were asked to select the level of importance that they consider most appropriate for each question about problems of and their level of interest in the park. The third part collects information on people's willingness to pay (WTP) level for the renovation and maintenance of Le Quy Don Park in Thai Binh City. Before answering the question about the level of WTP, the respondents were specifically explained about the current status of Le Quy Don Park, and the reasons for the park preservation. Following is the description of the hypothetical scenario as follows: “Every year, every household must pay money into the Infrastructure Development Fund for the protection and development of Le Quy Don Park and collect via quarterly garbage collection service bill. This amount of money will be used for renovation and maintenance of Le Quy Don Park in Thai Binh City”. a Binary question is used to ask the Willingness-to-pay with 3 levels of payment: 15 thousand VND, 30 thousand VND and 45 thousand VND per person per quarter. Respondents should answer whether they are willing to pay the rates asked for the renovation and maintenance of Le Quy Don Park. Payment rates are randomly distributed to each person. Following this scenario are some questions about the certainty of respondents' responses and why they are not willing to pay (if WTP = 0). The fourth part includes questions about the socio-economic characteristics of the respondents. Questions include age, gender, education level, occupation, income, years lived in the city, plan to live permanently in Thai Binh City, and distance from home location to the job member Le Quy Don.

2.2. Data collection

Data and information on people's perceptions and perceptions, willingness to pay for park rehabilitation and maintenance and information on their socio-economic characteristics were collected through face-to-face interview. The study surveyed and interviewed 128 people (representing 128 households). The study uses a stratified sampling method for a sample of 128 people of Thai Binh city, in which the number of samples in each ward is determined based on the ratio of the population of each ward to the total population of wards.

Specifically, the study was investigated in 4 wards: De Tham (21 households); Ky Ba (29 households); Bo Xuyen (27 households); Tran Hung Dao (15 households) and 2 communes: Dong Xuan (15 households); andVu Chinh (21 households).

3. Results

3.1. Descriptive statistics of the sample

The average age of respondents is 38 years old, mostly between 25 and 55 years old. Regarding the sex ratio of the subjects surveyed is similar in 128 samples, there are 59 males (46%) and 69 females (54%). The survey results show that the majority of interviewees have a relatively high education level (Table 2.1). Respondents have university and college degrees (54 respondents), accounting for 42.19%, followed by postgraduate qualifications (9 respondents), accounting for 7.03%. The number of respondents with high school degree is 43 samples, accounting for 33.59%. 22 respondents left finished secondary or primary school, accounting for 17.19%.

Of the 128 respondents surveyed, 21.09% are civil servants / state officials / private enterprises and 31.25% are workers / employees / managers of private enterprises, 25% are self-employed. The houseworkers and retired people account for 17.19% and students account for 5.47%. The income level of the interviewees in the survey sample fluctuates between the lowest of less than 1 million VND and the highest of 15-20 million VND with the average income of about 6 million VND. This is a factor that will greatly affect people's willingness to pay for the renovation and maintenance of Le Quy Don Park. Most of the respondents will definitely intend to live permanently in Thai Binh City, accounting for 86%, 12% are unlikely to live permanently in Thai Binh City. There is only a small percentage of the respondents do not live permanently in Thai Binh City.

Table 1: Education level of the sample

Education level	Number of survey samples	Percentage
Secondary or primary school	22	17,19%
High school level	43	33,59%
University and college degrees	54	42,19%
Postgraduate	9	7,03%

3.2. People's assessment of Le Quy Don Park

Park benefits

Regarding the benefits that Le Quy Don Park brings, the survey shows 5 main benefits. Interviewees chose 3 out of 5 benefits that they think are the most important that Le Quy Don Park brings. 384 choices were made by 128 respondents, of which 97 choices were entertainment and activities. The benefit of outdoor activities accounted for 25.26%. 86 choices were “helping to improve physical and mental health”, accounting for 22.4%. Next are the benefits of reducing environmental pollution, controlling climate and creating urban landscape with 81 choices, equivalent with 21.09%. Finally, the benefit of Better community engagement accounts for 10.16% (39 choices).

Problems in the park

Regarding inadequate issues at the park, the study raises 5 main issues. Out of 5 shortcomings, respondents choose 3 out of 5 problems that they think should be prioritized to solve. 23.44% of the answers were the problem of pollution: the waste collection and treatment in the park was ineffective. 22.92% of respondents think that infrastructure is still poor, degraded, and cannot meet the needs of the people, which is a problem that needs to be overcome. Following is the problem of weak management from government agencies: The land was used for wrong purposes (17.79%); many shops were allowed to run business in the park illegally (17.45%); The percentage of tree cover is low (16.41%). When asked about the level of people's concern about the above issues, 46.1% of respondents are interested, while 15.63% do not care and 1.56% do not care at all. Thus, according to the assessment results, the awareness and concern of Thai Binh city people about the shortcomings happening at Le Quy Don Park is generally quite high. The survey also had questions about the situation of the Park in the next 5 years. There were 67.18% of the respondents saying that the park will develop in a better direction while 14.84% thought that the park will be deteriorated. The number of people thought it was necessary to improve the Le Quy Don Park was relatively high at 77.35% of the respondents. Only few respondents said that this was unnecessary, accounting for 5.47%.

Table 2: People's views on preservation and management of Le Quy Don Park

People's views on park preservation and management	***Totally disagree***	***Disagree***	**No idea**	**Agree**	**Totally agree**
1.The issue of preservation and park management is the responsibility of state agencies and governments	3,91%	8,59%	12,5%	60,94%	14,06%
2.We need to sacrifice part of our income and living conditions so that the next generation can enjoy a better environment.	1,56%	3,13%	33,59%	51,56%	10,16%
3.The issue of preservation and park management is an issue of society, rights and responsibilities of state agencies, organizations, households and individuals.	1,56%	2,34%	17,97%	53,13%	25%

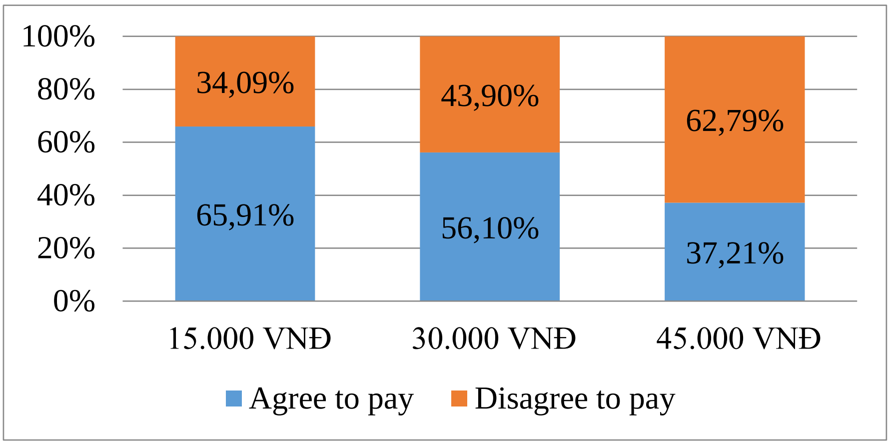
Table 2 shows that 75% of the people agreed that park preservation and management is the responsibility of state agencies, while 3.91% totally disagreed and 8.59% disagreed. More than 61% of respondents are willing to sacrifice part of their income and living conditions so that the next generation can enjoy a better environment. The percentage of people who opposed this point of view was very small, only 4.69%. People in the low-income group were also willing to spend part of their income to protect the environment.

Besides, 78.13% of the respondents agreed and completely agreed that the preservation and management of the park was the responsibility of the whole society including the state agencies, the social organizations and the community. Only a small percentage of the respondents disagreed (3.9%).

3.3. Estimated WTP for park preservation

The questionnaire gave 3 levels of quarterly payments (as the payment vehicle is quarterly waste collection service bill), which were VND 15,000, VND 30,000 and VND 45,000. Payment rates are randomly distributed to each person. Respondents should answer whether they are willing to pay the rates asked for park preservation. The number of respondents for the rate of VND 15,000, VND 30,000 and VND 45,000 were 44, 41 and 43 respectively. Figure 1 showed the percentage of the answers for each level of payment. Nearly 66% of the interviewees agreed to pay at the rate of 15,000 VND; 56.1% agree with the rate of 30,000 VND and about 63% disagree with the payment rate of 45,000 VND.

Figure 1. The rate of willingness to pay and the unwillingness to pay according to each level of payment



This rate is completely consistent with the law of demand: as the payment increases, the rate of agreeing to pay for park preservation will gradually decrease. Out of a total of 128 respondents, 60 people disagree with the level of payment questioned. All the reasons that the respondents are not willing to pay are summarized in Table 2. The average WTP is calculated as in the following formula:

$$\text{Average WTP} = \frac{\sum_{i=1}^{n} pi * BIDi}{\sum_{i=1}^{n} pi}$$

BIDi : The level of payments that people are asked to pay

pi: probability of agree to pay at BIDi ($0 \leq pi \leq 1$)

n: The number of level of payment

Thus, the average WTP was 27.1 thousand VND/quarter or VND 108,532.3 every year for each household.

Table 3 shows that the reason for the highest percentage (31.67%) that people are not willing to pay for park preservation is “I agree with the renovation and maintenance of parks, but THE GOVERNMENT MUST BE RESPONSIBLE for the entire cost because we already paid them the tax”. 19 of 62 respondents said that they have paid the tax and fees to the State and parks under the management of the City People's Committee, then the state budget must be used for the renovation and maintenance of the park. Up to 23.33% of people refuse to pay for the reason "I agree with the renovation and maintenance of the parks, but I DO NOT BELIEVE my donation will be used ONLY for this PURPOSE". There are 20% who choose the reason “I CAN'T CONTRIBUTE because I have only enough money to spend for me and my family”. These people say that there are many expenses in the family and their income is only enough to cover their daily life’s needs. 16.67% thought that “the renovation and maintenance of parks was NOT USEFUL to me”. 10 out of 60 respondents said that renovating the park would not benefit them, maybe because most of them live far away from the park and do not visit the park very often. To assess the level of certainty of willingness-to-pay of the respondents, a scale of 1 to 10 were developed, where 1 is “Very uncertain.” And 10 is “Very certain”. Most respondents are quite sure with their willingness to pay, up to 61% of respondents have a very high degree of certainty (from 8 to 10) and nearly 40% of respondents with medium certainty average (from 5 to 7).

Table 3: Reasons for unwillingness to pay for the preservation of Le Quy Don Park

Reason	**Frequency**	**Percentage**
1. I agree with the renovation and maintenance of the parks, but I DO NOT BELIEVE my donation will be USED ONLY for this purpose.	14	23,33%
2. I agree to renovate and maintain the parks, but I CANNOT CONTRIBUTE because I have only enough money to spend for me and my family.	12	20%
3. I agree with the renovation and maintenance of parks, but THE GOVERNMENT MUST BE RESPONSIBLE for the entire cost because we already paid them the tax.	19	31,67%
4. Renovating and maintaining parks is NOT USEFUL to me	10	16,67%
5. Other reasons	5	8,33%

3.4. Factors influencing willingness to pay for park preservation

To analyze WTP for the preservation of Le Quy Don Park in Thai Binh City, the study uses a linear regression model with WTP as the dependent variable affected by independent variables including sex (SEX), age (AGE), education level (EDU), income (INCOME), distance from housing to park (DISTANCE). The willingness to pay for any observation takes the form:

$$WTP_i = a_1 + b_1 * SEX_i + b_2 * AGE_i + b_3 * EDU_i + b_4 * INCOME_i + b_5 * DISTANCE_i + \varepsilon_i$$

In which: a_1 is the intercept; b_i (from 1 to 5) is the slope of the independent variables; ε_i is the effect of other variables not included in the model on the WTP.

The results of regression estimation of factors affecting people's willingness to pay for preservation of Le Quy Don Park are shown through the equation:

$$WTP_i = -29{,}8713 + 3{,}0568 * SEX_i + 0{,}1012 * AGE_i + 2{,}7373 * EDU_i + 0{,}0009 * INCOME_i - 0{,}7926 * DISTANCE_i + u_i$$

We see P-Value (Prob (F-Statistic)) = 0.0000 <0.05, this result shows that the above model is suitable. Besides, the correlation coefficient R2 received the value of 0.4815, meaning that 48.15% of the variation of WTP was explained by the variable introduced into the model.

The SEX variable has a regression coefficient of b_1 = 3.06 > 0 and the P-Value = 0.1609 > 0.05, which shows that the gender variable is not statistically significant at the 95% significance level. Therefore, there is not enough evidence to conclude that there is a difference in affordability between men and women.

The regression coefficient of AGE variable is b_2 = 0.1012 > 0 and P-Value = 0.4152 > 0.05, this result shows that the age variable is not statistically significant at the 95% significance level. So it is not to conclude that age affects WTP of people.

According to the research results, the WTP depends closely on the income variable. The regression coefficient b_3 = 2,7373 > 0 and P - Value = 0.0000 < 0.05 show that the variable of people's education level is positively related to affordability and systematic significance. statistic at the 95% significance level. This shows that, the awareness of environmental protection and the desire to have a green, clean and beautiful environment of people with higher qualifications is higher.

Table 4: Regression models of WTP

Variable	**Sign**	**Coefficient**	**P - Value**
C	a_1	-29,8713	0,0076
SEX	b_1	3,0568	0,1609
AGE	b_2	0,1012	0,4152
EDU	b_3	2,7373	0,0000**
INCOME	b_4	0,0009	0,0287**
DISTANCE	b_5	-0,7926	0,029**
R- squared	0,481456		
Mean	14,29688		
F- statistic	22,65479		
Prob(F-statistic)	0,000000		

Note: **: significant at 5%

The income level has a certain influence on WTP, with the significance level of 95%, we have P-Value (income) = 0.0287 < 0.05, proving that the income variable is statistically significant. Besides, we have b_4 = 0.0009 with a positive sign, meaning that as income increases, our willingness to pay will also increase. This is completely consistent with the theory and similar experimental studies. In fact, when the income is high, people will pay more attention to the quality of the surrounding environment, they always want to live in a green, clean, beautiful and fresh environment, then the need to consume quality goods and services. Increased environment leads to increased affordability as well.

The influence of the distance from the house location to the park has a relatively large impact on the WTP. With P - Value (distance) = 0.029 < 0.05, this proves that the variable DISTANCE is statistically significant at the 95% level. The sign of the coefficient b_5 = - 0,793 is negative, implying that the farther the distance from home to the park is, the lower the willingness to pay. Reality proves that the farther people are from the park, the less benefits and importance the park gives them than those who are near the park or even they will not enjoy any value. benefit that the park brings. At the same time, these people are often less concerned with the park's problems, so their affordability or may not be willing to pay because they believe that renovating and maintaining the park is not. useful to them.

Thus, out of the 5 factors included in the model, only 2 factors are not statistically significant, namely the gender variable and the age variable. The remaining variables identified as having an influence on WTP are education level, distance from home location to park, and income which also have certain effects on WTP. This is an important basis for giving orientation and proposing solutions for the management and preservation of Le Quy Don Park in Thai Binh City in particular and improving the quality of the environment in general.

4. Discussion and Conclusion

In recent years, Thai Binh city has a fast urbanization rate, so the city is focusing on research and planning to build a smart city and towards urban standards of grade I. In which, development is Environmental infrastructure, especially investment in upgrading and renovating green parks is an urgent issue in Thai Binh city in particular and urban areas in Vietnam in general. Currently, the status of Le Quy Don Park is facing serious problems such as environmental pollution, waste collection; poor and degraded facilities do not meet the needs of the people; park land is used for wrong purposes; security and order have not been guaranteed; The proportion of trees is still low, along with the weak management from government agencies. Research results show that people are aware of the benefits as well as the shortcomings that exist at Le Quy Don Park and the importance of environmental protection. People’s interest in the park is also relatively high. Most of the respondents accepted to sacrifice part of their income and living conditions so that future generations could enjoy a better environment. However, despite paying great attention to environmental protection, the role and participation of individuals and households in the preservation of the park are not fully understood. Most of the people believe that they have paid taxes to the State, so renovating and maintaining the park is the responsibility and job of the government. The paper uses the CVM method with a binary question form to estimate the people's willingness to pay for the preservation of Le Quy Don Park. The survey results showed that 68/128 (53.125%) of the subjects agreed to pay and the average WTP was estimated at 27.1 thousand VND/quarter or VND 108,532.3 every year. The people's willingness to pay depends closely on income, education level and distance from housing to parks. Specifically, income and educational attainment are proportional to WTP, while the gap is inversely related to WTP. In addition, the study does not have enough evidence to show the influence of factors such as gender and age on the affordability of Thai Binh people. From the above results, some solutions to manage and preserve the park can be recommended, such as enhancing financial resources, capital; raise awareness of the community, increase income and living standards of the people, develop regulations on park management and protection. However, since the number of observations in the article is quite small compared to the total population of Thai Binh city, a more in-depth and detailed study with a larger sample of survey is required to clearly demonstrate attitudes and abilities payment of the people for the preservation of Le Quy Don Park.

5. References

1. Bolund, P., & Hunhammar, S. (1999). Ecosystems services in urban areas. *Ecological Economics*, 29, 293-301.

2. Chiesura, A. (2004). The role of urban parks for the sustainable city. *Landscape and Urban Planning, 68*(1), 129-138. doi: https://doi.org/10.1016/j.landurbplan.2003.08.003

3. Jacobs, J. (1961). *The death and life of great American cities*, Harmondsworth, UK: Penguin Books.

4. Jo, H. (2002). Impacts of urban greenspace on offsetting carbon emissions for middle Korea. *Journal of Environmental Management*, 64, 115-126.

5. Konijnendijk, C., Nilsson, K., Randrup, T., & Schipperijn, J. (2005). *Urban forests and trees –A reference book.* Springer.

6. Warner, M. E. & Hefetz, A. (2002). Applying market solutions to public services: An assessment of efficiency, equity and voice. *Urban Affairs Review*, 38(1), 70-89.

THE EFFICIENCY OF CROP STRUCTURE CONVERSION FROM RICE-BASED TO FRUIT TREES IN THE MEKONG DELTA

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Abstract

The Mekong Delta is a key rice development area of the country, but the region also faces many challenges. Growing rice brings lower efficiency to farmers than other crops on the same area. The government has a policy to allow households to switch from rice-growing land to other crops. Based on survey data of 72 households in 3 provinces of Hau Giang, Dong Thap and Long An, the analysis results show that when changing the crop structure from rice to fruit trees, the profit of fruit trees is higher 9 times that of rice. But the conversion faces environmental problems as growing fruit trees uses four times more fertilizers and pesticides than rice. People change crop structure due to profit, price level of fruit and market demand. Therefore, in parallel with the policy to allow the conversion, it is also necessary to strictly control and form concentrated conversion areas for fruit trees in order to improve efficiency and ensure a balance of economic, social, and environmental benefits.

Keywords: *rice, fruit trees, efficiency, crop structure conversion*

1. Introduction

The Mekong Delta region has many natural conditions of soil and climate, rich resources and favorable Vietnam. The economic development of this area depends heavily on the development of agricultural, forestry and aquaculture activities. This is the largest agricultural production center of Vietnam, contributing 50% of rice production, 65% of aquaculture production and 70% of fruits of the country; 95% of rice exports and 60% of fish exports (Government, 2017). This is an area suitable for the development of fruit trees, with alluvial soil, fresh water all year round, mild climate, lush four-season fruit trees, forming many famous specialty tree growing areas (Nguyen Bao Ve, 2019). However, there are many challenges such as the impact of climate change, in addition to the developments in the upstream, which will cause great impacts and changes to the hydrology. These impacts and their consequences are geographically distributed, presenting specific opportunities and constraints in land and water use and economic development in the upstream region in the Mekong Delta (Government of Vietnam and Government of the Netherlands, 2013). Climate change and sea-level rise are happening faster than forecast, causing many extreme weather events, affecting people's livelihoods. The exploitation of water resources in the upstream of the delta, especially the construction of hydroelectric dams, has changed the flow, reduced the amount of alluvium, decreased aquatic resources, and deeply penetrated the interior of the region, causing negative impacts on the environment, and the socio-economic development of the region (Government, 2017). In addition, the region is facing internal problems such as water management, industrial and urban intensification, accompanied by pollution of soil, water, ecosystems and resource depletion (Le Anh Tuan, 2020). According to the "Mekong Delta Plan – Long-term vision and strategy to develop a safe, prosperous and sustainable Mekong Delta" in 2013, the Mekong Delta region is divided into 3 sub-regions: (1) Region upstream (including Dong Thap, An Giang and Long An provinces); (2) The middle region (including the provinces of Tien Giang, Vinh Long, Hau Giang, Can Tho city and part of the area of Ben Tre, Tra Vinh, Soc Trang, and Bac Lieu); (3) Coastal area (including part of Tien Giang, Ben Tre, Tra Vinh, Soc Trang, Kien Giang provinces, and most of Bac Lieu and Ca Mau province).

Over the past 30 years, the above trend has helped to rapidly increase the area of fruit trees in the Song Tien and Hau River areas, starting from Dong Thap, Tien Giang, Vinh Long, and Hau Giang, then expanding to areas with high-quality systems. The dyke system is closed and less affected by floods. Between 2010 and 2016, the total area of fruit trees in the Mekong Delta increased by 53% with 323,000 fruit trees (Bui Ba Bong et al., 2018). From 2015 to 2019, the government issued 3 Decrees on the management and use of rice land, which stipulate the order, conditions, and procedures for converting crops from rice to other crops of economic high economy. Many farmers in the Mekong Delta region have converted from rice to high economic value crops such as cash crops and fruit trees.

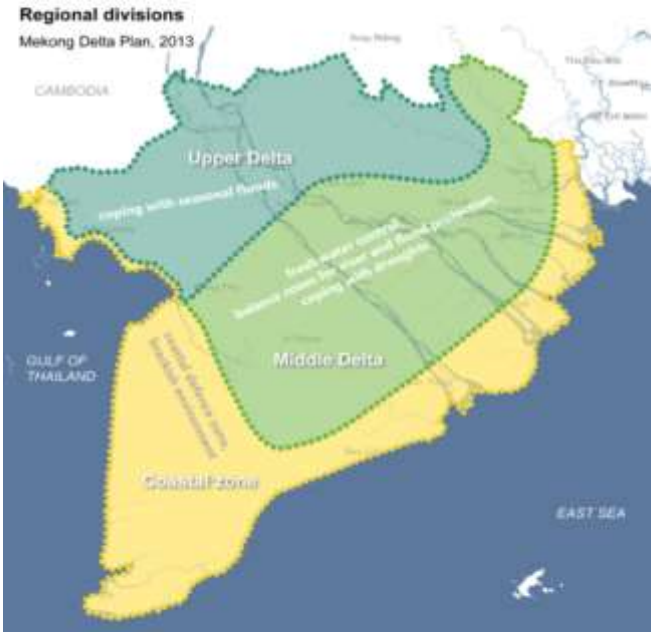

Figure 1. Map of zoning of the Mekong Delta

Source: Mekong Delta Plan - Long-term vision and strategy To develop a safe, prosperous and sustainable Mekong Delta (2013)

The Ministry of Agriculture and Rural Development issued Decision No. 586/QD-BNN-TT on formulating a plan to change the crop structure on rice land, in which the area converted from rice to other crops of the Mekong Delta accounts for about approximately 67% of the converted area of Vietnam. The main converted crops are annual crops, which are cash crops (accounting for 94%), and perennial plants are mainly fruit trees and industrial plants. The change of land use purpose or crop structure of people depends on the market, especially on the price of agricultural products. The replacement of low-yield, low-efficiency rice production areas with cash crops and fruit trees initially achieved efficiency and development prospects (Le Tran Thanh Liem, 2020).

Table 1. Plan to change crop structure from rice to other crops of provinces in the Mekong Delta in the period 2017-2020

No	Province	Total	Annual tree	Perennial tree
Total		**741.868,90**	**652.464,40**	**44.702,30**
Mekong Delta		**504.160,30**	**447.683,10**	**28.238,60**
1	Long An	10.400,00	8.000,00	1.200,00
2	Dong Thap	106.550,00	97.450,00	4.550,00
3	An Giang	23.200,00	13.000,00	5.100,00
4	Tien Giang	65.090,00	56.160,00	4.465,00
5	Vinh Long	112.417,80	103.827,20	4.295,30
6	Ben Tre	2.523,00	1.243,00	640
7	Kien Giang	86.625,00	86.625,00	0
8	Can Tho	6.000,00	6.000,00	0
9	Hau Giang	5.618,50	333,1	2.642,70
10	Tra Vinh	73.130,50	66.462,80	3.333,90
11	Soc Trang	7.945,50	3.922,00	2.011,70
12	Bac Lieu	4.660,00	4.660,00	0
13	Ca Mau	0	0	0

Source: Decision No. 586/QD-BNN-TT (2017)

The conversion of land use purposes will help people increase profits on the same area of use, but also face many challenges. The conversion from rice land to other crops increases the net profit of agriculture significantly, but this conversion also increases the pollution to the environment due to the use of agricultural products. more fertilizer than growing rice (Wenjun Jiao et al., 2016). Research results of Nguyen Quoc Hau et al (2018) in Vinh Long show that the group of Fluvisols (alluvial soil) reduced the area of 25,944.38 hectares, the group of Gleysols (the gley soil) increased by 13,759.87 hectares, the Anthrosols group (the soil) factors) increased by 12,184.51 ha, the Arenosols group (sand soil) did not change in area and type of soil, mainly due to the change in crop structure in the year from 2 rice to 3 rice and land for perennial crops. The model of growing fruit trees has a negative impact on the environment for the soil and water environment (Nguyen Thi Ngoc Lan et al., 2018; Asnelly Ridha Daulay et al., 2015) pointed out that when converting from rice land to palm oil and rubber in East Tanjung Jabung Regency, the high revenue along with some difficulties faced by rice farmers made the system of sustainable land use is difficult to achieve. Balancing economic, social and environmental goals is necessary to ensure a sustainable agriculture (Pham Thanh Vu et al., 2016).

In this paper, the efficiency of converting crops from rice to fruit trees will be evaluated. Correspondingly, some sustainable development orientations are proposed when converting rice land to fruit trees in the Mekong Delta.

2. Method

In studies using qualitative and quantitative research methods. Research space selected here is 3 provinces with large conversion area including Hau Giang, Dong Thap and Vinh Long. These are provinces in 2 regions, the upper and middle are 2 regions with favorable areas and conditions to convert from rice to fruit trees. The study will conduct in-depth interviews at the provincial level to select the location with the largest converted area, and the type of fruit trees to be converted to ensure the characteristics of the province. Then, the authors conducted in-depth interviews with officials of the district's agriculture department selected for the study, then conducted in-depth interviews with officials of the Commune People's Committee where the study was conducted. Thus, there will be 9 in-depth interviews conducted. Corresponding to the 3

Figure 2. Location of the surveyed provinces in the study area

selected provinces for the study, each province will select 3 districts, and each district will select 2 communes, each commune will select 1 village with a large conversion area to conduct the survey. There will be 6 interviewees corresponding to 6 communes in 4 districts of 3 provinces selected for research. There will be 13 in-depth interviews conducted from the province to the commune level, of which the provincial level has 3 in-depth interviews, the district level has 4 in-depth interviews and the commune level has 6 in-depth interviews.

The research team selected a stratified random sample, corresponding to locations with an area converted from rice to fruit trees, randomly selected 12 converted households in a closed dike system.

Table 2. Details of selected villages for the survey

No	Research location			Typical type of conversion tree	Number of households interviewed
	Village, commune	District	Provinces		
1	Hamlet 2, Tan Hiep Commune	Thanh Hoa	Long An	Lemon, Durian, Soursop, Jackfruit, Grapefruit	12
2	Hamlet 1, Tan Tay commune			Durian, Lemon, Jackfruit, Grapefruit	12
3	Hamlet 1, Tan My commune	Thanh Binh	Đong Thap	Mango	12
4	Binh Hoa Hamlet, Binh Thanh Commune				12
5	Hamlet 8, Long Tri Commune	Long Tri Town	Hau Giang	Tangerine	12
6	Trau Hoi Hamlet, Thanh Xuan Commune	Chau Thanh A		Durian, grapefruit, longan, lemon, orange, jackfruit, rambutan	12
Total					**72**

The study selected each location 12 converted households, corresponding to 24 households in each province, and 3 provinces corresponding to 72 interviewing households based on the questionnaire. Data collection period is from November 2020 to April 2021.

3. Results

3.1. Water demand of fruit trees

When changing the crop structure from rice to fruit trees, it will reduce the amount of water for crop irrigation. This helps the region cope with problems related to drought, water shortage and saltwater intrusion and climate change. The average water demand for rice according to national standards is about 18,600 m^3/ha-year, this amount of water is 18.6 times higher than that for mango and 13 times more than for orange. In fact, according to local people's experience, the level for crops irrigated from time to time may be lower or higher than the prescribed or theoretical level of irrigation. Faced with the challenge of reducing water resources, people in the Mekong Delta have switched from inefficient rice to fruit trees. According to the Government (2020) to change the mindset on food security, to develop agriculture in the Mekong Delta based on rice; strategic pivot to fisheries - fruits - rice in line with the market, based on the established farming system and gradually adjusted according to the roadmap, avoiding disturbance affecting people's lives. When converting from inefficient rice to fruit trees, it helps to reduce water use, and at the same time, with the orientation to expand the fruit area by 2030, the total fruit area is expected to reach about 650 thousand hectares (increasing an additional 150 thousand ha in the transition zone and the flexible zone).

Table 3: Amount of irrigation water used for some crops

Type of tree	Amount of water for irrigation	Average irrigation level (m3/ha-year)
Mango	According to Tran Hung et al (2021), the amount of irrigation water is 900-1,100 m3/ha. Including, the flowering stage is irrigated from 238-301 m3/ha and the fruiting stage is 674-759 m3/ha	1,000
Oranges	Directorate of Water Resources (2013), the amount of incoming water includes: irrigation level for orange trees: (1) Basic construction phase: total irrigation rate from 1000 m3/ha/year to 1,500 m3/ha/year; (2) Fruiting stage: the amount of water for irrigation is from 1,500 m3/ha/year to 1,800 m3/ha/year.	1,400

Durian	According to Kemchart Cheychom et al (2019), the amount of incoming water for durian trees is about 600-800 m^3/rai, equivalent to 3,750 – 5,000 m^3/ha	4,375
Rice	According to the National Standard No. TCVN 8641: 2011 the irrigation regime with sown rice for 3 crops a year includes: - Winter-spring crop: The total amount of water for irrigation for the whole crop is from 7,500 m^3/ha to 8,000 m^3/ha - Summer-autumn crop: The total amount of irrigation water for the whole crop is from 5,700 m^3/ha to 6,000 m^3/ha - Autumn-winter crop: The total amount of water for irrigation for the whole crop is from 4,500 m^3/ha to 5,500 m^3/ha	18,600

Farms often install irrigation equipment for crops according to experience, and larger than the irrigation needs of the crops in terms of theoretical requirements. This causes a waste of irrigation costs for households growing crops. The amount of water used to irrigate rice is about 8 times higher than that of fruit trees. In fact, the amount of water used to irrigate fruit trees is higher than theoretically. Farmers in Dong Thap, Long An and Hau Giang provinces have about 10%-40% of the theoretical amount of water, about 30% for orange trees and about 20% for durian trees. Similar to rice cultivation, the amount of water used in individual management is lower than in the collective in all seasons (Le Canh Dung et al., 2015). This will cause water waste, and cause water pollution when this water source is polluted by fertilizers and pesticides. It also causes costly irrigation pumping for farmers who grow fruit trees.

3.2. Results of converting to fruit trees from rice plants

In the period from 2017 to 2020, households in 3 provinces converted their total area to fruit trees about 29,284.19 ha. In which, the converted area is mainly citrus such as oranges, lemons, grapefruits and tangerines with a total area of 14,509.62, accounting for 49.55% (Table 4). The converted area of each province is increasing year by year. Depending on the characteristics of each province, the converted area is usually concentrated in some key areas in the area that are drought, saline or inefficient. Converted crops are those with high selling prices, high profits and market demand, which are three factors that help farmers decide to convert.

Table 4. Total charge converted from rice-based to fruit trees in the period 2017-2020

Unit: ha

No	Type of tree	Dong Thap	Long An	Hau Giang	Total
1	Oranges	1,112.30	37.08	328.96	1,478.34
2	Lemon	334.07	11,030.12	326.66	11,690.85
3	Grapefruit		181.8	337.03	518.83
4	Tangerine	819.10		2.50	821.60
5	Dragon fruit	301.5	3,466.42		3,767.92
6	Mango	2,175.20	791.65	72.73	3,039.58
7	Jackfruit	724.10	1,561.56	454.8	2,740.46
8	Logan	441.17		252.44	693.61
9	Other tree	2,090.99	2,176.05	1,342.61	5,609.65
	Total	**7,557.26**	**19,198.67**	**2,528.26**	**29,284.19**

Source: Sub-Department of Cultivation and Plant Protection of Dong Thap, Long An and Hau Giang provinces (2021)

3.3. Efficiency of farmers when converting from rice to fruit trees

The transformation process has helped farmers increase income, improve living standards, and develop socio-economic in these areas. When changing the structure of crops from rice land to fruit trees, people will increase profits on the same area. The survey results of 72 households showed that the profit of fruit trees on the land converted from rice land was 9 times higher than that of rice. Among the most converted crops is mango (mainly concentrated in Dong Thap province), the profit of growing mango each year is nearly 12 times higher than that of rice on the same hectare. However, at present, households are not concentrated, and farmers do not form cooperative farmer organizations such as cooperative groups or cooperatives, so profits are not stable. Research results on rice for farmer households that are members of a cooperative organization or cooperative group will have an average profit of 30.3% higher than that of individual farmer households (Le Canh Dung et al, 2019). Households involved in growing tangerines in the Long Tri tangerine cooperative of Hau Giang province showed that participating in the cooperative will help members organize synchronous production, access production techniques, and reduce costs of product. In addition, it is easy to register the trademark of the crop and easy to associate with consumer businesses. At the same time, the applied cooperative is produced according to organic methods to protect the environment and ensure the health of users.

Table 5. Revenue and cost of fruit crops per hectare

Unit: million VND/year

Indicator	Rice*	Tangerine	Mango	Other tree **
Number of households		**12**	**24**	**36**
Revenue	**97.320**	**536.730**	**659.750**	**597.057**
Cost	**53.329**	**239.241**	**125.425**	**193.658**
Cost of seedlings	4.779	96.600	11.600	51.773
Cost of fertilizer	11.645	72.816	43.379	51.781
Cost of pesticides	9.578	2.477	1.933	2.416
Irrigation cost	10.398	5.135	4.008	5.371
Labor cost	6.383	49.540	46.400	66.929
Other cost (Land rental, machinery and equipment, ...)	10.547			
Initial construction cost when converting from rice land to fruit trees (investment cost of premises and irrigation systems)		12.673	18.105	15.389
Profit	**43.991**	**297.489**	**534.325**	**403.399**

Source: Calculations of the authors (2021)

*Note: *) According to Nguyen Tuan Kiet (2017), with 3 crops, each crop has an average profit of 14,664 million VND/crop*

***) Including lemon trees, custard apple, durian, jackfruit, pomelo, longan, toad, rambutan, strawberry.*

Although the amount of irrigation water for fruit trees is about 8 times lower, the annual investment and operating cost of the irrigation system is higher than that of rice. The initial investment cost for a water-saving irrigation system usually ranges from VND 69,926 million to VND 87,654 million per hectare (calculated according to state regulations). In fact, people invest in the initial construction costs ranging from 40 to 50 million VND depending on the value of each type of converted fruit tree. Corresponding to the life expectancy of mango tree is 7 years and tangerine tree is 10 years, the annual allocation cost for mango tree and tangerine tree is about 18,104 million VND/year and 12,673 million VND/year, respectively. The annual cost of irrigation for fruit trees is about 40% higher than that of rice, mainly due to electricity bills for irrigation. Converted households often build irrigation systems for fruit trees according to their experience and depending on the type of converted crops, thereby affecting neighboring rice growing households. When changing the structure of crops from rice to other crops, it will affect the soil environment because when converting from rice to fruit trees, the rice land must be improved to suit fruit trees. The amount of fertilizers and pesticides used for fruit trees is higher than that of rice, and the cost of fertilizer for fruit trees is four times higher than that of rice. The amount of fertilizers and pesticides for fruit trees will gradually seep into the soil and water sources, causing cumulative pollution, which will affect the coastal provinces.

This leads to a great impact on the soil environment in the future when converted, or when converting back to the original rice land. The cost to convert back from fruit-growing land back to rice-growing will be enormous. Besides, due to the spontaneous conversion of people according to experience and market, some places have formed conversion zones with mixed fruit trees. People change according to the market, as well as by experience, so the management agencies face many difficulties in formulating policies to develop crop structure for each region. At the same time, it is difficult to control the quality of fruits according to domestic and international standards.

4. Discussion and Conclusion

The Mekong Delta has many favorable conditions in terms of nature, climate and resources for agricultural development, but the region also faces many challenges. Although people have actively changed the structure of crops to increase their incomes and at the same time cope with challenges. But when converting the crop structure from rice to fruit trees, the profits are higher. At the same time, the requirements and costs for irrigation of fruit trees are also higher than that of rice. People convert from rice land to fruit trees according to the profit, the price level of the fruits and the market demand, thus leading to inefficient production efficiency. Especially when converting the structure to fruit trees, it will affect the environment in the future. Therefore, it is necessary to strictly control and form concentrated conversion areas for fruit trees to help improve efficiency and ensure a balance of economic, social and environmental benefits. In addition, it is necessary to form centralized production association organizations to help farmers organize synchronous production, apply production techniques that will ensure quality standards and easily link with enterprises, and increase product value.

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6. References

1. Asnelly RidhaDaulay, K.P.Eka Intan, BabaBarus and N. BambangPramudya, "Rice Land Conversion into Plantation Crop and Challenges on Sustainable Land Use System in the East Tanjung Jabung Regency", *Procedia - Social and Behavioral Sciences,* Volume 227, 14 July 2016, Pages 174-180.

2. Bui Ba Bong, Nguyen Van Bo, Nguyen Hong Son, Le Thanh Tung, Trinh Quang Tu, To Quang Toan, Leocadio Sebastian, Bui Tan Yen, Nguyen Duc Trung, Romeo Labios (2018), Adaptation Options for Rice-Based Cropping Systems in Climate Risk-Prone Provinces in the Mekong River Delta: An Assessment Report, *CCAFS Working Paper No. 245. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS)*. Available online at: www.ccafs.cgiar.org

3. Chính phủ (2017), *Nghị Quyết số 120/NQ-CP về phát triển bền vững vùng ĐBSCL thích ứng với biến đổi khí hậu,* ban hành ngày 17/11/2017.

4. Chính phủ (2020), *Quyết định số 324/QĐ-TTg về Phê duyệt Chương trình tổng thể phát triển nông nghiệp bền vững thích ứng với biến đổi khí hậu vùng Đồng bằng sông Cửu Long đến năm 2030, tầm nhìn đến năm 2045*, ban hành ngày 02 tháng 3 năm 2020.

5. Lê Anh Tuấn (2020), "Tác động của biến đổi khí hậu ảnh hưởng đến phát triển nông nghiệp tỉnh Đồng Tháp và các tỉnh khu vực vùng Đồng bằng Sông Cửu Long", bài thuyết trình ngày 19/11/2020, từ: http://tinhuy.dongthap.gov.vn/lichTUHN.nsf/b0a7a339bff505f94725821f002b433f/DA5E31BF989553554725862600235B07/$file/6-bai%20giang%20cua%20Thay%20Tuan_Tac%20dong%20BDKH%20Dong%20Thap%20va%20DBSCL.pdf

6. Kemchart Cheychom, Apisak Sindhuphak and Apisak Sindhuphak (2019), "The Study Patterns and Problem Water Management for Agriculture of Durian Production in Chanthaburi, Thailand", *Mediterranean Journal of Social Sciences,* Vol 10 No 4 July 2019, pp. 53-62.

7. Lê Trần Thanh Liêm (2020), *Hội thảo Khoa học Thực trạng và giải pháp tái cơ cấu ngành nông nghiệp tỉnh Bến Tre năm 2020,*

8. Lê Cảnh Dũng, Võ Văn Tuấn, Phạm Thị Nguyên (2015), "Hạn chế và giải pháp nâng cao hiệu quả sử dụng nước trong sản xuất lúa ở vùng Đồng bằng sông Cửu Long", *Tạp chí Nông nghiệp & phát triển nông thôn,* số 3&4 (2015), trang: 131-137

9. Lê Cảnh Dũng, Võ Văn Tuấn, Nguyễn Thị Kim Thoa (2019), "Đánh giá tác động của kinh tế hợp tác đến lợi nhuận sản xuất lúa ở ĐBSCL", *Tạp chí Khoa học công nghệ nông nghiệp Việt Nam,* số 10 (2019), trang. 138-144.

10. Nguyễn Quốc Hậu, Võ Quang Minh, Lê Văn Khoa và Võ Thanh Phong (2018), "Ảnh hưởng sự thay đổi kiểu sử dụng đất đến các nhóm đất ở tỉnh Vĩnh Long", *Tạp chí Nông*

nghiệp và Phát triển Nông thôn – Số chuyên đề phát triển nông nghiệp bền vững trong tác động của biến đổi khí hậu: thách thức và cơ hội năm 2018, trang. 137-143.

11. Nguyễn Tuấn Kiệt (2017), "Phân tích hiệu quả hoạt động sản xuất lúa của chương trình cùng nông dân ra đồng với doanh nghiệp tại huyện Vĩnh Hưng, tỉnh Long An". *Tạp chí Khoa học Trường Đại học Cần Thơ*, Tập 50, Phần D (2017): 45-51

12. Nguyễn Thị Ngọc Lan, Võ Quang Minh, Phạm Thanh Vũ và Thái Thành Dư (2018), "Nghiên cứu tính bền vững của các mô hình canh tác có triển vọng trên địa bàn tỉnh Hậu Giang", *Tạp chí Khoa học Trường Đại học Cần Thơ. 54 (Số chuyên đề: Nông nghiệp)*, trang 126-135.

13. Phạm Thanh Vũ, Lê Quang Trí, Vương Tuấn Huy và Nguyễn Thị An Khương (2016), "Ứng dụng phương pháp tối ưu hóa trong sử dụng đất nông nghiệp tại huyện Vị Thủy, tỉnh Hậu Giang", *Tạp chí Khoa học Trường Đại học Cần Thơ. Phần B: Nông nghiệp, Thủy sản và Công nghệ Sinh học*, số 44 (2016), trang. 38-47.

14. Tổng cục Thủy lợi (2013), *Sổ tay hướng dẫn quy trình công nghệ tưới tiết kiệm nước cho cây trồng cạn*, NXB Khoa học và Kỹ Thuật, trang 1-52.

15. The Government of Vietnam and the Government of the Netherlands (2013), Mekong Delta Plan - Long-term vision and strategy for a safe, prosperous and sustainable delta, from: https://www.deltares.nl/app/uploads/2014/01/Mekong-delta-plan-Long-term-vision-and-strategy.pdf

16. Trần Hùng, Nguyễn Xuân Kiều và Nguyễn Gia Vượng (2021), "Nghiên cứu đề xuất quy trình tưới nhỏ giọt kết hợp các biện pháp canh tác hợp lý nâng cao hiệu quả tưới nước cho cây xoài khu vực đồng bằng sông Cửu Long trong điều kiện hạn mặn", *Tạp chí Tài nguyên nước số 01-2021*, trang 30-41.

17. Tiêu chuẩn Quốc gia số TCVN 8641: 2011, công trình thủy lợi tưới tiêu nước cho cây lương thực và cây thực phẩm.

18. Wenjun Jiao, Qingwen Min and Anthony M. Fuller (2016), "Converting rice paddy to dry land farming in the Tai Lake Basin, China: toward an understanding of environmental and economic impacts", *Paddy and Water Environment*, volume 15, pp.171–179.

PEOPLE'S WILLINGNESS TO PAY TO IMPROVE AGRICULTURAL IRRIGATION WATER SUPPLY SYSTEM: A CASE OF AP BAC IRRIGATION SYSTEM, HANOI

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Abstact:

The study uses the random iterative assessment method to investigate, the regression analysis method to analyze, the research results show that the average percentage of people who agree to pay to use agricultural water 60% of the total population of the district. Investment in improving agricultural water supply services to people is facing many difficulties because of the limited state budget, inadequate policies, and many damaged works.To implement the "socialization" of agricultural water services, the study estimated people's willingness to pay for the use and improvement of agricultural water services in Dong Anh, Hanoi. The research results are the basis for the development of recommendations for effective agricultural water management and are suitable to local conditions.

Keywords: *Willingness to pay, service improvement, agricultural water.*

1. Introduction

Water pollution occurs when some components or properties of water exceed a certain threshold, making the water unusable for a certain purpose. Olaniran (1995) defines water pollution as the presence of too many hazards (contaminants) in water so that it is not suitable for drinking, bathing, cooking, or other purposes other use. The willingness to pay to improve the environment depends entirely on the ownership of resources and the environment. When the environment is polluted, the owner has no right to stay in the waste area or in the case of land and water resources as common ownership, public goods.

Therefore, everyone who suffers damage from pollution wants to improve the quality of the environment in order to have a better production and living process.

In fact, environmental pollution is the cause of many diseases in the world. Investing in improved sanitation has proven to be effective and brings many benefits to human health and the community. A study was conducted in Kim Bang district, Ha Nam province on people's willingness to pay for the construction of a wastewater treatment system. The research results show that the median average of households willing to spend to build a wastewater treatment system is 1,813,800 VND, accounting for 4% of the annual income of households. The study also shows that the total willingness to spend to build the wastewater treatment system of the people is over 3.18 billion VND. In addition, factors such as a high level of education, dissatisfaction with the current wastewater treatment system, good household economy, increasing age, number of people in the household are factors that increase willingness to pay for the construction of wastewater treatment system. Men have a higher willingness to pay than women and those with occupations other than agriculture also have a higher willingness to pay (Nguyen Hoang Thanh et al., 2012).

To research the willingness to pay of the people to improve the agricultural irrigation water supply system in Ap Bac irrigation system is of great significance in helping the agricultural water supply service activities to have appropriate development orientations. Thereby satisfying the needs of most of the population, contributing to promoting the city's socio-economic development quickly and sustainably.

2. Method

2.1. Data collection methods

To have an overview and overall data about the research area as well as the research problem, the author has collected secondary data in 3 aspects. The first, On the economy - society - environment through the Socio-economic General Report of Dong Anh District, Hanoi City. The second, synthesized from sources legally published in scientific works, books, and newspapers: Report on survey results of the Institute of Environmental Science and Technology of Hanoi University of Science and Technology in 2016. Teaching materials on principles of economic statistics" by Nguyen Vu An. The third, Summary report on wastewater treatment at the research agency "AQUA Vietnam Environmental Technology Joint Stock Company". Besides, Primary data is collected through actual observations, direct interviews with individuals through questionnaires, and a randomly selected sample of interviewees.

To assess the willingness of people to pay for the improvement of the agricultural irrigation water supply system, the author conducts surveys and interviews to collect the necessary information sources for the research. Specific topics include some of the following steps:

+ *Step 1*: Determine the research objective: Find out the influencing factors and evaluate the willingness to pay for the agricultural irrigation water supply system.

+ *Step 2*: Determine the survey location: Dong Anh district, Hanoi city.

+ *Step 4*: Identify the subjects that need to be investigated and interviewed: Farmers in Dong Anh district, Hanoi city.

+ *Step 5*: Design the questionnaire, interview, and conduct the survey. The questionnaire is designed to be simple, concise, easy to understand, specific, and purposeful. The questionnaire includes the following main contents:

- Information about the subjects: full name, age, gender, occupation, income, education level.

- The situation of the agricultural water supply of Hanoi Irrigation Company, difficulties in the process of supplying agricultural water to the district. The investment cost for agricultural water supply of Hanoi irrigation company. The necessary materials to improve the system for the people.

- People's willingness to pay for the use of improved agricultural irrigation water to improve the water supply system.

+ *Step 6*: Conduct interviews with each household with the contents of the designed questionnaire.

2.2. Data Analysis Methods

Descriptive statistics method: This method is used to describe the criteria in the research such as the average values, the interviewee's assessment of the research problem, the willingness to pay off the interviewee. Hereby making statistics into tables for easy analysis.

Contingent Valuation Method (CVM) is a direct method to estimate willingness to pay. CVM is based on the simple idea that if you want to know a person's willingness to pay for certain properties of the environment, just ask the person directly.

Unlike traditional methods, CVM does not pass through an actual market but through a hypothetical market, in which the factors in the survey sample are considered as actors participating in that market. The thesis builds a hypothetical scenario related to participating in the installation of wastewater treatment systems in Phung Xa textile and dyeing village. Through the results of the individual survey, the household will determine the average WTP level of participating in the installation of wastewater treatment systems. The average WTP level is determined through the following weighted-average calculation:

$$\text{WTP} = \frac{\sum_{k=1}^{n} wtp_k \ x \ n_k}{\sum_{k=1}^{n} n_k}$$

In which:

k: index of WTP levels; k = 1÷ n

wtp_k: wtp level k

n_k: number of households corresponding to the level of wtp_k

Through the results obtained during the investigation, the author has built a multivariable linear regression model to analyze the factors affecting the spending level for WTP as follows:

$$\mathbf{WTP_i = \beta_0 + \beta_1 X_i + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + e_i}$$

In which:

- WTP: willingness to pay (in thousands of VND)

- β0: intercept factor

- β1, β2, β3, β4 : coefficients corresponding to the variables to be estimated

- Xi: age

- X2i: gender

- X3i: level

- X4i: income

- ei: random error

- Compliance with standards and independent distributors, with the average value of zero

3. Results

3.1. Introduction to Ap Bac irrigation system

Ap Bac pumping station was invested, built, and put into operation in 1963, located at K53+950 on the left bank of the Red River. The pumping station is responsible for designing and irrigating 14,000 hectares of cultivated area in 3 districts of Dong Anh, Soc Son, and Me Linh. Since 2015, Hanoi City has assigned more tasks in addition to serving agricultural production, the Ap Bac irrigation system also supplies raw water to the North Thang Long Water Plant. The station consists of 06 units, type of pump DU 750, with a designed flow rate of each machine is 8,100 m3/h; the flow rate of the whole station is 12.4 m3/s; the minimum design water level at the suction tank is +2.60 m.

*Ap Bac field pumping sta*tion was invested and built-in 2010 and renovated and upgraded in 2018, located at K53+700 on the left bank of the Red River. When the water level of the Red River is low and the design water level is not guaranteed, Ap Bac field pumping station is responsible for replacing Ap Bac pumping station. . The station consists of 25 pump units of type HL 1100-12, the flow rate of each unit is 1,100 m3/h; flow rate of the whole station is 7.6 m3/s; the bottom of the suction tank is at a height of -1.50 m to ensure normal operation of 25 units in the condition that the water level of the Red River drops to a height of +0.10 m at the suction tank.

Vong La pepper pumping station is designed with 3 units. In which, pump 1 is used to pump domestic wastewater so as not to flow into the raw water canal: in the dry season, the symbol is DN200, Q=90m3/h, H=10m; pump 2 is used to pump rainwater for Vong La reservoir, symbol DN400, including 01 operating unit and 01 backup unit with Q=600m3/h, H=18m; pump installation height +7.8m. The pumping station is operated by 01 single-phase control cabinet. The pressure pipeline has a length of L=982m.

System of managers, control houses, security houses

- Ap Bac pumping station manager has an area of 130.2m2; is a 2-storey house; 14m long; 9.3m wide; 11m high. The structure is a reinforced concrete frame house with 200# mark, the wall is made of solid bricks of only VXM grade 75#, 22cm thick.

- Fixed pump station control house: Rebuilt in 2018; has an area of 84.7m2; 01-storey house; 10.3m long; 8.22m wide; 3.6m high. The structure is reinforced concrete bearing frame house with 200# mark, VXM brick wall with mark 75#, 22cm thick. The house is roofed with 1.76m high heat-resistant corrugated iron.

- The guardhouse at K2+300 on the Mid canal was built in 2018 with an area of 46m2 and is a 1-storey house with 02 rooms and 01 permanent room. The structure of the guardhouse is a frame house with 1x2 stone reinforced concrete, grade 200#. the foundation is driven by 1x2 stone concrete piles of 200# mark 2m deep; VXM unburnt brick wall 75#; 1x2 stone concrete roof deck, mark 200#. The whole house is painted with waterproof paint.

Substations and medium voltage lines

- Substation with machine capacity 2000KVA-22/0.4KV;

- The medium voltage line is an underground cable system Cu/XLPE/PVC/DSTA/PVC/W 24kV-(3x120mm2) with a total length of 335m.

The channel within the sanitary protection zone of the domestic water intake area has a length of 1000m from the upstream of the field pumping station and 200m from the downstream of the fixed pumping station. The channel has an average width of 100m and an average bottom elevation of -0.5m.

Canal system and works on the canal.

- Ap Bac pumping station channel has a length of 160m, solidified with concrete slab roof with roof coefficient m = 1.5; channel bottom width 22.0 m; channel bottom elevation at the beginning of the route +0.20 m.

- Ap Bac pumping station discharge canal has a length of 190m, solidified with concrete woven sheet roof with roof coefficient m = 1.5; channel bottom width 10.0 m; channel bottom elevation at the beginning of the route +7.20 m.

- Ap Bac field pumping station discharge channel has a length of 285m, solidified roof with concrete woven sheets with roof coefficient of 1.5; channel bottom width 8.0 m; channel bottom elevation at the beginning of the route +7.45m.

- The central irrigation canal has a length of 2,468m, the roof is solidified with concrete slabs with a roof coefficient of 1.5; channel bottom width 9.0 m; elevation of the canal bottom at the beginning of the route +6.74m; elevation of canal bank at the beginning of the route +9.00 m.

- Drains and regulators

+ Self-flowing sluice: At K0+215, the left bank of the discharge canal at Ap Bac pumping station; culvert has 2 doors; length L= 11m; 1.6m wide; 2.5m high; V5 opening and closing machine, electric motor with a corrugated iron roof.

+ Sluice across Vong La dike: At K53+920 on the left bank of the Red River; built-in 1962; culvert has 2 doors; 35.7m long; 2.9m wide; 2.5m high; flow rate 12.5m3/s; culvert operated by V10 collapsible machine; electric motor covered with corrugated iron. The culvert bottom is +6.6m high; the top of the culvert is +9.4m; the bottom of the upper terrace has a height of +6.72m and the downstream of the culvert has a height of +6.6m.

+ The sluice to the Viet Thang - Thanh Cong canal: At K1+474 on the right bank of the middle channel, there is a reinforced concrete one-door round sluice with length L=10m; diameter D=60cm; drains use open-closer V1.

+ Regulating at the weir: At K2+500 on the Mid channel; culvert has 2 doors; 4.2m long; 3.5m wide; 3.2m high; culvert operated by opener V10; electric motor with the corrugated iron roof; culvert bottom has a height of +6.3m; the top of the culvert has a height of +9.5m.

3.2. Demographic

Before considering the willingness of people to pay for water quality improvement, the current payment scenario is based on: “With the current urgent water situation, the supply of clean water is guaranteed for people to use". Water in Ap Bac Irrigation System, Dong Anh District, Hanoi City is necessary. To assess the role of agricultural water and propose the most reasonable water supply solution most accurately. It is assumed that in the future the water quality will be improved to ensure the current agricultural irrigation water quality standards and at the same time overcome environmental problems. Please choose the price of water/ha that you think is most suitable for the benefits that the water source brings to the family.

We need to consider some characteristics of the household group interviewed. These characteristics have a direct influence on the willingness to pay of the next people of the people in the future. The first is gender, out of a total of 172 interviewed households, a total of men accounted for 55.56% of the total sample, accounting for 44.44% of the total sample. The mean age of the survey samples was 41.93. In general, at this age, the sample has a middle age. Regarding the average income of the surveyed household group is 5.61 million/month, this income is quite high, but this is the income of individuals, not households. So if calculated on average per household, it fluctuates in the range of 2-3 million/person. Moreover, Dong Anh district is a town mainly developing trade and transportation services, the industry is also quite developed while agriculture is almost very little, mainly cum so, this income level also reflects the economic life of the people of Dong Anh district.

3.3. Evaluation of willingness to pay to participate in improving agricultural irrigation water supply system in Ap Bac irrigation system.

Regarding the assessment of willingness to pay to participate in the improvement of the agricultural irrigation water supply system in the Ap Bac irrigation system. Through the survey of 60 people representing 60 people, 56 people (93.3%) interviewed answered that they are willing to pay for the connection and installation of wastewater treatment systems, only 4 people (6.7%) interviewed said that they are not willing to participate in system installation because their income is low.

Table 1. Price people are willing to pay for participation in improving water supply systems in irrigation systems Ap Bac

k	***WTP_k (thousand dong)***	***(%)***
1	100000	14.29
2	150000	35.71
3	200000	12.5
4	250000	10.71
5	300000	7.14
6	350000	7.14
7	400000	5.36
8	450000	3.57
9	500000	3.57

So from the table and applying the formula, we can calculate the average WTP = 221,428 thousand VND/1ha. Thus, the average price that people in Dong Anh district are willing to pay for participating in the improvement of the agricultural irrigation water supply system in the Ap Bac irrigation system is on average 221,428 thousand VND/ha.

3.4. Linear regression model

Through the results obtained during the investigation, the author has built a multivariable linear regression model to analyze the factors affecting the spending level for WTP as follows:

$$\mathbf{WTP = 5127.2 + 1231.8 * AGE + 15384 * GENDER + 32476 * LEVEL + 0.0063 * INCOME}$$

Observing the model, we see that, the dependent variables that are age, gender, education level, income are all proportional to WTP. With the significance level of 0.05, we evaluate the relationship between the WTP variable, and the independent variables as follows:

P-Value (age) = 0.04 < 0.05, showing that the age variable has a close relationship with WTP. This can be explained, the older the people, the more their need for improving the irrigation water supply system at the Ap Bac irrigation system to protect the health of the people higher. Therefore, they are willing to pay for the improvement of the irrigation water supply system at Ap Bac irrigation system to protect the living environment as well as their own health. The age variable has a great influence on WTP.

P-Value (gender) = 0.286 > 0.05, showing that the gender variable is not closely related to WTP. Whether male or female, everyone realizes the importance of improving the irrigation water supply system in the Ap Bac irrigation system for the main study area. The respondents whether male or female may participate in the response, and the WTP results are not strongly related to gender.

P-Value (level) = 1E-04 < 0.05, which proves that the educational level variable has a close relationship with the WTP variable. The reason for this is that the more educated people, the more knowledgeable they have access to information sources, which helps them to have a correct awareness of the need willing to pay for the improvement of the irrigation water supply system at Ap Bac irrigation system.

P-Value (income) = 7E-06 < 0.05, which proves that the income variable has a close relationship with the WTP variable. People with higher incomes are usually more willing to pay for the improvement of the irrigation water supply system in the Ap Bac irrigation system than those with low incomes.

4. Discussion and Conclusion

Through the research model and the analysis results of the factors affecting the willingness to pay for agricultural water supply services, we find the influencing factors affecting the willingness to pay including local factors, education level, household size, number of workers in the household, total income, daily water use of the household and environmental awareness of the household head. These results are also consistent with previous studies. Besides, the study also discovered 4 new factors that were found to be statistically significant variables: living area of the household, number of people working in the household, water source used and environmental awareness.

The government when developing programs/projects on improving the water environment in localities should pay attention and consider factors such as contribution to the fund, household income, education level, and household's attitude towards the environment. In particular, the expected contribution of funds should revolve around the value of WTP estimated from this study.

The results of this study can be used as a basic source of information to estimate the total amount of funds that can be obtained. This will serve as a basis for estimating the financial ability of the people to develop programs to improve the quality of polluted agricultural water environment in the locality.

5. References

1. Aloyce R. Kaliba, David W. Norman, and Yang-Ming Chang, (2003),»Willingness to Pay to Improve Domestic Water Supply in Rural Areas of Central Tanzania: Implications for Policy,» International Journal of Sustainable Development and World Ecology, 10(2), June 2003, 119-132.

2. Võ Thành Danh, (2008), Tổn thất kinh tế của ô nhiễm nước ngầm ở Đồng bằng sông Võ Thành Danh, (2010), Đánh giá nhận thức của người dân về ô nhiễm nguồn nước sông, Tạp chí Khoa học 2010:15b 38-45, Trường Đại học Cần Thơ.

3. Thomas Sterner, (2002), Công cụ chính sách cho quản lý tài nguyên và môi trường. NXB Tổng Hợp TP.Hồ Chí Minh, 2008.

4. R.Kerry Turner, David Pearce và Ian Bateman, (1995), Kinh tế môi trường, TT. Nghiên cứu Kinh tế & XH về môi trường toàn cầu Đại học East Anglia và Đại học Luân Đôn.

5. N.Gregory Mankiw, (2003), Nguyên lý Kinh tế học, Trường Đại học Tổng hợp Harvard.

ENHANCING THE EFFECTIVENESS OF CLIMATE CHANGE COMMUNICATION MESSAGES IN LOCAL NEWSPAPERS IN THE MEKONG DELTA REGION

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Abstract

With severe impacts on livelihoods, climate change (CC) is considered as one of the biggest challenges of humankind in the 21st century. Vietnam is among 5 countries that are mostly affected by CC, while the Mekong Delta area of Vietnam is one of the three global deltas vulnerable to sea-level rise. Considering its influence, communications in general, printed newspapers in particular in Mekong Delta provinces have been increasing its impacts positively to help local communities enhance their awareness and change their behaviors so as to adapt to CC. Nevertheless, CC messages in newspapers remain specific limits, resulting in the communication unable to reach its ultimate effectiveness. This article points out the reality and some recommendations related to the adjustment of content and form of CC articles in printed newspapers in Mekong Delta to raise the impact to the public in the future.

Key words: *climate change; local printed newspapers; Mekong Delta; messages*

1. Introduction

The Mekong Delta of Vietnam contributes 18% to the national GDP, with 90% contribution to the export rice, 60% of aquaculture products, and 70% of fruits. According to CC scenarios, by the end of the 21^{st} century, the annual average temperature in Vietnam increases by 2 to 30 degrees Celcius, and the sea level is 75 cm to 1 meter higher than it was in the period of 1980 – 1999. By that time, there will be 40% of the total area of the Mekong Delta being flooded, and 35% of the population badly affected by complex weather. In reality, recent weather conditions in the Mekong Delta have shown several abnormal signs, and drought, saline intrusion, flooding, etc have become more serious, threatening livelihoods of local communities as well as the regional sustainability. The importance of the Mekong Delta to the whole country and the risks and dangers from CC encountered by this land requires its communities to have appropriate awareness, knowledge, and skills to proactively adapt to CC. This very much depends on the messages local people receive from the media, among which is the printed newspapers. Are local newspapers in the Mekong Delta doing well in their roles of social orientation in building and transferring CC information to the public in a scientific, diverse, objective, systematic, and easy-to-understand way? From the survey of 3 printed newspapers in the region – An Giang, Ca Mau, and Can Tho newspapers from 2017 to June

2019, this article will provide the reality of CC messages and some recommendations to enhance the message quality so as to improve the influence effectiveness of CC communications by printed newspapers in the Mekong Delta.

2. Literature Review

In this article, the definition of CC is understood in accordance with Article 3, Clause 13, Vietnamese Law of Meteorology and Hydrology in 2015 "CC is the change of climate in a long period of time due to the impacts of natural conditions and human activities. Currently, CC is expressed in global warming, sea-level rise and the increase of severe meteorological and hydrological phenomena".

A message is a fundamental factor of a communication process, "the information given from the source to the receiver. The message includes thoughts, emotions, aspirations, requests, opinions, understanding, living experience, scientific and technological knowledge, etc which are coded in accordance with one particular symbolic system. This system must be agreed by both the source and the receiver, and contains a common way of understanding, in other words, being able to decode. Speech, handwriting, signals, pictures, and human expressive gestures are all used to transform messages." (Dung and Hang, 2012, p.13)

Messages in printed newspapers are core information forming meanings of the text. On the article perspective, each one contains a message (the target message the newspaper is aiming for) formed by detailed messages (parts) and they may be relevant or completely independent with messages in other articles of the same publication. On the publication perspective, a message of an article on a particular issue is a part message, contributing to the forming of the target message on that issue, which the newspaper wants to convey to the public.

3. Method

To evaluate the CC messages in Mekong Delta newspapers, the author has carried out the quantitative and qualitative research via 3 main methods:

Study the content: among 2,037 publications from 2017 to June 2019 of 3 representatives, An Giang (648 publications), Ca Mau (499), and Can Tho (890), 1,290 articles have been selected as they satisfy one of the following criteria:

- The article directly mentions the phrase "CC".

- The article has words relevant to CC expressions - such as: atmosphere warming (or global warming), polar ice melting, sea-level rise – or words of typical expression of CC impacts in the Mekond Delta – such as: storm, flood, inundation, drought, landslide, land subsidence, land erosion, tornados, heatwave, irregular rain or abnormal intensity rain – as well as El Nino phenomenon, saline intrusion, biodiversity loss.

These articles are analyzed mainly in two aspects: message content and form.

Questionnaires are also used to survey public opinions on their assessment on CC information provided by the local newspapers, as well as information demands of the public in this matter. Questionnaire respondents are also asked if they have any suggestions for their local newspapers to improve the quality and effectiveness of CC messages. In each province of the surveyed area (An Giang, Ca Mau, and Can Tho), 150 questionnaires are collected.

4. Results

With 1,290 articles containing CC messages among 2,037 publications, it can be seen that CC is concerned by local newspapers in the Mekong Delta. However, among these articles, there are only 462 having content primarily about CC, while in the remaining 828 articles, CC messages are part messages, not primary content that the article is aiming at. These indicators have shown that although the frequency of CC messages in total surveyed publications is quite high, the actual in-depth articles with primary content of CC are not many in local newspapers in the Mekong Delta.

4.1. Message content

Goals of the CC communication campaign are the public is able to identify CC expressions, understand impact and forming procedures of the expressions, current development, tendency forecast in the future, as well as proactive solutions for prevention and adaptation. In line with these goals, CC messages are considered in 4 aspects, including: (1) messages on CC expressions, (2) messages on CC impacts, (3) messages on the causes of CC, and (4) messages on CC adaptation. Results show that the number of articles mentioning CC expressions is the highest, with 943 articles accounting for 73.5% of the total surveyed publications. The runners-up are on CC adaptation (66.4%), and CC impacts (64.6%), while the causes of CC is the least mentioned content, with only 14.1% figure.

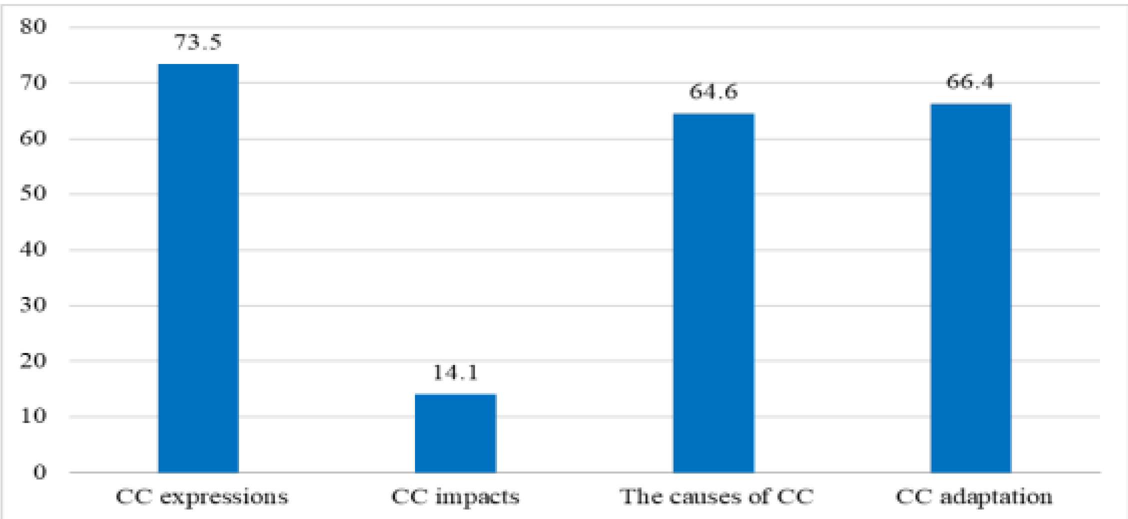

Figure 1: Aspects of CC messages in Mekong Delta newspapers

(Source: Surveyed newspapers in An Giang, Ca Mau, and Can Tho from 2017 to June 2019)

- Messages on CC expressions

Messages on CC expressions are shown in descriptive articles on one or more expressions of CC, with a particular time and locations occurring the expressions, data on frequency and intensity of the expression, as well as forecast on following happenings, and consequences of the expression. Messages on CC expression are particularly meaningful in helping the public to identify symbols and progress of the epxressions, as a result, to have attention and concern to know about abnormal symbols.

CC expressions are the content that appears most among the four CC message contents which this article surveys. All three newspapers are concerned of providing information in a timely manner and reflecting the correct reality of CC expressions to warn local people, and help them to have proper activities. The frequency of CC expressions mentioned is compatible with the happening and frequency of these expressions in reality in the Mekong Delta recently. Moreover, the focus is on riverbank landslide and coastal erosion, which are occurring in a complicated way. Besides, drought and saline intrusion are having more impacts on livelihood and socio-economic development of the region. Nevertheless, information on the expressions is mainly descriptive and not having forecasting information for local people to prevent proactively. Furthermore, newspapers pay much attention on direct and visible expressions; they do not have sufficient reflection on severe and secretive CC expressions usch as subsidence and loss of biodiversity. This will lead to the fact that local people will be slow in identifying the problem and awareing risks from such CC expressions. Therefore, it is less feasible for the citizens to adjust their behaviors to mitigate negative impacts of these expressions.

-Messages on CC impacts

This message helps the public to be aware of the impacts that climate change has on human life, thereby taking practical actions to deal with this issue. Statistics on surveyed articles with CC messages showed that 64.6% (833) articles mentioned the impacts of climate change.

The survey shows that articles on the impacts of climate change are published in the Mekong Delta with high frequency. However, the vast majority of these articles see climate change as a negative issue, while the positive side of climate change is rarely mentioned. The scope of reflection is mainly local. The areas affected by climate change mentioned are quite diverse, but the most are still observable consequences, especially physical factors such as houses, roads, dikes, money, crops, number of people injured or killed... but less focused on clarifying the psychological consequences and long-term health impacts of climate change on humans. Likewise, vulnerable groups such as children, the elderly, women and the poor - who are most affected - are also rarely mentioned in the messages on the impacts of climate change.

- *Messages on CC causes*

Information on the causes of climate change is one of the important contents of communication on climate chang because clarifying the cause with deep, scientific analysis, from highly reliable sources will help the public to properly understand the reason for the increasing climate change. It also has the effect of "waking up", helping the public to review and adjust their behaviors. On the contrary, superficial information on the basis of the author's prejudiced thinking or from inaccurate and unreliable sources will lead to misunderstandings about climate change, or less convincing the media public.

However, information about the causes of climate change requires a high degree of expertise, not everyone can arbitrarily make judgments, but it is often spoken by knowledgeable people such as experts and scientists. In addition, the process of analyzing, dissecting and explaining the causes of climate change expressions requires the use of many scientific terms that are not easy to understand; this forces journalists to thoroughly understand the problem and be able to express in popular terms, close but accurate. Therefore, information on the causes of climate change is a group of content that is rarely mentioned in articles on climate change in the Mekong Delta newspapers, accounting for only 14.1%, with 182 articles.

Content analysis shows that most of the articles explaining the causes of climate change are articles that cover the entire topic of climate change and often refer to the chain of causes rather than just one single cause. In particular, the group of human causes is mentioned more than the group of natural causes. However, there are few messages that "show face and name" groups of people in specific areas. Instead, the articles do not refer to the subject performing the behavior or describe it with the generic nouns, such as "human", "farmer", etc., therefore, it is difficult to make the subjects perceive their behaviors to adjust as well as create a flow of public opinion in order to condemn wrongdoings and violations of the law, affecting the environment and social life. In addition, information on these aspects is highly specialized, while most reporters do not have expertise in the field of climate change, so their handling of specialized terms is not flexible. Therefore, many messages about the causes of climate change still contain many technical words and phrases that have not been popularized, making it difficult for the public to understand.

- *Messages on CC adaptation*

Climate change is an existential threat to the goal of sustainable development and poverty reduction of the country, with an increasing level of loss and disadvantage, requiring urgent actions to promptly mitigate the harmful damages. Facing that alarming situation, finding and providing solutions to adapt to climate change is something that the society is extremely interested in. With the press in general, and the local print press in the Mekong Delta in particular, the content of solutions to climate change adaptation is also focused with many rich and diverse expressions. There are 711 articles containing the message of solutions to adapt to climate change with contents referring to the guidelines of the Party, the policies of the State and the implementation of those policies of the political system at all levels, accounting for 55.1%. The order of the remaining contents is Application of advances in science and technology - 24.6%, Education and communication to change awareness and behavior -17.4%, International cooperation - 8.6% and Self-referencing experience/skills -7.8%. In addition, there are 10 articles mentioning Other solutions -1.2%.

These messages have shown the public the decisions and efforts of the whole political system; bringing to the public valuable knowledge and experiences on climate change adaptation, in which many experiences have been formed and drawn from practice... thereby contributing to forging more trust and motivation for the public. However, there is a significant imbalance in the content of messages about solutions to climate change, as most of the messages focus on information about conferences, reports and activities and direction of leaders, rather than finding and introducing effective models and ways of doing things from practice. The proposed solution messages to mobilize and educate people to understand and adjust their behaviors accordingly are still general, not directed at specific target groups, so it is difficult to create behavior changes in the desired target audience.

4.2. Form of the messages

To express the content of the message, it is necessary to find the tone, words, illustrations... that are reasonably consistent, helping to describe and express the content accurately, vividly and attractively. No matter how meaningful and novel the content you want to convey is, but the form of delivery is not consistent, it will not create a clear, valuable and effective message. Therefore, evaluating the value of journalistic works in general and press messages in particular, besides the content, it is necessary to consider more about the form as an inseparable whole. The form of the message in the article is considered in two main criteria: structure (genre, capacity, language) and how to organize the message (frequency, posting location, author).

Statistical results of 1,290 surveyed works show that the type of journalism that expresses climate change messages in printed newspapers in the Mekong Delta has not been diversified. News groups, news articles (including all kinds of news, news articles, reports, reflections, interviews, reports, investigations, etc.), account for the majority with 1,195 works (92.6%). Among which, news and articles are the most used by newspapers. This is also understandable because news and articles have the strength of being able to act quickly, succinctly and meet current requirements. However, due to limited capacity, there are many articles in the 3 surveyed newspapers published with very brief content, with a reception nature; a lot of information is exploited from old reports, but little information is newly discovered. Articles belonging to the political group such as commentaries, treatises, systematically analyzing and explaining problems with strong arguments are often highly persuasive but did not appear much in the newspapers during the survey period – only 8. Articles translated from foreign newspapers or international organizations are 85, accounting for 6.6%, only appearing in An Giang and Can Tho newspapers. During the survey period, only 8 articles were in the treatise category (0.6%) and all 3 newspapers and no article were in the infographic category.

Information on climate change needs to be stated accurately, from clear sources, so the information is mainly expressed in scientific language style. The results of the qualitative analysis of the articles in the survey also show the style of scientific language, such as using many scientific terms, using only one meaning, not using rhetorical devices; tight, coherent sentences, standard syntax; sentences are neutral… However, in some articles, there are still too many technical terms or confusing terms used. Qualitative analysis also shows, to describe climate change , there are words/phrases repeated many times in articles such as: "global danger", "top danger", "humanity's greatest danger", "disaster", "problem", “irreversible”, “than one would expect”, “utterly bad”. Talking about the impacts of climate change, words usually are "horrifying", "terrible", "severe", "catastrophic"... The frequent use of such “shocking” language may lead the public to think that climate change is a problem beyond human control and that there is absolutely no way to prevent it. The use of non-literate languages to express messages about climate change in Mekong Delta newspapers is also very limited, monotonous, and images are the main type of non-literary language. Out of 787 articles with accompanying images, there are 419 articles (54.7%) with images of climate change taken directly from the scene where the phenomenon occurs, 42 images of climate change (5.3%) for illustrative purposes and 40 % other images (in articles where climate change content is mentioned very little). The images of the scene increase the persuasiveness of the information by the readers such as "seeing with their own eyes" the events and models that the article mentions. Besides, images help to add information, create "highlights" for the article. However, the images used in some articles are still limited, such as: the image quality is not good (the image is too dark or blurred); the layout of the image does not highlight the content or the content of the image does not match the content of the article. The improper placement of images and text makes the form of the article unattractive. In addition, some images have a not-so-beautiful layout, are not in the style of press photos, and some illustrations are not suitable for the content of the article...

Analysis of posting frequency shows that the number of articles containing messages about climate change in 2017 is the highest, 610 articles. In 2018 there were 442 articles and the first 6 months of 2019, there were 238 articles. Although the information flow is still guaranteed, the number of articles on climate change in local newspapers is often unstable and varies with the number and extent of events on climate change organized and impacts of climate change locally. This can, in some cases, affect the effectiveness of the communication campaign against the target audience it is targeting.

All three survey newspapers do not have a climate change column as well as a fixed page for this content. Regarding posting position, 42.2% of articles are introduced on page 1 and more than 50% of articles are published on important pages (pages 2- 3, color pages). Articles posted in important positions, easy to impress the public and easy to read will help the message reach and spread more easily.

The collaborators are "eyes and ears", helping the editorial office to promptly detect and provide information on the changes and impacts of climate change, the implementation of climate change policies, etc., ensuring profound practicality. It is both a feedback channel to evaluate journalistic work - an important measure of the quality of the newspaper. However, the survey results show that the local newspapers in the Mekong Delta have not done well in building and developing a team of collaborators for articles on climate change. The authors of these articles are mainly journalists (96.7%), The number of articles written by experts, scientists, informants, collaborators... is only 3.3%.

4.3. Successes, limits, and solutions to enhance quality of CC messages in Mekong Delta newspapers

4.3.1. Successes and limits

Surveyed data reveal that Mekong Delta newspapers have much effort in building and carrying out articles on CC, contributing considerably in the provision of information, knowledge, and action orientation to cope with CC for local communities. Systematic and rather comprehensive information have brought useful and multifaceted knowledge for the public, helping them identify CC expressions and impacts, as well as causes, especially causes by human beings, so that they can change their habits and behaviors to reduce negative influences of CC. Many messages contained in the articles of Mekong Delta newspapers introduce and explain the policies, meanwhile promote and guide citizens for their understanding, supporting, and abiding by such policies. On the other hand, the public understands and approaches rapidly with the CC mitigation policies that are applied by the State, has better awareness on rights and responsibilities. From that, governmental regulations on CC are concretized and merged to the reality. By continuously informing activities of local authorities, updated technological solutions, and lessons learnt from the public experience, newspapers and media have helped the public to learn new knowledge, gain more experience and skills with high applicable values, contributing to the creative capability for coping with CC.

Valuable messages have helped the public to aware of the reality and severe impacts of CC on the livelihood of Vietnamese people and the world, especially people in the Mekong Delta. Results of the questionnaires show that 92.2% readers of Mekong Delta newspapers have concerns and high concerns on CC; 92.1% readers are aware that CC is causing huge impacts on livelihood. 100% readers know about typical expressions of CC in Mekong Delta; 74% readers express their belief and ultimate belief in the victory of humans over CC in the future if we are determined and agreeing on changing daily and production behaviors.

These figures are important illustrations for the impacts of CC messages in Mekong Delta newspapers in helping the public to gain their knowledge and participate more in the mitigation and adaptation of CC, a journey that the whole country is putting its best to achieve.

- Besides the successes, the complexity of CC and unfavorable factors of resources, both objective and subjective reasons have made it hard for local newspapers to accomplish what they want. As a result, information quality and value of CC message in newspapers in general and Mekong Delta newspapers in particular are affected.

On the content aspect, CC messages in Mekong Delta newspapers lack an overview and mention too much on CC expressions and consequences as well as activities coping with CC of local authorities. They do not cover enough articles on scientific information, and forecast of CC progress. Information on CC is biased, with the focus on negative impacts rather than on highlighting positive impacts of the changes of climate factors at one particular time and different geographies. Several articles contain severe pessimism; hence, they do not stir up beliefs and promote the community to act together. The communication of policies is mainly propaganda, with a focus on introducing, explaining, and encouraging the public to follow. It is rare that there are critical articles on the logic and appropriateness as well as the feasibility of CC policies in reality, stating inadequacies of economic development and CC targets so that the authorities must pay attention to have an adjustment of current policies. The situation of "reporting" the articles is quite common.

The ratio of CC messages with reflecting scope outside the Mekong Delta is quite modest (11.3%). Articles translated from foreign press are only 6.6%. As for Ca Mau newspaper, there are no translated articles, nor does it have any article on CC with the scope outside the country. This fact limits the public knowledge on CC; the public is not aware that coping with CC is a common effort of all human kinds and that it requires the participation of each individual. Needless to say, in front of the vital requirement of mitigating negative impacts of CC, many non-governmental organizations and international financial corporations have had supporting plans and programs to encourage sustainable economic development, with the scope to household level. Citizens would skip invaluable opportunities if they do not know about such information. Moreover, the effectiveness of mobilizing financial and technical resources from international organizations and countries to cope with CC may be minimized.

On the aspect of form, type diversity is an important requirement to ensure freshness and attraction of a newspaper message. Nevertheless, most articles containing CC messages in Mekong Delta newspapers are descriptive and narrative articles. Treatises to analyze and explain an issue thoroughly are very rare. Infographic is not exploited ultimately by reporters, expressing during the preparation of the article message.

The processing of specialized words in some CC articles in Mekong Delta newspapers is not flexible; many terminologies are not explained, making it hard for the public to understand. CC is a scientific area requiring preciseness in wording; however, the language used in many articles is from the subjective guess of the writer, not based on scientific foundation. In addition, it is quite popular to have the "exaggeration" of words on CC impacts in a intimidating and severe way.

The fact that there is no column on CC is a huge limit in creating favorable conditions for CC messages conveyed to the public. Having a regular column helps readers to follow information, have a continuous insight on a specific topic, and create an intensive spread of the information. As Mekong Delta newspapers have no CC column, CC articles are scatterly published on many columns and pages, making it hard for the public to follow, feedback, and provide information and comments to the publishers.

4.3.2 Solutions to enhance quality of CC messages in Mekong Delta newspapers

Through the questionnaires, most feedbacks from the public are that CC information in Mekong Delta newspapers satisfy only a part of their demands (63.4%), while 12.2% respondents think that they are not satisfied; only 24.4% choose that they are satisfied. The result shows that CC messages in Mekong Delta newspapers need some changes to fit the reality and information demands of the public.

- On content: Articles in Mekong Delta newspapers need more diverse information from different aspects of CC with different approaching angles. The newspapers also need to increase the number of articles analyzing the causes of CC, stating the relevance between the increase of CC expressions, symbols, and impacts and bad rituals and habits in production, daily life, and bahaviors related to unsustainable exploitation of natural resources. It is also suggested that further information on negative impacts of CC is added so that the communities can learn that CC does not only bring about threats but also opportunities for economic transformation, breakthrough development, as well as competitiveness.

In order to enhance depth and applicable value for the messages, Mekong Delta newspapers with CC messages need to have more critical articles, avoiding biased and imposing information. Besides, it is required to refresh the thinking of topic selection, renovate the approach, and analyze the problem from fundamental level and from the real-life aspect. In particular, the focus should be on damages, expectations, and emotions of vulnerable groups from the unmeasurable impacts of CC. Internal conflicts of the society in the multifaceted impacts of CC, if initiated by reporters, using the power of the media to make it pressing public opinion for the intervention of the authority, the value brought about is not only for the reflected object, but also faith for the newspaper agencies, trust and agreement of the citizens and the authority.

Furthermore, it is recommended that CC information scope is increased, so as to provide the communities with a comprehensive outlook of CC in the world, helping the public learn experience on CC adaptation that international counterparts are implementing. At the same time, more information on reality and achievements of CC adaptation of Vietnam should be promoted for the international communities to know more about what our country is doing. As a result, it will be easier to call for other countries and international organizations to come to Vietnam for studying solutions and financial support for Vietnam to cope with CC.

- On form, currently, CC articles in Mekong Delta newspapers are mainly reflective ones. Other strengths of printed newspapers such as reports, commentaries, and treatises are quite rare. Consequently, it is necessary to diversify the forms so that interested readers feel less boring upon receiving the information, at the same time promote the content effectiveness in some specific circumstances. In addition, having articles in infographic form requires more attention, as this is one of the latest forms of expression, reducing monotony for both the article and the publication.

It is appropriate that Mekong Delta newspapers are using mostly scientific language to convey CC information. However, scientific terminologies need to be processed more flexibly. Articles' writers should choose simple, easy-to-understand words and avoid academic phrases when describing CC. Moreover, it is recommended that non-writing forms of language are used more often, such as graphic and charts, etc. in order to make the article livelier. Pictures should have good quality, with a clear structure, and proper aesthetic and information values to the article.

Mekong Delta newspapers should prepare plans on CC communication annually for a continuous flow of information about CC in the news. Based on current item distribution of the surveyed newspapers, the author suggests "Climate change" column, located on middle pages (pages 6-7 of An Giang and Ca Mau newspapers, pages 8-9 of Can Tho newspaper). These pages are printed in color, so it is feasible to design attractive articles to catch the attention of readers.

To improve the current situation of few collaborators, Mekong Delta newspapers should have encouraging policies to attract experienced reporters and prestigious writers to participate in CC topic. Newspaper agencies should frequently organize trainings on article writing, as well as seminars for collaborators to reward and present active individuals, and create the close relations between the newspapers and their collaborators.

5. Conclusion

The Mekong Delta is one of the three most vulnerable deltas in the world from CC and sea-level rise. Local newspapers have been endeavoring to convey information to the public with diverse messages so that they can have knowledge and clear awareness on CC impacts, leading to the changes of behaviors and adaptation to CC. Nonetheless, the communications of CC in local newspapers still have several limits, for example, the messages do not cover CC aspects, information is biased, negative content outweigh positive ones. In addition, message forms are por in categories, and words used are hard to understand. These drawbacks may have bad influence on the public, resulting in incomprehensive awareness and passive psychology. Besides, anxiety and fear of long-term impacts may erode the willingness and faith of the communities to their behavior changes to reduce the threats.

In the context of CC continueing its complex progress and impacts, in the upcoming years, CC adaptation needs to be enhanced, and the media in general, Mekong Delta newspapers in particular have to maintain their crucial roles in implementing the task. Therefore, some recommendations on content and form have been suggested to raise the message quality. The author believes that they can help to increase the effectiveness of communication, making a strong impact to contribute to the change in awareness and behavior of the communities in a positive way./.

6. References

1. Ministry of Natural Resources and Environment (2016,) *Climate change and sea-level rise phenomena for Vietnam in 2016*. Environmental resources and Vietnamese Map Publishing House. Hanoi.

2. Daniel Riffe, Stephen Lacy, Frederick Fico (2005) *Analyzing Media Messages: Using Quantitative Content Analysis in Research*, Second Edition, Lea Published, London.

3. Nguyễn Văn Dững (2012), *Theoretical foundations of journalism*, Labor Publishing House, Hanoi.

4. Nguyễn Văn Dững (Chủ biên) & Đỗ Thị Thu Hằng (2012); *Communication – Basic theories and skills,* National Politics Publishing House. Hanoi.

5. Đinh Văn Hường, Nguyễn Minh Trường (2017), *Press with climate change issue in Vietnam.* Hanoi National University Publishing House.

6. Tạ Ngọc Tấn (2001), *Mass media*, NXB Chính trị Quốc gia, Hanoi.

7. IPCC (2006) (2007) (2011) (2012) (2013) (2014 (2018) (2019)), *Report*, https://www.ipcc.ch/reports/

ASSESSMENT THE IMPACT OF A NATURE RESOURCE MANAGEMENT PROJECT ON THE LOCAL LILIVEHOOD IN RURAL AREA

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Abstract

The study provides evaluation method assessing the impact of a natural resource management project on the target group and respective natural resource base. The study was conducted in Backan province to evaluate livelihood changes of target groups on selected project sites and key indicators identified. Livelihood changes were specifically related to the impact of a natural resource management project and separated from outside influences. The project's impact was proven to be of substantial support by the livelihood pathway approach, while common repetitive household questionnaires did not produce significant results. Moreover, the impact of 'development-and-conservation' schemes by an improved utilisation of non-timber forest products was demonstrated to be unsuccessful, but successful by project activities like provided on-farm activity support.

Keywords: *Impact assessment, Natural Resource Management, Livelihood.*

1. Introduction

With each passing year, more forests, wetlands, and species come under threat from escalating pressures of exponential increases in human populations and the inevitable associated development. Every year, billion of dollars are spent on so-called 'conservation-and-development' projects intended to mitigate those pressures [1]. Whereas eco-centric project approaches intent 'to protect those last precious few natural treasures' while attempting to 'satisfy the livelihood demands of the people who depend on the resources those treasures offer'; more ethno-centric approaches focus on improved management and utilisation of natural resources for an enhanced productivity by basically incorporating sustainability and resource protection as a basic requirement [3]. A balance between those trade-offs in the use of natural resources for conservation and development 'win-win' purposes often enough is hard to be determined as the critical interlinkages are rarely identified. It is of fundamental importance to identify and describe the impact of a natural resource management project along the livelihood pathway of a target group or community [4]. Only by the assessment of the target group's genuine motivation and development interests, and the impacts of project interventions on the specific livelihood pathway, it is possible to determine those critical interlinkages of a specific conservation and development project. By that, the methods allow the identification of potential triggering points or recommendable adjustments within the active time of a project [6],[7].

The specific aim of the research was to test the method assessing the impact of a natural resource management project on the target group and respective natural resource base.

2. Method

Located in the Northeast region, due north of the capital Hanoi, Bac Kan is the only town of the province which is the capital of the province and is a municipality. The province covers an area of 4,859.4 square kilometres and as of 2019 it had a population of 313,905 people [2]. It is a mountainous terrain with rich natural resources of minerals and forests. It has numerous mountains, rivers and lakes which are very scenic. Ba Be National Park and Ba Be Lake lie within its borders.

With the success of the pilot project on allocating land and forests to the community for management, experts believe that the “community forest” is really the good mechanism for sustainable forest management. Bac Kan province proves to be one of the first localities applying the model on a trial basis, which has been allocating land and forests to local residents for management for the last few years. Under the mechanism, local authorities assign the task of managing and protecting the land and forests to local residents and pay for the management. The model not only has helped residents settle down in their land, heighten the awareness of protecting the land resources, but also created a premise for the sustainable forest management.

In Bac Kan, the model has been applied in the communes of Ban Thi and Xuan Lac in Cho Don district, and four hamlets belonging to Van Minh commune of Na Ri district. In Ban Thi and Xuan Lac, where the model of community forest management developed by CARE has been implemented, and nine teams in charge of managing and protecting forests have been established [5]. The members of the teams attended the training courses to improve their capability, and they were introduced how to build up the action plans and operation regulations (the regulations were recognized by the district authorities).

After three years of implementing the mechanism, in 2006-2009, under the project, nearly 1000 hectares of forests have been allocated to local residents, who will protect and cultivate for five years. Meanwhile, in Van Minh and Lang San communes, under the project funded by AusAID for three years 2007-2010, four hamlets could build up the models of “nursery gardens” at hamlet and village levels. The most outstanding outcome of the project is that the illegal exploitation has been eased significantly. The satisfactory result has been explained by the reasonable management mechanism, under which, the effectiveness in forest management is always associated with the benefits of managers and protectors.

Especially, the Na Ri district's authorities have granted local residents the certificates on the land use right on the forest area put under their management. A forest fund management with the initial capital of 13 million dong has also been set up in the communes, which have been used to pay for the forest patrolling, equipment purchases and to lend to local residents at preferential interest rates.

In 2020, the research team organised a comprehensive questionnaire for assessing baseline information within 3 villages in Van Minh commune, Na Ri district, aiming on two goals: Firstly, to enable the comparison of the current situation to the baseline information, secondly, to gain more specific data about socio-economic backgrounds. The questionnaire comprised 30 structured questions on the household, income and employment situation, the use of natural resources and awareness of the conservation status relating to nature resource management activities. This questionnaire was carried out in the same project and control villages like the previously described indicator assessments.

3. Results

The quantitative assessment with 80 households within three villages (two 'treatment' and one 'control') in Na Ri District were assessed for this study as described in Table 1. The incidence of poverty is determined by the Vietnamese Government, while a self-evaluation must be considered with more care as 'poverty' underlies to a certain extend individual and subjectively rated parameters. According to Table 1, the control village comprises relatively more 'poor' households (54.2 %) than the project villages (44.6 %). As the study aims on improving livelihood, this could be taken as an indication of project success. In this light, Table 1 are reflecting the downside of an evaluation by quantitative data, especially in the situation of evaluating only a small subpopulation within the formerly evaluated households.

Table 1: Characteristics of study households involved

	Treatment	Control	Total
Number of villages	2	1	3
Number of households (hh)	56	24	80
Number of ethnic minority households	13	7	20
Number of poor households	24	14	38
Ethnic minority hh as % of total households	46.4	41.7	44.1
Poor households as % of total households	44.6	54.2	49.4

In fact, neither is a statement on an improvement or worsening of the income situation acceptable, nor is a change to be related towards project activities. On top of that, changes on the monetary income or the living conditions are hard to be recognised within several years of project activity. Table 2 reflects the impact of the establishment of the nature resource management towards related changes on the monetary income and the living conditions. Table 3 illustrates the sources of income as recorded by the respective inventories.

Table 2: Impact of the establishment of the resource management project on the monetary income and the living conditions of assessed households within Na Ri District in 2020

	Income (%)		Living conditions (%)	
	Treatment	**Control**	**Treatment**	**Control**
Increased	23.2	12.5	41.1	29.2
Unchanged	48.2	62.5	39.3	45.8
Decreased	28.6	25.0	19.6	25.0

Table 3: Sources of income (VND per year) in the project villages (2020)

Sources of income	**Khuoi Tuc (treatment) Million VND**	**%**	**Na Deng (treatment) Million VND**	**%**	**Na Muc (control) Million VND**	**%**
Agricultural activities	2.36	6.7	0.71	2.9	2.28	8.1
Forestry-related activities	23.04	65.4	14.92	61.1	12.54	44.5
Employment	7.60	21.7	6.62	27.1	9.47	33.6
Other sources	2.17	6.2	2.14	8.9	3.89	13.8
Average total	35.17	100	24.38	100	28.17	100
SD	13.84		4.29		4.72	

Here again, the results of the study questionnaire do not reflect an clear tendency: While the first project village (Khuoi Tuc) does have an average income clearly above the district's average of 2020, the second project village (Na Deng) reveals an average income of below that 2020 average. On top of that, the average income for Khuoi Tuc is even smaller than the non-project village's (Na Muc). Again, in this line the quantitative data alone are not suitable for indicating an improvement of the income conditions between 2018 and 2020. Nevertheless, it must be emphasised again that this result may as well be based on the fact that the data can actually not be rated as being representative for comparing an average of 421 villages (Survey in 2018) with a small subpopulation in 2020.

Figure 1 pictures the income sources by forest products and forest-related activities in 2020 and 2018: Here again, the indication of a more diverse forest product utilisation could reflect an impact of the resource management project activities. But it can not explain why the project villages are utilising more different forest products than recorded in 2018.

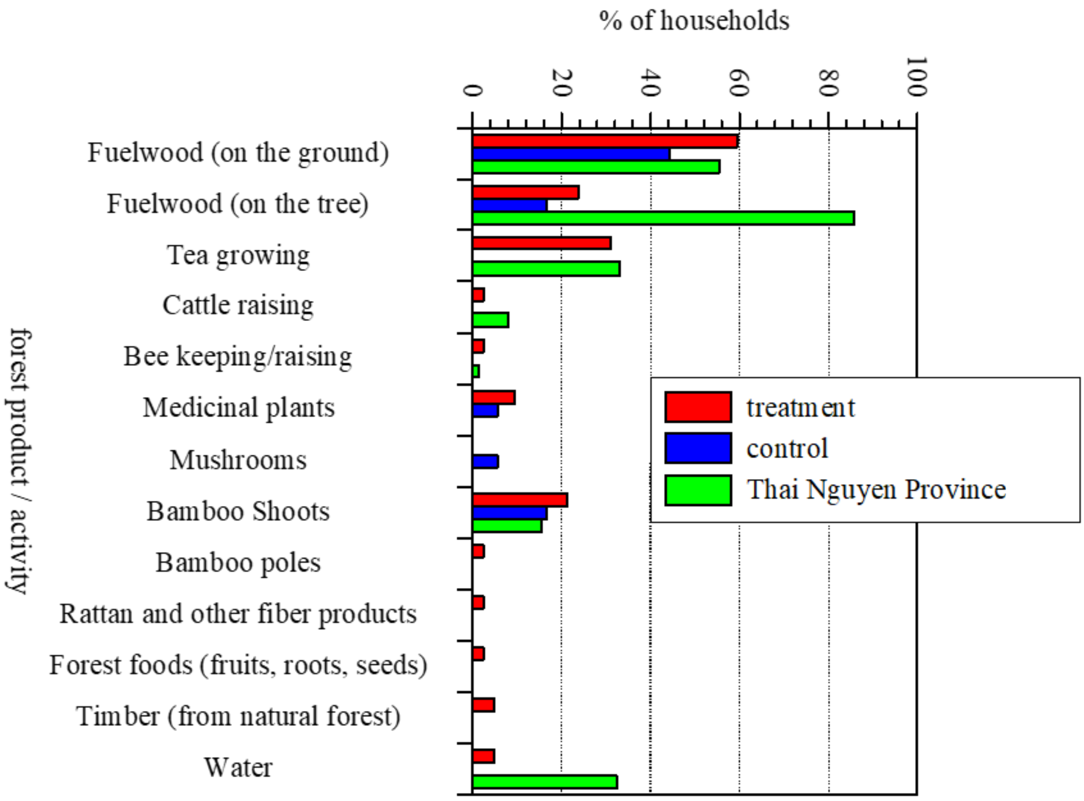

Figure 1: *Income sources by forest products and forest-related activities in 2020 (treatment and control villages) and in 2018*

Table 4 indicates the different expectations of project and non-project village and communities' environmental situation in 10 years from 2010. Those answers reflect the awareness-rising activities of the resource management project: The project villages are obviously expecting an improvement of the conditions due to the resource management project, as well as a worsening of the communities' environmental conditions due to environmental pollution and over-utilisation of natural resources (the reasons for the expected changes were assessed but are not illustrated in the Table).

Table 4: Households awareness of resource management project condition and environmental condition in 10 years (%).

	Resource management project condition in 10 years		Environmental condition within the community in 10 years	
	Treatment	**Control**	**Treatment**	**Control**
Better off	60.7	29.2	16.1	29.2
No change	14.3	20.8	12.5	25
Worse off	17.9	33.3	67.9	45.8
No idea	7.1	16.7	3.5	0

4. Discussion and Conclusion

From these results, it is obvious that an evaluation by quantitative data (a repetition of the household survey carried out in 2018) did not produce comprehensible and convincing figures on the impact of the the resource management project on the livelihood of the target group. Nevertheless, it must be considered that this is based on the specific evaluation procedure and shall not be used for valuing the approach and success of a the resource management project like project in Bac Kan.

In addition to that, the pilot study did demonstrate the impact of 'conservation-and-development' approaches, like the improvement in non-timber forest products business, as a model based on the labour opportunity costs and forest product value assessed within the study area. According to the specific conditions within the study area, it was proven that such non-timber forest products business improvement did rather harm than help forest-dependent households as well as the conservation aims. Here again, the resource management project approach of improving on-farm business possibilities instead off, was proven to be beneficial to the target group of that specific activity as well as to the conservation aims of the project.

Summarising those results, it can be stated that the impact of the resource management project is not easily to be assessed by conventional methods within a short project term, but can be judged by the 'livelihood pathway approach' as being fairly successful. More detailed investigations in the same line, especially in a larger extend within the the resource management project project area are recommended. Further field studies are planned in 2021 and 2022.

Acknowledgement

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5. References

1. Angelsen, A., Wunder, S. (2003), *Exploring the Forestry-Poverty Link: Key Concepts, Issues and Research Implications*, CIFOR Occasional Paper No. 40. Jakarta.
2. Bac Kan People Committee (2020), Report of Social Economics Development 2020.
3. Campbell, B. et al. (2001), *Assessing the Performance of Natural Resource Systems, Conservation Ecology*, http://www.consecol.org/vol5/iss2/art22/.
4. CIFOR, (2004), *Losing less and winning more: Building capacity to go beyond the trade-offs between conservation and development*, Internal project description paper.
5. Dam Viet Bac, Dam Xuan Van (2011), Forest land-use change in Ngoc Phai Commune, Cho Don district, Bac Kan province, Vietnam (1990-2005), Journal Of Science and Technology, Vol. 77(01): 97-102.
6. Dauderstaedt, M., Schildberg, A. (2006), *Dead Ends of Transition*, Rentier Economies and Protectorates, Frankfurt.
7. Sayer, J. et al. (2004), *The science of sustainable development*, Cambridge.

ROLES AND RESPONSIBILITY OF STAKEHOLDERS IN EXTENDED PRODUCER RESPONSIBILITY (EPR) SYSTEM: LESSONS FROM INTERNATIONAL EXPERIENCE AND PROPOSAL TO VIETNAM

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Abstract

Extended Producer Responsibility (EPR), implies that producers take over the responsibility for collecting or taking back used goods and for sorting and treating for their eventual recycling. Such a responsibility may be merely financial or organizational as well. Implementing an EPR system enhances the interactions between different stakeholders, as well as assigning them new responsibilities. The precise nature of these responsibilities varies to reflect the institutional landscape in each individual country and exactly how the EPR system operates in practice.

In Vietnam, EPR has stipulated in the Law on Environmental Protection (LEP) 2020. Learning from the experience of implementing EPR in some countries around the world, models for producers to carry out their responsibilities in waste collection, recycling and treatment have been proposed. The identification of stakeholders, their roles and responsibilities, and specific requirements for a transparent EPR system should be clarified in the Decree guiding the implementation of EPR regulations in Vietnam.

Key words: *Extended Producer Responsibility (EPR), Producers, Waste management*

1. Concepts of Extended Producer Responsibility (EPR)

The rising consumption of a range of complex durable goods over the years has resulted in a serious environmental problem. This is experienced in the form of a large quantity of worn out or end-of life products. Proper management of the waste thus generated has been a matter of serious concern for policy makers. In the 1990s, increasing public perception against the common disposal methods of landfill disposal and incineration led to the formulation of new policies in the Organisation for Economic Co-operation and Development (OECD) countries. Focus shifted to the diversion of wastes towards recycling and reuses (Ferrão et al., 2008).

Extended Producer Responsibility (EPR) is based on the polluter-pays principle (PPP), but emphasises life-cycle impact of the products and internalization of the externalities related to the end-of life products and also encourages environmentally friendly design of the products (Ferrão et al., 2008; Kibert, 2004; Nnorom and Osibanjo, 2008). EPR is an efficient resource management tool whereby producers take over the responsibility for the end of life management of their used products. This can include collection, sorting and treating these for their recycling and recovery. Its basic feature is that actors across the product value chain (manufacturers, importers and retailers) assume a significant degree of responsibility for the environmental impact of their products throughout their life-cycle. This includes products' 'upstream' impact linked to the selection of materials, product design and production processes as such, as well as 'downstream' impact relating to the products' use and disposal.

The OECD defines EPR as "an environmental policy approach in which a producer's responsibility for a product is extended to the post-consumer stage of a product's life cycle" (OECD, 2001). The responsibility of the producer can be physical, financial and/ or informational. There are four main objectives EPR, namely: source reduction (resource conservation/ natural materials), waste prevention, design compatible products more environmentally friendly, as well as using closed loop approach to promote sustainable development. There are two related features of EPR policy: (1) shifting of responsibility (physically and/ or economically; fully or partially) to the upstream producers and away from the municipality and general taxpayer, and (2) to provide incentives to producers to incorporate environmental considerations in the design of their products (OECD, 2001).

EPR requires manufacturers to finance the cost of waste collection and recycling of designated products (Nahman, 2010; Nash and Bosso, 2013). The main function of the EPR is to shift financial management responsibilities and/ or physical waste from local government authorities and the general taxpayers to producers. Environmental costs of treatment and disposal could then be incorporated into the cost of the product. This creates the settings to get the existing market, so it truly reflects the environmental impact of products, as well as where consumers can make choices as they wish based on environmental price signals (OECD, 2001). Internalization of external environmental costs is considered a fundamental aspect of environmental policy design and more specifically of EPR and these tenets have now been formally included into the EU Waste Framework Directive (OECD, 2019).

EPR aims to shift the financial or physical responsibility for ending the life of the product to the beneficiary of the product, so an increase in producer have incentives to provide environmentally friendly products with efficient use of materials containing less hazardous materials (Jacobs and Subramanian, 2012). Intensive use of EPR is expected to improve the design of environmentally friendly products, their prevention and recycling (Rotter, 2011).

2. Roles and Responsibility of Stakeholders in EPR System

In many countries, the management of municipal solid waste is the responsibility of the state, and is usually carried out at municipal/ local authority level. The waste is either directly collected by the relevant state authority or by private companies working on the state's behalf. The costs of such systems are borne by the local authorities and/or national government, with citizens contributing financially through their municipal solid waste fees or taxes.

Producers of products/ goods and other stakeholders along the product value chain are only held responsible for ensuring their products meet certain health and safety standards.

In such systems, funding often only covers the collection of municipal solid waste, transport and disposal at landfills or open dumpsites. Local authorities frequently lack expertise and resources. Recycling often relies on the informal sector, within which multiple stakeholders collect, sort and recycle materials with a sufficiently high material value, often under inadequate welfare and environmental conditions. Transitioning towards sustainable waste management and a circular economy therefore requires a new approach, one that involves all stakeholders at every stage of the product value chain.

The EPR system involves several stakeholders: producers and importers of EPR products, Producer Responsibility Organizations (PROs), distributors of products covered under EPR, waste facilities companies dealing with collection, treatment, recycling or disposal of wastes), municipalities, state authorities (central environmental authority, local environmental authorities, state supervision bodies, police, customs, etc.).

Producer/ importer sells products to consumers through his distributors/ retailers. Consumer after the life cycle of the product has the possibility to deliver the waste product to the distributor which may provide a take-back system (when selling a new product to take over the waste product on one-to-one basis), or consumer can utilize the municipal waste collection system to deliver the waste product directly to the waste facility operating in the municipality.

The distributor in cooperation with the relevant entity of the EPR scheme delivers waste products to waste facility which provides for environmental sound management of waste products and has the permit for these activities from the state authority. How the take-back is organized depends on the scheme that the respective producers of the products have set up.

Producers can take care of their end-of-life products through a third-party organization taking care of waste management on behalf of the producer, a so-called Producer Responsibility Organization (PRO); or individually following the principle of Individual Producer Responsibility (IPR) stipulating that a producer himself takes care of the (end-of-life) products that he has put on the market; or a government-run EPR Centre that organizes end-of-life product collection and management for all producers covered under EPR legislation.

Producer by the means of his EPR scheme (PRO / IPR / EPR Centre) has the responsibility for a functional system and is obliged to finance the system.

The producer gives the information on amounts and types of products put on the market in dedicated period, usually once a quarter to the relevant entity in the EPR system. In case of using a PRO the producer informs the PRO which informs the relevant public authority and the waste management company that he has contracted. If a producer fulfils his EPR obligation through IPR he himself informs the relevant public authorities and waste management companies.

The relevant institutions of the EPR system (PRO, producers themselves, EPR Centre) communicate with the state authority (usually Ministry of Environment) on different issues: the relevant actor initiates the registration of producers in central registers and reports the amounts of products put on the market as well as the amounts of wastes collected, treated and recycled. Often the central state authority asks for other information (e.g. on financing of the system…).

The distributor may be obliged to implement take-back system and communicates with the relevant entity of the EPR system (PRO/ producer/ EPR Centre) on conditions of transport of collected waste to waste treatment facility. The producer communicates with distributor on recycling contribution which is included in the product price. The relevant actor of the EPR system (PRO/ producer/ EPR Centre) communicates with waste facility dealing with transport of waste products, as well as with waste treatment and/ or recycling facility. If the waste products are collected in the system of separate collection of wastes in municipalities, municipalities communicate with the relevant entity of the EPR system (PRO/ producer/ EPR Centre) to provide for transport of waste products to waste treatment facility. Producer is obliged to supply information on product design and content of hazardous materials to waste treatment facility in order to ensure environmentally friendly treatment of wastes.

Figure 1: Stakeholder and Their Responsibilities With Respect To EPR Mandate

Arcording to Prevent Waste Alliance (2019), implementing an EPR system enhances the interactions between different stakeholders, as well as assigning them new responsibilities. The precise nature of these responsibilities varies to reflect the institutional landscape in each individual country and exactly how the EPR system operates in practice. As EPR schemes only cover part of the total volume of municipal solid waste, they need to be integrated into broader waste management and circular economy policies.

Roles and Responsibility of Producers

Obliging producers to assume responsibility for their product waste forces them to take on a new role in the value chain. The term 'producer' refers to any company that introduces their products/ goods for consumption to a national market. Also, the product will be discarded in the same national market. It is irrespective of whether the product is produced domestically or imported. This definition helps to maintain a level playing field between companies importing products (importers) and companies that produce/ package their products within the country concerned (domestic producers).

The producers' responsibility within an EPR scheme may be defined as:

'Simple' financial responsibility: Producers have no obligation but to finance the existing waste management channels. Studies show that schemes using this model have few other incentives to improve waste management, apart from the financial incentive.

Financial responsibility through contracts with municipalities: Producers establish contracts with municipalities to collect and manage waste. The producers' motivation to improve waste management depends on the type of contract and on the dialogue with municipalities. The financial contribution of producers can be conditioned to quantitative results reached by municipalities (in terms of collection or recycling rate), quality check, or requirements on the type of collection and treatment schemes to be implemented.

Financial responsibility and partial organisational responsibility: Some activities are kept under the responsibility of municipalities (e.g. collection whether implemented directly by public waste collection operators or contracted to private companies), backed financially by producers, whereas some other activities (e.g. sorting, recovered materials reselling) are under the responsibility of producers.

Financial responsibility and full organisational responsibility: The producers subcontract activities to professional waste collection and treatment operators, or even own part of the collection and treatment infrastructure.

As these companies are obliged to assume extended responsibility under the EPR system, they are referred to as the ‘obliged companies’ within the system. A suitable legal framework should be drawn up to underpin the EPR system and make it mandatory for obliged companies to ensure compliance, including appropriate monitoring mechanisms and enforcement powers.

The change in the role fulfilled by the obliged companies has a knock-on effect on the roles and responsibilities of the other stakeholders right along the product value chain. This is why a successful EPR system needs the active participation of all stakeholders (Prevent Waste Alliance, 2019).

Defining roles and responsibilities is a political process involving multiple stakeholders. The specific roles and responsibilities assigned to each stakeholder always depend on the circumstances at play, including the applicable legal and institutional frameworks. Responsibilities also have to be consistent with the structures of the existing or planned EPR system and its various components, since the way systems are set up and operate in practice vary between countries.

Although operational EPR systems vary significantly between countries, all EPR schemes should be designed to strike a balance, simultaneously managing producers’ obligations at the same time as ensuring that environmental policies are implemented as appropriate and in line with the ‘polluter pays’ principle. Accordingly, the basic principles of EPR systems are almost the same in every country: (1) Every producer pays a fee when introducing a packaged good into the market. This fee is proportional to the amount of packaging being introduced; (2) The fee covers the collection, sorting and recycling of the packaging waste; (3) Collection, sorting, and recycling or energy recovery of waste remains the responsibility of the producer(s) concerned. However, the activity required to exercise this responsibility can be delegated to other companies or organisations. EPR systems can be implemented based on individual responsibility, collective responsibility, or a mixture of the two. The decision as to the most appropriate model for an individual system should be discussed as part of a political, multi-stakeholder dialogue, and the exact details of the model agreed upon should be clear to all stakeholder (Prevent Waste Alliance, 2019).

3. Waste Generation and Management in Viet Nam

Viet Nam is a developing country with rapid urbanization, industrialization and population growth with a growing middle-income class and changing consumption patterns. With this, the volume of Vietnam's solid waste has increased. The Vietnam Environment Administration found that the extent of municipal solid waste generation in the country increases by 10 – 16% every year. The generated waste volume will then increase in future and is estimated to reach a total of around 91 million tons in 2025 (Figure 2). Besides that, there is a threat of illegal import of waste from other countries to Viet Nam under "scrap import". Furthermore, new waste types such as e-waste, C&D waste, food waste, and disaster waste will emerge as new issues that need to be resolved.

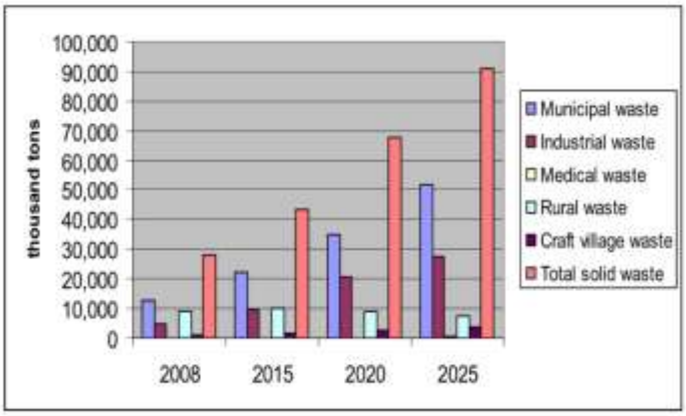

Figure 2: Waste generation projection in Viet Nam by 2025

Source: MONRE, MOC, 2009

According to a study conducted by the Viet Nam Economics and Policy Research institute (VEPR) in 2015, waste management flow can be described in figure 3.

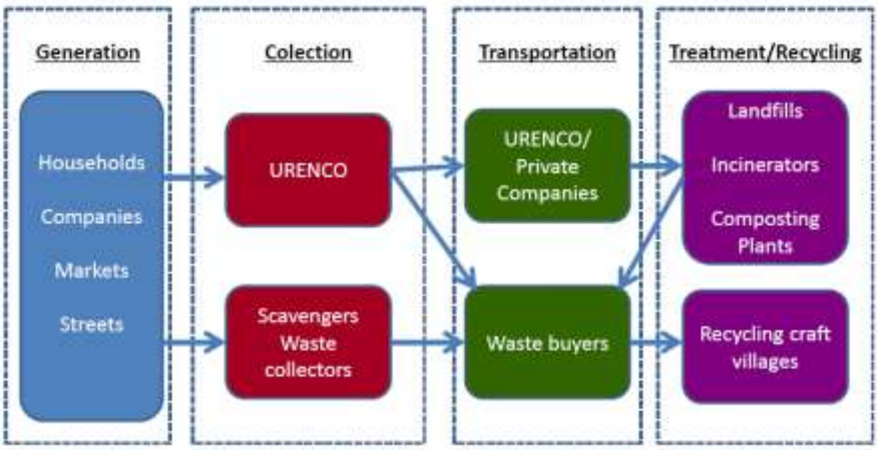

Figure 3: Scheme of waste management in Viet Nam

Source: VEPR, 2015

Currently, about 85% of the waste generated in Vietnam is being buried without treatment in landfill sites, 80% of which are unhygienic and pollute the environment. The national 3R (Reduce, Recycle, Reuse) campaign gained momentum with wastes being dumped into the nearest landfills. Majority of the companies in Vietnam's solid waste management industry are state-owned with the technologies provided by the foreign countries, few of them are large multinational companies and have subsidiaries in Vietnam. Most of the technology providers are from Singapore, China, USA and European countries. However, adoption of technologies in the country is lower and is mainly focused on the hardware products.

Waste prevention and reduction have not been paid enough attention in Viet Nam in both production and daily life. There have not been any incentive policies or compulsory measures for households to reduce their solid waste generation. With regards to industrial waste, most recyclables are sorted right from where they are generated for reuse and recycling. As a result, recyclables will be used as materials for production in the industries themselves. Other scraps which are non-reusable for such production processes but could possibly be used for secondary production will be gathered and sold to recycling units. The rest will be moved to the waste storage of companies or collecting units to transport to treatment facilities.

4. EPR Legal Framework in Viet Nam

EPR has stipulated for the first time in the Law on Environmental Protection (LEP) 2005 with regulations on recall and treatment of waste products and is specified in Decision No. 50/2013/QD-TTg on August 9, 2013 of the Prime Minister.

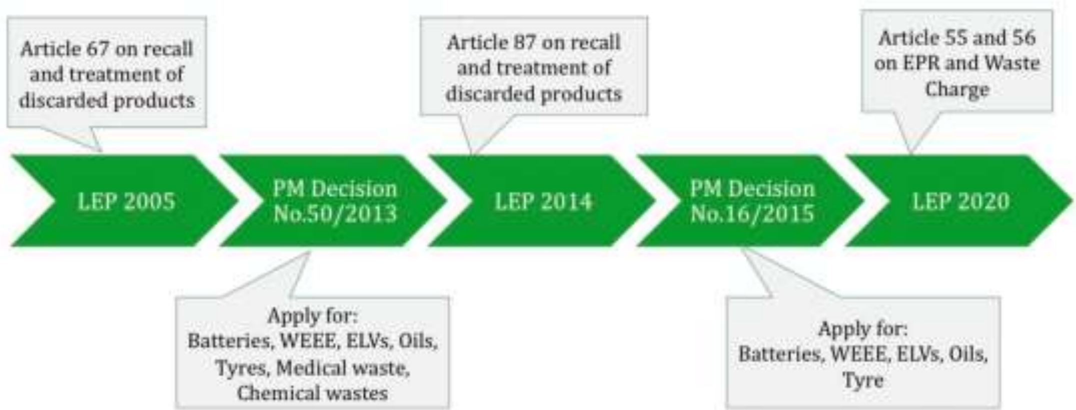

Figure 4: Policy Evolution on EPR in Viet Nam

Source: Nguyen Hoang Phuong, 2020

After that, EPR is further inherited and stipulated in the Law on Environmental Protection 2014 with the responsibility for recall and disposal of waste products and is specified in Decision 16/2015/QD-TTg on 22/5/2015 of the Prime Minister.

However, due to various reasons, EPR has not been implemented in practice in Vietnam.

On November 17, 2020, the National Assembly passed the new Environmental Protection Law, which stipulates Extended Producer Responsibility for businesses in Viet Nam in Articles 54 and 55. This means that businesses and producers now bear the responsibility for the waste stage of their products.

There are 6 groups of products and packaging subjected to the recycling responsibility of producers and importers: food and beverage packaging; waste from electrical and electronic equipment (WEEEs); tires; batteries; lubricants; and end of life vehicles.

The items under producers' responsibilities for collection and treatment of wastes include: packages for pesticides and chemicals; chewing gum; napkins; cigarettes; industrial products made of plastic and its packing materials.

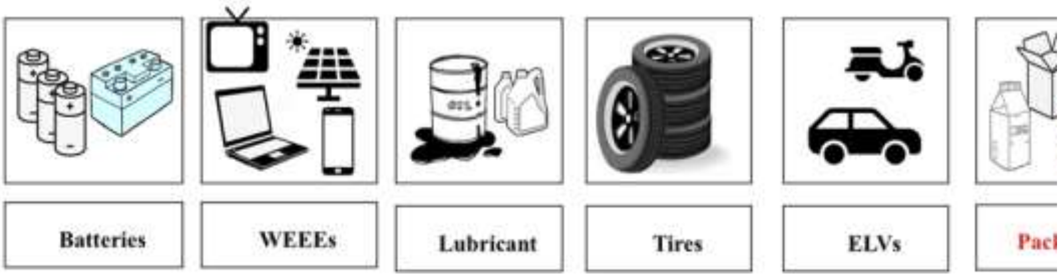

Figure 5: Products and packaging to be recycled *(Article 54 of LEP, 2020)*

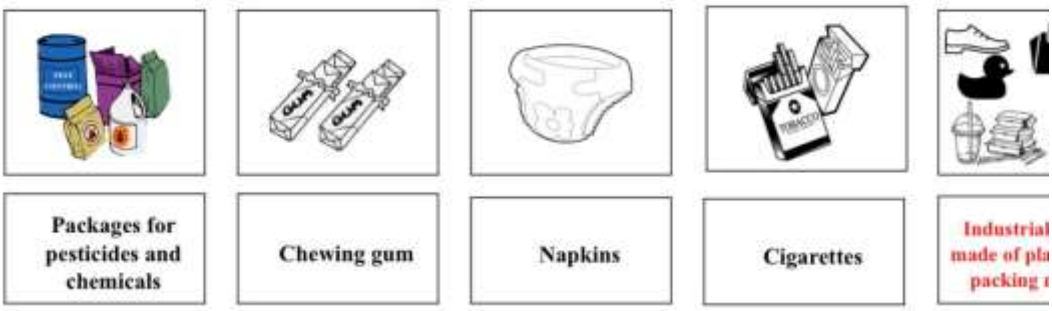

Figure 6: Products and packaging to handle *(Article 55 of LEP, 2020)*

5. Proposed Roles and Responsibility of Stakeholders in Vietnam's EPR System

Roles and Responsibility of Stakeholders in Waste Recycling

Article 54 of LEP 2020 regulates that:

1. Organizations and individuals that manufacture or import recyclable products and packages must recycle in accordance with the required recycling rate, methods, and standards, except for exported, temporarily imported products and packages, re-exported, manufactured, or imported for research, study and testing;

2. Organizations and individuals may choose to recycle products and packages in one of the following forms: (a) Organize the recycling of products and packages; (b) Make a financial contribution to Vietnam Environment Protection Fund to support product and packaging recycling;

3. Organizations and individuals defined in this Article must register their recycling plans and report annual recycling results to the Ministry of Natural Resources and Environment (MONRE).

Producers have important roles and responsibilities in this EPR system. However, that responsibility cannot be fulfilled without the effective role and participation of other stakeholders. Model of stakeholders' roles and responsibilities in recycling is proposed in figure 7.

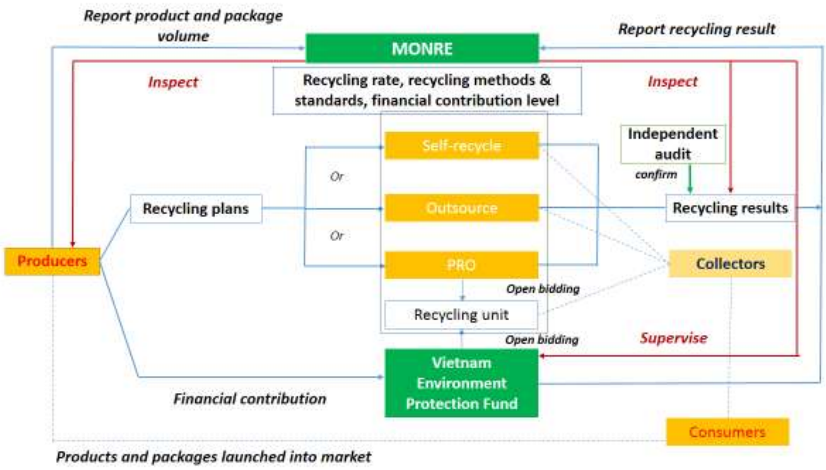

Figure 7: Stakeholders' roles and responsibilities in recycling

Producers can implement EPR in one of three ways: (1) Carry out the recycling by themselves; (2) Do recycling through a third-part, that is Product Recycling Organization (PRO); and (3) Make a financial contribution to the Viet Nam Environmental Protection Fund (VEPF). In other words, producers can participate in EPR either individually or collectively under the PRO or the VEPF. To avoid free-riding problems, producers who do not adopt EPR are subject to fines. Producers that recycle themselves or do so via a third party will have to report through a national EPR data portal managed by MONRE. If a producers that does the recycling itself fails to reach the recycling target over 3-5 years in a row, it will be forced to participate in one of the other two mechanisms. A producers that refuses to choose any mechanism will be fined; if it exceeds its recycling target it can sell credits to other businesses through a tradable credits system. Producers who fail to perform or fully performs the compulsory recycling responsibility, in addition to receiving administrative punishment, must also pay twice the amount required to handle the remaining required proportion in correspondence with the level of contribution to VEPF.

There are requirements for self-recycling producers or recycling units hired by producers: (1) Being a legal entity; (2) Having recycling function and capacity (technology, finance); (3) Having an environmental license in accordance with the law; and (4) Not violating the law on the environment. Recyclers that do not qualify or pollute the environment cannot join the EPR system.

The PRO or third party authorized by producers to organize the recycling must satisfy the following conditions: (1) Have legal status and is established in accordance with law; (1) Be a non-profit organization; (3) Does not directly recycle and has no ownership relationship with any recycling unit in connection with the authorized scope; and (4) Be authorized by at least 03 producers to organize the recycling; those recycling packages must be authorized by at least 10 producers or importers. The third party authorized by producers to recycle must be registered for operations, must be verified by Vietnam EPR Office prior to operations, and is responsible before the law and producers under the authorized scope.

Mandatory recycling rates and projected financial contribution rates over a 3-year period will be proposed by the inter-sectoral committee and approved by the MONRE Minister. A multi-stakeholder council including representatives from MONRE, General Department of Tax, General Department of Customs, PROs and CSOs, will approve the recycling targets and fees payable to VEPF.

Vietnam EPR Office selects and signs contracts with recyclers in accordance with the provisions of the law on bidding or in the form approved by the National EPR Council to recycle for producers. VEPF is responsible for paying recycling units the recycling cost under the signed contracts and responsible for publicizing the contributions received from producers and the results of using the annual contributions.

Roles and Responsibility of Stakeholders in Waste Collection and Treatment

Regarding hard-to-recycle or hazardous waste such pesticides, chewing gum, napkins, tobacco, and single-use plastics, producers have to pay the VEPF to handle collecting and treatment. This funding will be allocated by MONRE to local authorities. VEPF will be responsible for monitoring implementation while producers will report to MONRE the quantity and volume of products sold on the market.

Figure 8: Stakeholders' roles and responsibilities in waste handling

According to Article 55 of the LEP 2020, responsibilities for collection and treatment of wastes are as follows:

1. Organizations and individuals that produce and/ or import products and packages containing toxic substances, which are difficult to recycle or cause difficulties for the collection and disposal must contribute financially to support activities (except for products exported or temporarily imported for re-export or produced or imported for the purpose of research, study or testing): a) Collect, transport, and handle solid waste discharged by households and individuals; b) Study and develop technology, techniques, and initiatives for household solid waste treatment;

c) Collect, transport, and handle packages containing pesticides.

2. Organizations and individuals defined above make financial contributions to the VEPF; the financial contribution level is determined by volume or unit of product or packaging.

Manufacturers who fail to perform or fully perform its responsibility to provide the funding to support the waste treatment in addition to receiving administrative punishment must also pay an amount equal to 30% of the payable amount and an additional 10% if failing to make payment in the next period. Late payment will be subjected to an interest of 0.03%/day based on the overdue amount.

Agencies, organizations and communities wishing to receive funding support for waste treatment activities as specified in Article 55 of the LEP shall make a dossier requesting support and submit to the Vietnam EPR Office for selection and approval. EPR Office gathers dossiers requesting support and organizes the verification of the funding request of the organizations or individuals specified to submit to the National EPR Council for consideration and approval. Then National EPR Council discusses and approves funded projects. Vietnam EPR Office publicly announces the funded projects to agencies, organizations and communities. VEPF signs sponsorship contracts with agencies, organizations and communities whose projects are funded according to the provisions of VEPF. Funded projects are activities that directly serve the community's interests and do not aim for profits. VEPF is responsible for publicizing the total contribution amount and the results of using the annual contribution.

6. Conclusion and Recommendations

As stated by Prevent Waste Alliance (2019), the most common difficulty in establishing an operational EPR scheme, containing clear roles and responsibilities, is reaching an unambiguous agreement as to which companies are, and are not, obliged under the system. This requires a clear definition of what constitutes an obliged company, as well as cooperation between multiple ministries and/ or agencies to identify the companies concerned. Implementing an EPR system enhances the interactions between different stakeholders, as well as assigning them new responsibilities. The precise nature of these responsibilities varies to reflect the institutional landscape in each individual country and exactly how the EPR system operates in practice. As EPR schemes only cover part of the total volume of municipal solid waste, they need to be integrated into broader waste management and circular economy policies.

The identification of stakeholders, their roles and responsibilities, and specific requirements for a transparent EPR system should be clarified in the Decree guiding the implementation of EPR regulations in Vietnam.

7. References

Ferrão P, Ribeiro P and Silva PA (2008) Management system for end-of-life tyres: A Portuguese case study. *Waste Management* 28: 604–614.

Herdiana, D. S., Pratikto, Sudjito, S. and Fuad, A (2014), *Policy of extended producer responsibility (case study)*, International Food Research Journal 21(3): 873-881

International Bank for Reconstruction and Development (2018), *Solid and Industrial Hazardous Waste Management Assessment Options and Action Area to Implement the National Strategy*, World Bank.

Kibert NC (2004) Extended producer responsibility: A tool for achieving sustainable development. *Journal of Land Use & Environmental Law* 19: 503–523.

Nahman A (2010) Extended producer responsibility for packaging waste in South Africa: Current approaches and lessons learned. *Resources,*

Conservation and Recycling 54: 155–162.

Nnorom IC and Osibanjo O (2008) Overview of electronic waste (e-waste) management practices and legislations, and their poor applications in the developing countries. *Resources, Conservation and Recycling* 52:843–858.

OECD (2001) *Extended Producer Responsibility: A Guidance Manual for Governments*, OECD Publishing, Paris.

OECD (2016). *Extended Producer Responsibility. Updated guidance for efficient waste management.*

European Commission, OECD Publishing, Paris.

Nguyen Hoang Phuong (2020), *International and Viet Nam Experience on EPR Implementation*, presentation at seminar on “An expanded legal framework for accountability. of the manufacturer - Shaping the packaging industry towards a circulating economy in Vietnam ", HCMC Viet Nam 6/ 2020.

Prevent Waste Aliance (2019), *EPR Toolbox: Know-how to enable Extended Producer Responsibility for Packaging.*

Seung-Whee Rhee (2016), *Beneficial use practice of e-wastes in Republic of Korea*, Procedia Environmental Sciences 31 (2016) 707 – 714.

Vermeulen, W.J.V., C.W. Backes, M.C.J. de Munck, K.Campbell-Johnston, I.M. de Waal, J. Rosales Carreon, M.N. Boeve, (2021), *Pathways for Extended Producer Responsibility on the road to a Circular Economy*, White paper based on a literature review and the results of a Delphi study, on the experiences with EPR in the Netherlands, Utrecht University, Circular Economy and Society Hub, Utrecht.

Yamini Gupt and Samraj Sahay (2015), *Review of extended producer responsibility: A case study approach*, Waste Management & Research 2015, Vol. 33(7) 595– 611

SESSION 5:

URBAN AND REGIONAL DEVELOPMENT

ASSESSMENT OF THE IMPACT LEVELS OF URBANIZATION ON LAND MANAGEMENT AND USE IN VINH CITY, NGHE AN PROVINCE, VIETNAM

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Abstract

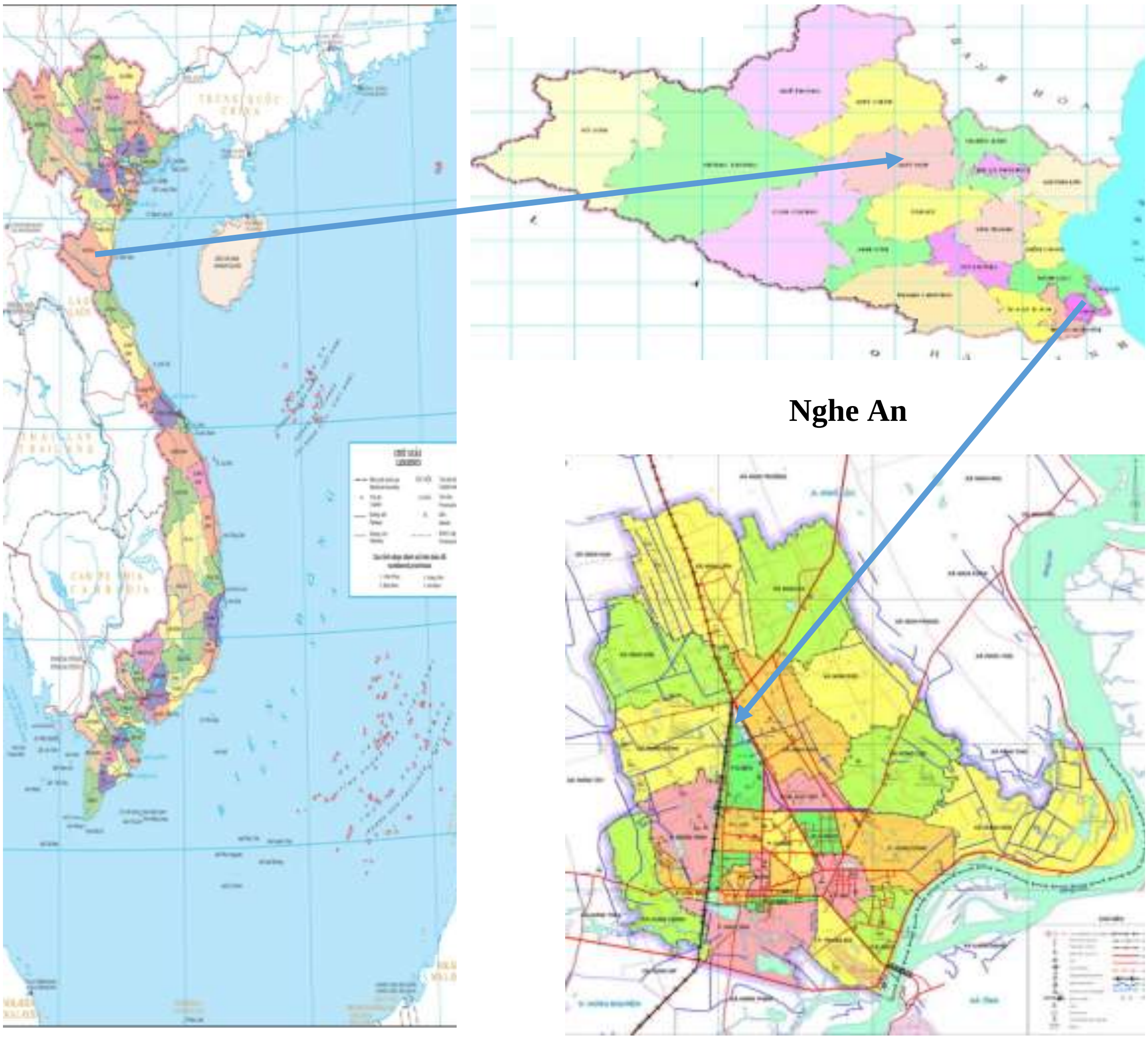
The study aims to assess the impact of the urbanization process in the period of 2008 - 2019 in Vinh city, Nghe An province on land management and use. The study uses methods of collecting secondary and primary data, methods of data processing, analyzing and comparison. Vinh city had an urbanization ratio of 68.30%, an urbanization rate of 102.94% in the period 2008-2019. Financial management of land and land prices is the most affected by urbanization, followed by land dispute resolution; resolve the complaint report; registration of land, preparation and management of cadastral dossiers, issuance of land use right certificates; management of compensation, support, and resettlement upon land recovery; management of land allocation, land lease, land recovery, change of land use purposes. The area of non-agricultural land in 2019 was 5556.48 ha, an increase of 611.23 ha compared to 2008 due to the change of land use purposes, mainly from agricultural land and partly from unused land. In order to strengthen land management in the urbanization process, it is necessary to focus on solving the issues of land management in order of priority, based on the degree of impact of the urbanization process.

Keywords: *Impact, land use, management, urbanization, Vinh*

1. Introduction

Urbanization is an inevitable social development process that has been taking place strongly in many countries, including Vietnam (Hoang Ba Thinh & Doan Thanh Huyen, 2015; Nguyen Huu Doan, 2009; Tran Thi Lan Anh, 2014). Before 1990, the urbanization process in Vietnam was slow, so by 1990 there were only 500 urban areas with an urbanization ratio of about 18% (Dao Duc Huong et al, 2018). From 1993 up to now, the urbanization process has been faster, by June, 2020, there were 833 urban areas with an urbanization ratio of 39.3% (an increase of 0.5% over the same period in 2019). Urbanization has an impact on many aspects of the socio-economy, living environment, economic structure, and land management and use. Urban revenue sources contributed about 70% of the total national budget revenue, economic growth in urban areas reached an average of 10-12%, 1.2 - 1.5 times higher than the national general average (Bich Ngoc, 2020). Besides the achievements, the urbanization process of Vietnam still has some shortcomings that need to be overcome, such as the inadequate development of the urban system between quantity, scale and quality; Many planning projects had unsuitable visions and solutions; Urban infrastructure had not met the needs of the people; Management capacity had not kept pace with development reality; Land management also had many shortcomings (Bich Ngoc, 2020).

Vinh city (Figure 1) is the central city as the political, administrative, socio-economic center of Nghe An and the center of the North Central region (Prime Minister, 2015). Like the whole country, Vinh city is in the process of strong urbanization and especially since 2008, when the city was recognized as a grade I city directly under the province (Prime Minister, 2008). The non-agricultural production, business, and service increased rapidly, so every year the city had contributed about 33.52% of the total budget revenue of Nghe An province; Domestic revenue in 2019 reached 2,327.8 billion VND (Vinh City People's Committee, 2020). Like other urban areas in the process of expansion, the demand for land increased, land acquisition, land allocation, and land lease in particular, and land management in general were complicated, causing an impact to the lives of people whose land is acquired, security and order in the city. The question is how was the urbanization situation of Vinh city in recent years? What is the impact of urbanization on land management and use? What are the positive and negative impacts on land management and use? What solutions are needed to manage and use land more effectively and speed up the urbanization process. To answer these questions, research on urbanization and land use and management in Vinh city, Nghe An province, Vietnam is necessary and has practical significance.



Nghe An

Vietnam Vinh city

Fig. 1. Geographical location map of Vinh city, Nghe An province

2. Methods

2.1. Study scope

Studying the impact of urbanization on land use and management over a period of 10 years (2008-2019) since Vinh City is recognized as a urban type I.

2.2. Data collection methods

- *Collection of secondary data:* Secondary data on natural, socio-economic conditions of Vinh city in the period 2008-2019 were collected at the Statistical Office of Vinh city and at the People Committees of wards and communes of Vinh city. Data on land management and use were collected at Department of Natural Resources and Environment, Office of Urban Management, Department of Statistics, Department of Finance, Center for Land Fund Development, Land Registration Office of Nghe An province and at the People Committees of wards and communes of Vinh city. Theoretical and practical bases related to research were collected from domestic and foreign research results published in scientific articles, books, reports ... Data collection through meeting directly with people with information related to the topic, look up information available at the library, on the internet.

- *Collection of primary data:* To evaluate the impact of urbanization on land management in Vinh city in the period of 2008-2019, the study was conducted using printed sheets for officers and public employees directly related to land management in Vinh city with 67 questionnaires (Table 1).

Table 1. Numbers of investigated cadres, officers, and public employees

Work unit	Position	Number
People Committee of Vinh city	Leader	01
People Committee of 25 wards and communes	Leader	25
People Committee of 25 wards and communes	Cadastrial official	25
Department of Natural Resources and Environment	Leader	01
Department of Natural Resources and Environment	Officer	05
Land Registration Office of Vinh city	Leader	01
Land Registration Office of Vinh city	Official	03
Center for Land Fund Development of Vinh city	Leader	01
Center for Land Fund Development of Vinh city	Official	05
Total		**67**

According to the 2003 Land Law, state management on land has 13 contents, and according to the 2013 Land Law, state management on land has 15 contents (2 additional contents). Because the study was carried out during the period when both land laws were in effect, the study assessed the impact of urbanization on 15 contents.

To assess the impact of the urbanization process on the contents of state management of land in the questionnaire, there are 15 contents of state management on land and 5 levels of impact, respectively. Likert scale (very affected - 5 points; quite affected - 4 points; average affected - 3 points; less affected - 2 points; very little affected - 1 point). The total score affected by the contents of state management of land is determined by the following formula:

$$T\text{Đ}_k = \sum_{k=1}^{m} \sum_{z=1}^{p} y_{kz}$$

In which:

$TĐ_k$ - Total assessment score affected by urbanization of the content of K land management;

k - order of land managent content

m - Total content of state land management (n = 15);

z - Order of people answer

p - Total number of people answer (p = 67);

y_{kz} - Assessment point of people z about the impact level of land management content k.

The content with the highest total score is the content affected by urbanization the most, followed by the content with the second highest total score and the content with the third and fourth highest score ... with the lowest total score is the content least affected by urbanization.

2.3. The method of determining the ratio and the speed of urbanization

- The urbanization ratio is determined by the formula 3.2.

TLDTH = 100xDSP/TDS (3.2.) (Ministry of Construction, 2009)

Where:

TLDTH - urbanization ratio (%);

DSP - Population of wards in city (people);

TDS - Population of city (people).

- *Urbanization speed is determined by the formula 3.3.*

TDDTH = ((DSP$_{ht}$ – DSP$_{ss}$)/DSP$_{ss}$)x100 (3.3.) (Ministry of Construction, 2009)

Where:

TDDTH - *Urbanization speed* (%);

DSP$_{ht}$ - Current population of wards in city (people);

DSP$_{ss}$ - compared year's population of wards in city (people).

2.4. Method of data aggregation and processing

Using Microsoft Office Excel 2013 to aggregate, process collected data.

2.5. Method of analysis, comparison, and assessment

Analyze the advantages and limitations of the urbanization process and its impacts on land management and use. The comparative method was used to compare the urbanization ratio and urbanization rate of Vinh city in the study period, as well as to compare the structural change of each land type under the impact of the urbanization. Evaluate the process of urbanization and the impact of urbanization on land management and use according to criteria such as urbanization ratio, urbanization rate, level of urbanization impact on each land management content, change of land structure, area of land types ...

3. Results

3.1. Some theoretical issues about urbanization and land management and use

3.1.1. Urbanızatıon

Urbanization is understood in many ways. According to World bank (2011), Urbanization is the change in the size of the urban population and the quality of life of the urban population. According to Nguyen Thi Thoa (2014), urbanization is an economic process that eliminates the historical opposition - the gap between the city and the countryside and leads to unified forms of residence with economic access. In other words, urbanization is the process of centralized non-agricultural functions, in-depth investment and diversification, the universality of the mode of production and the developed urban residence, the development of exchange of human types and urban cultural forms. Urbanization is also understood as the expansion of the urban area calculated as a percentage of the urban population or the urban area over the total population or the area of a region (called the level of urban area or the rate of increase of 2 factors over time (also known as the rate of urbanization) (Ngo Thuy Quynh, 2016; Pham Ngoc Tru, 2015).

From the above concepts, the most general understanding of nature, urbanization is the increase of the urban population over time and is calculated as a percentage of the urban total population (the population belongs to wards, towns) per total population (the total population of wards, communes and townships) (the so-called urbanization ratio) or the increasing rate of urbanization over time (called the rate of urbanization). The urban population in the process of urbanization can increase naturally and mechanically. Urban natural population growth is the increase in population generated by the birth process. Mechanical population growth is population growth due to the movement of the non-urban population into the urban area. The non-urban population is the population coming from a rural or other area and engaged in off-farm activities (Luu Duc Hai, 2011; Vuong Dien Phuong & Luu Sister Kiet, 2014).

The feature of urbanization is that the population tends to increase. The population is concentrated in big and very big cities; At the same time, to widely develop the urban lifestyle expressed through population, population density, quality of life (Quang Nguyen & Doo-Chul Kim, 2020; Aggrey Daniel Maina Thuo, 2013). Urbanization makes people's lives more and more change, the formation and development of many cities geographically close to each other and closely related due to the division of labor has created urban areas (D. Da Mata et al., 2005; Duranton & Puga, 2004). Urbanization leads to an increasing trend in the urban population due to the process of rural-urban migration, changing the correlation between the urban and rural population, increasing the proportion of the urban population in the total population (Park et al., 2011; Vu & Kawashima, 2019). Urbanization represents the level of social development in general, but has specific characteristics for each country. For developed countries, urbanization has taken place in depth, quality of life in cities has been increasingly improved. In developing countries, the rate of urbanization is very high, especially in recent decades, the process of urbanization taking place in a wide range is posing many difficult problems to solve such as land problems, unemployment, poverty, environmental pollution and social evils.

3.1.2. Land management and use

Land management and use focuses on land and how land is used for production and conservation purposes. Land use and management requires decision making and is determined by the purpose of its use, for example: food production, housing, entertainment, mining ... and is determined by the nature and value of the land. In the past, land use and management focused mainly on agricultural land. Today, land management also faces issues of industrialization, urbanization, conservation, and mining. Land use management is a combination of all the tools and techniques used by the government to manage how land is used and developed including: land use planning, legislation , land use rights, land pricing and real estate information (Nguyen Khac Thai Son, 2007). In the context of this study, land use management is understood as the process of combining all the tools and techniques to ensure the law for the use, exploitation and development of land funds, and the settlement of disputes related to land. The main contents include: promulgating and organizing the implementation of legal documents related to land use; formulation and management of land use plannings; allocation and management of the exercise of land use rights; land pricing and real estate information...

3.2. Urbanization and Land use and management in Vinh city, Nghe An province

3.2.1. Overview of natural, socio-economic conditions of Vinh city, Nghe An province

Vinh city, Nghe An province, about 300 km north of Hanoi capital is the political, economic - social, cultural - educational, physical training - sport center of Nghe An province, and is the center of North Central region in the fields of finance, trade, tourism, science - technology, information technology, high technology industry, health, culture, sports, education - training. Vinh city has 25 administrative units of communes and wards, including 16 wards and 9 communes with the natural area of the whole city from 67.53 km2 increased to 104.96 km2 (an increase of 1.6 times since 2008 to 2019), in which the urban area is about 36 km2. The population of the city in 2019 was 317,643 people, of which the urban population was 216,965 people (accounting for 68.3% of the total population) and the rural population was 100,678 people (accounting for 31.7%). The production, non-agricultural business and service increased rapidly, so every year the city has contributed about 33.52% of the total budget revenue of Nghe An province; Domestic revenue in 2019 reached 2,327.8 billion VND. The growth rate in 2019, compared to 2016, reached 13.55%, the industrial production value in 2019 reached 12124.12 billion VND (Vinh City People's Committee, 2020).

3.2.2. Urbanization characteristics in Vinh city, Nghe An province

Over 200 years of establishment and development (1804 - 2019), from being a town of Nghe An, an urban area under the monarchy, Vinh became an industrial city, a traffic hub (railway, road, river, sea, air route), a large commercial center and exchange place for many cultural regions in the country and the whole region. The imprint of Vinh city in Nguyen dynasty, Vinh town, Ben Thuy, Truong Thi, Vinh - Ben Thuy city under French rule and also construction works by experts and engineers from the German Democratic Republic (East Germany) left in the years 70 - 80 of the previous century has been accompanying on the step of integrated development of Vinh city today (Nguyen Quang Hong, 2003). Vinh city has a ratio of urbanization increased nearly 2 times (from 37.21% to 68.30%), rapid urbanization rate (102.94%) in the period 2008-2019 (Table 2). The increase in urban population is mainly mechanical (65.32%), the rest is natural increase (34.68%). Vinh urban space has expanded much more in both axes: East - West and North - South of the City.

Table 2. Ratio and rate of urbanization of Vinh city in the period of 2008-2019

Year	City population (people)	Wards' population (people)	Urbanization ratio (%)	Urbanization rate (%)
2008	287319	106913	37.21	102.94
2019	317643	216965	68.30	

(Vinh City People's Committee, 2020)

Vinh city has been implementing many projects to build new urban areas; resettlement area; industrial zones and clusters and public works to create a new face for the city and improve the quality of life of the people. At present, inner Vinh city includes 16 wards, the urban land area is 3,521.66 ha, accounting for 33.55% of the total natural area. Infrastructure system has developed rapidly such as traffic, electricity, water supply and drainage, commerce, post - telecommunications, services, tourism, restaurants, hotels, sports - culture... With residential land, now the city has a number of old dormitories, over the years these houses have been invested and renovated, so they have partly improved in terms of infrastructure. In addition, the city has also built a number of new urban areas with the appearance of modern urban areas, suitable for architecture and urban landscape.

3.2.3. The impact of urbanization on land management and use in Vinh city, Nghe An province

3.2.3.1. The impact of urbanization on land management

The results of processing survey data showed that there are 5 issues most affected by the urbanization process. Specifically, financial management of land and land prices suffered the most from urbanization with the highest rating of 872 points, followed by land dispute resolution; settle complaints and denunciations in land management and use; registration of land, preparation and management of cadastral dossiers, issuance of certificates of land use rights, ownership of houses and other land-attached assets; management of compensation, support, and resettlement upon land recovery; management of land allocation, land lease, land acquisition, change of land use purpose with assessment points 605, 296, 255 and 245 respectively (Table 3). Land prices were most affected because in the urbanization process, the demand for land increases, transactions of land use rights also increase, and these transactions involve land finance and land prices. In particular, land prices are the basis for calculating land use fees, land rentals, fees, charges or taxes related to land ...

Determining land prices when land compensation money is the most complicated, most difficult issue and affects the progress of site clearance compensation. In addition, due to the increasing urbanization rate, the increasing demand for land use increases the value of land use rights, so there are often disputes over land use rights between people sharing land use rights or between people who have contiguous land use rights or complain about or appeal against administrative decisions related to land. The urbanization process is always associated with land acquisition and has a direct impact on the rights and interests of land users, so complaints and grievances also increase. The content of land law dissemination and education is the smallest impact of the urbanization process.

Table 3. Results of the assessment of urbanization impacts on the contents of state management on land in Vinh city

Land management contents	Total points	Impact level
Financial management and land prices	872	1
Settlement of land disputes; settle complaints and denunciations in land management and use	605	2
Land registration, preparation and management of cadastral dossiers,	296	3

issuance of certificates of land use rights, ownership of houses and other land-attached assets		
Manage compensation, support, and resettlement upon land acquisition	255	4
Management of land allocation, land lease, land recovery, and change of land use purposes	245	5
Managing land service activities	243	6
Managing land use planning and plans	232	7
Land statistics and inventories	226	8
Surveying, measuring, making cadastral maps, land use status quo maps and land use planning maps; investigation and assessment of land resources; land price construction investigation	224	9
Promulgating legal documents on land management and use and organizing the implementation thereof	212	10
Inspection, examination, supervision, monitoring, and evaluation of the observance of the land law and handling of violations of the land law	209	11
Determining administrative boundaries, making and managing administrative boundary records, making administrative maps	192	12
Building land information systems	186	13
Manage and supervise the performance of rights and obligations of land users	168	14
Disseminating and educating about land law	130	15

3.2.3.2. The impact of urbanization on land use

In the period 2008 - 2019, due to the rapid urbanization rate after Vinh city was recognized as a class I city in Nghe An province, many new buildings related to land use changed the structure of land groups (Figure 2). The area of agricultural land decreased by 474.66 ha, of which the area for annual crops and perennial crops was the largest. Annual crop land decreased by 220.49 ha, perennial crop land decreased by 258.85 ha due to being converted to residential land, land for construction of non-business works, public works and most of all, to residential land by implementing planning zones, subdivision, sale of land, construction of apartment buildings.

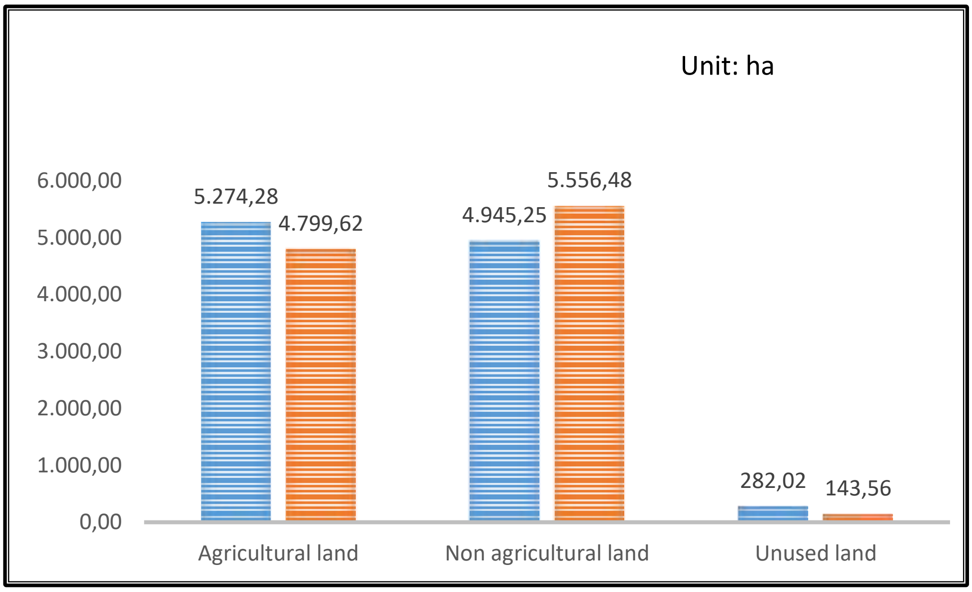


Figure 2. Changes in area of land groups in the period 2008-2019

The area of non-agricultural land in 2019 was 5556.48 ha, an increase of 611.23 ha compared to 2008 due to the change of land use purposes, mainly from agricultural land and partly from unused land. The non-agricultural area increased mainly from industrial parks, land for infrastructure development, and rural residential land. Urban residential land increased by 221.95 hectares, rural residential land increased 213.65 hectares compared to 2008, serving the needs of living land of wards and communes in the city and at the same time increasing due to land statistics and inventory to each land parcel when applying new technology (Table 4).

Table 4. Land fluctuations in Vinh city, 2008-2019

No.	Land use purpose	Code	Year 2008 Area (ha)	Year 2019 Area (ha)	Change
	Total nutural land area		10,501.55	10,499,96	- 1,59
1	Agricultural land	NNP	5,274.28	4,799.62	- 474.66
1.1	Agricultural production land	SXN	4,674,98	4,195.63	- 479.36
1.1.1	Annual crops land	CHN	3,333.28	3,112,79	- 220.49
1.1.2	Perennial crop land	CLN	1,341.70	1,082.85	- 258.85
1.2	Forest land	LNP	109.14	108.91	- 0.23
1.2.1	Protection forest land	RPH	109.14	108.91	- 0.23
1.3	Aquaculture land	NTS	478.87	391.51	- 87.36
1.4	Other agricultural land	NKH	11.29	103.87	92.58
2	Non-agricultural land	PNN	4,945.25	5,556.48	611.23
2.1	Residential land	OTC	1,409.00	1,844.60	435.6
2.1.1	Rural residential land	ONT	524.00	737.65	213.65
2.1.2	Urbanresidential land	ODT	885.00	1,106.95	221.95

2.2	Specialized land	CDG	2,785.42	2,919.5	134.08
2.2.1	Land for headquarter. career works	TSC	55.18	44.43	- 10.75
2.2.2	National defence land	CQP	210.68	278.31	67.63
2.2.3	Security land	CAN	21.42	25.45	4.03
2.2.4	Non-agricultural production land	CSK	549.26	469.84	- 79.42
2.2.5	Public purpose land	CCC	1,948.87	1,759.85	- 189.02
2.3	Religion land	TTN	11.26	16,48	5,22
2.4	Cemetery	NTD	157.62	148,51	- 9.11
2.5	River and water surface	SMN	581.66	627,38	45.72
2.6	Other non-agricultural land	PNK	0.29	0,29	0
3	Unused land	CSD	282.02	143.56	- 138.46

(Vinh City People's Committee, 2020)

The unused land area in 2019 was 143.56 ha, a decrease of 138.46 ha compared to 2008 due to being used for other uses such as specialized water surface land and other annual crop land.

3.2.3.3. Limitations and reasons

In addition to the positive impacts of urbanization in the city, there are still negative impacts on land management, especially with respect to the five contents indicated above. As follows:

- Land price used for calculating compensation for land when the State recovers land for defense and security purposes; Because the national and public interests in many projects are still lower than the market price of land, the people whose land is acquired do not agree, make complaints and lawsuits causing confidentiality, order, security and society. In particular, land prices as a basis for calculating financial obligations that economic organizations have to perform are lower than market land prices, resulting in a loss of budget revenues in the city and Nghe An province (Vinh City People's Committee, 2020). The main reasons that the land price bracket issued by the Government is not consistent with the market land price, information on land prices is insufficient, not updated, does not reflect the actual land price transaction, land valuators have limited force. In addition, the auction of land use rights to determine land prices upon land allocation and land lease also has limitations and shortcomings.

- Although the rate of issuing land use right certificates is high, administrative procedures have been reformed, but the processing time is still long, people have not done administrative procedures online, so it is very time-consuming, effort, travel expenses. Registration procedures for changes are cumbersome and not well controlled, underground transactions are still many, and the issuance of certificates of home ownership associated with urban land is complicated.

- Settlement of land disputes and complaints and denunciations about land still has many backlogs, failing to meet the needs of the people due to the large number of cases, land-related documents of many cases are not full enough, not updated, inaccurate, human resources to deal with lack of cases, legal understanding of a part of the people and limited awareness of law observance.

- Land acquisition in many projects is still behind schedule due to inadequate land prices for calculating compensation for land, determining conditions, subjects, and areas to be compensated and supported are facing difficulties. Due to insufficient or inaccurate information on the land user, land type, land area and boundary. The time for land acquisition to be assigned to investors in many projects is short while the human resources for implementing land acquisition procedures are lacking in both quantity and quality.

3.3. Some solutions to strengthening land management and use

In order for the management and use of land in Vinh city to be more complete under the impact of the urbanization process, it is necessary to implement some solutions to overcome the above mentioned limitations.

3.3.1. Solution to land price

In order for the land price to be equal to the market price, the regulations on land pricing need to be changed. Specifically, the land price in the land price bracket issued by the Government every 5 years indicates the reference land price when localities decide on a specific land price. Land valuation must be carried out by independent land pricing organizations through bidding. The Bidding Council must be prestigious experts in both professional ethics and ethics. In addition, land valuators must also meet higher professional qualifications. Land prices used as a basis for determining transacted land prices should be publicized on the internet every day, and financial obligations when land transactions are made between land users and land users are calculated according to the land price. Land prices stated in the contracts so that people do not declare tax lower than the prescribed land prices and the State can grasp the real land prices so that there is an accurate basis when determining land prices. In order for the auction-winning land price to properly reflect the supply and demand of the land market, to limit possible negatives, it is necessary to organize an online land auction, keeping secret information on quantity and identity of auction participants. and announce the auction results automatically as soon as the bid ends.

3.3.2. Solution to settling disputes, complaints and denunciations about land

In order to limit land disputes, complaints and denunciations, it is necessary to complete the land registration, issue the land use right certificate, and completely settle backlogged dossiers in the certification of land use rights. Strengthen the propaganda and dissemination of the land law on the mass media, at cultural houses of neighborhoods so that land users know and abide by the exercise of their rights and obligations. In addition, it is also necessary to ensure sufficient personnel to resolve disputes, complaints and denunciations to be resolved on time and in accordance with the provisions of law.

3.3.4. Solution to land registration, land use right certificate

Shorten the time for processing applications for land certificates and land registration at the same time applying information technology, perfecting the land database, linking relevant agencies to land users. can file with the least amount of documents attached to reduce time, effort and travel costs while limiting the possibility of negative effects when performing direct procedures at state agencies. At the same time, it is necessary to check the payroll, the need to solve the work to have a plan to foster qualifications and increase or decrease the processing in the departments accordingly.

3.3.4. Solution to land acquisition

In order to recover land smoothly and hand over land to land users on schedule, it is necessary to have a feasible land recovery plan, ensuring sufficient time, human resources and finance to pay compensation, support, construction of resettlement areas. At the same time, well perform the task of identifying the subjects to be compensated, supported and resettled on the basis of completing the land registration, issuing land use right certificates and determining the land prices for compensation according to the principle of ensuring equal to the market land price, at the same time allowing people, when disagreeing with the land price to be compensated, can hire an independent land valuation organization to re-determine the land price to submit to state agencies for review, or take action to court.

4. Discussion and Conclusion

Vinh city is in the process of urbanization with an urbanization ratio of 68.30% and an urbanization rate of 102.94% in the period 2008-2019. The process of urbanization has the strongest impact on the five contents of state management on land (land price; land registration, certification, settlement of land disputes, settlement of complaints and denunciations; land acquisition). Under the impact of urbanization, the area of agricultural land decreased by 474.66 ha, of which the area for annual crops and perennial crop land accounted for the largest percentage. By 2019, the area of non-agricultural land in 2019 was 5556.48 ha, an increase of 611.23 ha compared to 2008 due to the change of land use purposes, mainly from agricultural land and partly from unused land. Financial management of land and land prices is the most affected by urbanization, followed by land dispute resolution; resolve the complaint report; registration of land, preparation and management of cadastral dossiers, issuance of land use right certificates; management of compensation, support, and resettlement upon land recovery; management of land allocation, land lease, land recovery, change of land use purposes. The content of land law dissemination and education is the smallest impact of the urbanization process. In order to strengthen land management in the urbanization process, it is necessary to study in depth the contents of land management according to the degree of impact of the urbanization process such as the contents of land prices; complaints, denunciations, and disputes over land; land registration, land use right certificate; compensation, site clearance ...

5. References

1. Bich Ngoc (2020). The Ministry of Construction implement the tasks in the last 6 months of 2020.http://moc.gov.vn/vn/tin-tuc/1173/63165/bo-xay-dung-trien-khai-thuc-hien-nhiem-vu-6-thang-cuoi - nam-2020.aspx.

2. Ministry of Construction (2009). Circular No. 34/2009 / TT-BXD dated September 30, 2009 detailing a number of contents of Decree 42/2009 / ND-CP on urban classification.

3. Government (2009). Decree 42/2009 / ND-CP dated 7 May 2009 on urban classification.

4. Dao Duc Huong, Nguyen Huu Ngu & Huynh Van Chuong (2019). Assessing the current urbanization situation in Thuan An town, Binh Duong province. Journal of Science, Hue University. Episode 127, number 3A, p. 37-47.

5. Hoang Ba Thinh, Doan Thanh Huyen (2015), Urbanization in Vietnam today, Vietnam Journal of Social Sciences, No. 5 (90), 55–61.

6. World Bank (2011). Assessment of Urbanization in Vietnam - Technical Assistance Report.

7. Ngo Thuy Quynh (2016). Some comments on urbanization analysis in Vietnam. Scientific Journal, Ho Chi Minh City University of Education. Number 2 (80), p. 89-99.

8. Nguyen Huu Doan (2009). Analyzing urbanization by statistical method, PhD thesis, National Economics University, Hanoi.

9. Nguyen Thi Thoa (2014). The impact of FDI on urbanization in Da Nang city, Doctoral thesis in Economics, Institute of Development Strategy.

10. Pham Ngoc Tru (2015). The central urban area with socio-economic development in the Red River Delta region, PhD thesis in Geography, Institute of Development Strategy.

11. National Assembly Standing Committee (2016). Resolution No. 1210/2016 / UBTVQH13 dated May 25 on urban classification.

12. Luu Duc Hai (2011). Eco-urban in urban development in Vietnam. Urban Planning Magazine. (05). tr. 48-52.

13. Nguyen Quang Hong (2003). Vinh City - The process of formation and development (1804-1945). Nghe An Publishing House, Nghe An.

14. Nguyen Khac Thai Son (2007). Curriculum on state management of land. Agriculture Publishing House, Hanoi.

15. Prime Minister (2008). Decision No. 1210 / QD-TTg dated September 5, 2008

recognizing Vinh city, Nghe An province as a class I city directly under Nghe An province. Government Official Gazette No. 527-528 dated September 22, 2008. tr. 28810.

16. Prime Minister (2015). Decision No. 52 / QD-TTg dated 14/01/2015 approving the Adjustment of General Planning of Vinh city, Nghe An province to 2030, vision 2050.

17. Tran Thi Lan Anh (2014). Situation of urbanization and urban development and requirements for renovation in Vietnam. Construction Planning Magazine. (70). tr. 13-17.

18. Vinh City People's Committee (2010). General explanation report on land use planning up to 2020, 5-year land use plan 2011-2015, Vinh city, Nghe An province.

19. Vinh City People's Committee (2020). Report on socio-economic development in the period from 2008 to 2019.

20. Vuong Dien Phuong and Luu Sister Kiet (2014). Urban planning models of developed countries. China Journal of Urban and Rural Construction.

21. Aggrey Daniel Maina Thuo (2013). Impacts Of Urbanization On Land Use Planning, Livelihood And Environment In The Nairobi Rural-Urban Fringe, Kenya international journal of scientific & technology research volume 2, issue 7, 70-79.

22. Quang Nguyen & Doo-Chul Kim (2020). Reconsidering rural land use and livelihood transition under the pressure of urbanization in Vietnam: A case study of Hanoi, Land Use Policy 99 (2020), 1-13.

23. D. da Mata, U. Deichmann, V. Henderson, S. Lall, H. Wang (2005). “Examining the growth patterns of Brazilian cities,” Working paper No. 3724, World Bank Policy Research.

24. Duranton, G. and D. Puga (2004). “Micro-foundations of Urban Agglomeration Economies,” in: J.V. Henderson, J.F. Thisse (Eds.), Handbook of Regional and Urban Economics, vol. 4, North-Holland.

25. Park, J., D. Kim, Y. Ko, E. Kim, K. Park, K. Kim (2011). Urbanization and Urban Policies in Korea, Korea Research Institute for Human Settlements.

26. Wei Y. (1993). Urban Land Use Transformation and Determinants Of Urban Land Use Size In China. Springer. Kluwer Academic Publishers, USA. Vol. 30 (4).

27. Vu, M.H., Kawashima, H., (2019). Effects of urban expansion on suburban farmers’ liveli- hood in Vietnam: a comparative analysis of Ho Chi Minh City and Hanoi. Habitat Int. 65, 49–58.

THE IMPACT OF FOREIGN DIRECT INVESTMENT (FDI) ON ECONOMIC GROWTH THROUGH THE INVESTMENT CHANNEL IN THE SOUTH CENTRAL COAST AND QUANG NAM

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Abstract

Due to a relatively small economic scale in the South Central Coast and low internal accumulation capacity of developing countries, foreign direct investment (FDI) is always an indispensable supplement for this economy. This paper uses a combination of qualitative and quantitative analysis methods to examine the impact of FDI on economic growth the South Central Coast in the period 2009-2019. The qualitative results show that the role of FDI in the economy is significant and FDI has a positive effect on economic growth in provinces in the South Central Coast but the level of this effect is different between these provinces and this capital flow do not overwhelm domestic investment.

Keywords: *3SLS, Economic growth, FDI, FDI and growth, Quang Nam, South central coast.*

1. Introduction

Theoretical basis for the empirical studies related to the impact of FDI on economic growth through the investment channel are neoclassical growth theory and endogenous growth theory. These theories have shown how investment creates the output of the economy. In the both models, FDI can have a direct effect on the output because it increases capital accumulation. Growth factors are endogenous and FDI is seen as a set of capital and technology (Balasubramanyam, 1996). FDI affects and contributes to the country’s economic growth through channels such as capital accumulation, technology transfer.

Agama (2010) examines the impact of exports and FDI on the economic growth of South Asian countries: Bangladesh, India, Pakistan and Sri Lanka. This research found that the positive effects of exports and FDI are both statistically significant. Agrawal et al. (2011) studies the impact of FDI on the economic growth of China and India during the period 1993-2009. The results show that a 1% increase in FDI results in 0.07% increase in China's GDP and 0.02% increase in India's GDP. The authors also find that China's growth is more affected by FDI than India's growth. Yilmaz Bayar (2014) evaluates the effect of FDI and domestic investment on Turkish’s economic growth in the period 1980-2012. This study indicates that FDI has a negative effect on economic growth, while domestic investment has a positive effect on economic growth.

Pegkas (2015) examines the impact of FDI on economic growth in 18 countries in the European region in the period 2002-2012. The study uses the panel data and OLS, FEM and REM estimation methods on the regression model: $L(GDPit) = \beta 0 + \beta 1FDIit$. The results show that FDI plays an important role and positively affects the economic growth of these countries in the long run. The study also states that these countries need a macroeconomic stability to create a good investment environment in order to attract the FDI inflow, which is a necessary condition to promote economic growth. Carkovic and Levine (2005) applies GMM estimation method for the panel data of 72 countries (including the developed and developing countries) and find a similar result that there is a positive impact of FDI on the economic growth in these countries.

Hoa and Hemmer (2002) found the impact of FDI inflow on Vietnam's economic growth through the investment channel. FDI affects indirectly and promotes Vietnam’s economic growth through human capital. Similarly, Hung (2005) uses OLS estimation method to examine the effect of FDI on Vietnam’s economic growth. The result shows that FDI has a positive impact on economic growth, which is shown by the increase in living standards, technical progress and productivity. Lan (2006) uses the data of 61 provinces in Vietnam to examine the relationship between economic growth and FDI in the 1996 - 2003 period. The result indicates that FDI has a positively and statistically significant effect on economic growth. Moreover, exports, the growth of labor and human capital promote the economic growth in Vietnam.

Also, Thu et al. (2010) studies the impact of FDI on economic growth in Vietnam and found a significantly positive effect of FDI on economic growth in Vietnam. FDI inflow does not affect economic growth through the interactive effect of FDI on human capital and trade.

Bao et al. (2020) analyzes the relationship between FDI and economic growth in Vietnam in the period 1990-2019. The empirical estimation results from the VAR and ARDL - ECM models show the positively effect of FDI on Vietnam's economic growth both in the short run and long run. However, the relationship between FDI and economic growth is nonlinear. FDI has a positive impact on economic growth in the present period, but tends to be negative in the next period before recovering to a positive state. This nonlinear trend is also true for the effect of FDI on Vietnam's exports. Furthermore, the empirical results also show the effects of FDI inflow on interest rates, inflation and exchange rates in Vietnam’s economy.

Mai and Thuy (2016) uses the secondary data and applies VAR model and Granger causality test to examine the relationship between FDI and economic growth in Khanh Hoa province in the period 1995 – 2014. The results show that the impact of FDI on economic growth is not statistically significant, but economic growth has a positive impact on FDI. However, the limitation of this study is that it does not explain these results. This means that this study does not find out the necessary conditions for FDI to positively contribute to the local economic growth.

There are many studies examining the impact of FDI on economic growth through the investment channel. Most studies affirm the positively effect of FDI on the host country's economic growth through investment. In addition, most studies show the role of FDI in economic growth through spillover effects such as the impacts of technology transfer, employment, poverty reduction and economic restructuring.

2. Method

Qualitative analysis method. (i) Descriptive statistical analysis: the study will conduct the statistical analysis of economic growth trends, the situation of foreign direct investment in the South Central Coast and the relationship between FDI and economic growth. Thus, the direction of this relationship will be considered. (ii) The expert method: A method of gathering qualitative information but is useful for in-depth understanding through text analysis and discussion. This method is done through in-depth interviews with experts, managers and other stakeholders by questionnaires. This method will help the process of gathering information more thoroughly and understand more deeply some aspects of the impact of FDI on economic growth through investment.

Quantitative analysis method

Ba et al. (2006) uses a Cobb-Douglas production model and a perfectly competitive economy to assess the impact of FDI on economic growth in Vietnam. Markiw et al. (1992), Borensztein et al. (1998) and Thu et al. (2010) bases on neoclassical and endogenous growth theoretical models to create a model examining the impact of FDI on economic growth in Vietnam and use the provincial panel data for analyzing. These studies use the expanded production function model and then logarithm the variables over time in order to have a linear model of the factors affecting GDP. From the above studies, this study will propose the production model analyzing the impact of FDI based on the provincial data in the South Central Coast:

$$Y = AI^{\beta 1}\ F^{\beta 2}\ L^{\beta 3}\ H^{\beta 4}\ (1)$$

Where Y is Gross Domestic Products (GDP); L is labor; H is human capital; I is domestic investment; F is foreign direct investment; A is total factor productivity (TFP).

Take the logarithm and the derivative of the model over time:

$$gy_t = \beta_1 gI_t + \beta_2 gF_t + \beta_3 gL_t + \beta_4 gH_t + \varepsilon_t\ (2)$$

In which gy is GDP growth, gI is domestic capital growth, gF is FDI growth, gL is labor growth and gH is human capital growth. With the data from the provinces in the South Central Coast, here will rewrite the equation (2) is rewrite by provinces and time as the equation (3) below:

$$ggrdp_{it} = \beta_1 gdominve_{it} + \beta_2 gfdi_{it} + \beta_3 gl_{it} + \beta_4 gh_{it} + \varepsilon_{it}\ (3)$$

In which: $ggrdp_{it}$ is the GRDP growth rate; $gdominve_{it}$ is the rate of domestic capital growth; gfdiit is the FDI growth rate, gl_{it} is the labor growth rate and gh_{it} is the increase in the rate of trained labor; i is the province and t is the year.

The research uses the fixed and random panel data regression and 3SLS - GMM methods. Although in the the panel data regression method, the study used Two-Stage least squares (2SLS) regression analysis to overcome the endogenous phenomenon of the variable gfdi. In addition, in order to examine the differential effects of FDI on the economic growth of the provinces, the equation (3) will be added dummy variables, in which D1 is Da Nang, D2 is Quang Nam; D3 is Quang Ngai; D4 is Binh Dinh; D5 is Phu Yen; D6 is Khanh Hoa.

Data collection: (i) Primary data is collected through interviews with some experts in foreign direct investment management and leaders of business associations in provinces in the South Central Coast regarding the impact of FDI on the economy of these provinces. (ii) Secondary data for the study is collected from the statistical yearbook of provinces in the South Central Coast.

3. Results

3.1. Introduction to the natural and socio-economic conditions of the South Central Coast

The central coast in this study includes Da Nang city and Quang Nam, Quang Ngai, Binh Dinh, Phu Yen and Khanh Hoa provinces. The population of the region is about 7.5 million people, accounting for 7.7% of the population of Vietnam and more than 5 million labors. This region covers an area of 3.3 million hectares, accounting for 10% of the country's area and is connection location between the northern and southern regions with a coastline of about 1,000 km.

3.2. Economic growth in the South Central Coast

The period 2009-2019 is the period between two cycles of economic fluctuations (two shocks - World financial crisis in 2009 and COVID 19 pandemic at the end of 2019). In this time, the Vietnam’s economy and provinces in the South Central Coast grew rapidly. The GRDP of the South Central Coast (constant 2010) was more than 140 trillion VND in 2009 and more than 307 trillion VND in 2019, an increase of nearly 2.2 times and the average growth rate of about 7.7%, which is higher than the average growth rate of Vietnam during this period. However, the economic growth fluctuated with the highest growth rate of 11% in 2010 and the lowest growth rate of 5% in 2012. The quality of growth has improved significantly thanks to the contribution of technology, higher labor productivity, and the non-agricultural economic sector. In the economy of the South Central Coast region, the urban economy has played an increasingly important role in recent years. The proportion of the urban economy in the GRDP of the South Central Coast provinces tends to increase. The urban economy accounted for 78.6% in 2009 and 83.2% of the economic size of the provinces in 2019 (this indicator of Vietnam is 83.1%), increased by 4.6% during this period. The proportion of the urban economy of the South Central Coast to the size of Vietnam's urban economy has gradually increased and now accounts for nearly 8.4%, which is higher than the GRDP rate of the South Central Coast provinces to Vietnam's GDP (only 6.95%).

The economic structure of the South Central Coast has changed positively. The construction industry has increasingly asserted its main driving force role. The proportion of this area accounts for about 38% in 2019, in which provinces such as Quang Nam, Quang Ngai account for about 50% (excluding taxes and subsidies). The service sector has also grown rapidly. The proportion of this area in the GRDP is nearly 40% in 2019, and tourism is gradually becoming a spearhead industry for this region. The agricultural sector continues to develop, but the proportion has decreased significantly and only accounts for about 20% of the GRDP of the South Central Coast, in which Da Nang City only accounts for nearly 4% of the GRDP of the South Central Coast. The South Central Coast also formed a territorial structure with clearer division of labor and industrialization thanks to the formation of urban areas and centers of the service industry in the East.

The economy of the South Central Coast has a mechanism to mobilize and allocate resources for its growth which has been improved more and more clearly. In the 10 years since 2010, this economy has mobilized 1236,221 trillion VND at 2010 prices, and nearly 148 trillion VND in 2019, incresed 1.92 times higher than in 2010. This investment resource is allocated to the non-agricultural sector, especially to develop infrastructure for the economy. The total number of employees was mobilized into the economy about 49,208 million in 2009, and more than 4.2 million in 2019, increased 1.12 times.

Management mechanism and competitiveness of the provinces in the South Central Coast also improved much. The provinces are trying to reform and improve their competitiveness. Currently, the competitiveness of provinces is in the good group according to the assessment of the Vietnam Chamber of Commerce and Industry. .

3.3. Foreign direct investment situation in the South Central Coast

Total foreign direct investment capital in the South Central Coast increased gradually from 2009 to 2019., The total FDI at 2010 prices was over 4.3 trillion VND in 2009, and then increased to nearly 8.5 trillion VND in 2015 and over 13.8 trillion VND in 2019. From 2009 to 2019, FDI increased 2.9 times and the ratio of FDI to total investment rose from 3.1% in 2009 to nearly 9% in 2019. There are currently over 1000 investment projects operating in the provinces in the South Central Coast. The scale of each project is on average about 20 million USD or equivalent to about 460 billion VND. The number of projects and the amount of capital in some provinces are impressive. Provinces of Da Nang, Quang Nam, Quang Ngai and Khanh Hoa has great attraction in attracting foreign investment, currently accounting for more than 80% of projects in the South Central Coast. The industrial and service sectors are considered to be the most attractive and attract the most foreign direct investors. FDI in the industry - construction sector accounts for 35.8% of projects and 55.9% of registered capital.

According to Bui Quang Binh (2019), attracting foreign investment in the Central and Central Highlands of Vietnam has achieved good results in terms of quantity and quality. Attracting foreign investment is easier and tends to focus on regions and localities with better socio-economic conditions. However, the absorption capacity of the economy and conditions for investment implementation is not good, leading to a low disbursement rate and the weak role of foreign investment in the economy.

3.4. The contribution of FDI sector to the economy of the South Central Coast

FDI has greatly contributed to the economic growth of the provinces in the South Central Coast. Firstly, FDI enterprises contribute significantly to GRDP of these provinces, with 16.6 trillion VND in 2019, accounting for 5.4% of the region's GRDP. Although this figure was lower than the average level of Vietnam (19%), in case of difficult conditions of this region this is a significant growth. Secondly, FDI enterprises investing in the industrial sector, especially the industry with high technology, have contributed to economic restructuring. Thirdly, FDI enterprises have contributed to the domestic revenue of the provinces only about 4% of the total domestic revenue (in Vietnam this figure is 14.4% in 2018), in which the highest contribution is about 7% in Da Nang. Fourth, FDI contributes to increasing the scarce investment source for these provinces, currently accounting for nearly 9% of the total investment of the region. Fifth, FDI enterprises also create jobs for this area. The total number of employees in FDI is about 45 thousand employees in Da Nang and 40 thousand employees in Quang Nam in 2019.

3.5. Analyzing the impact of FDI on economic growth through the investment channel in the South Central Coast

Table 1. Descriptive statistics of the variables in the model

Variables	Number of observations	Mean	Standard deviation	Min	Max
ggrdp	66	7.60	0.91	5.79	9.3
gfdi	66	7.82	0.70	6.4	9.2
gdominve	66	11.98	1.28	9.4	15.1
gl	66	1.35	0.37	0.77	2.7
gh	66	1.15	0.33	0.3	1.8
pci	66	61.92	4.27	53.33	70
lny	66	10.45	0.39	9.41	11.14

(Source: Processing from the Statistical Yearbook of the provinces in the South Central Coast)

Table 1 shows the descriptive statistics of the variables in the model. The mean of ggrdp is 7.6, the minimum value is 5.79 and the maximum value is 9.3. The descriptive statistics of the other variables in the model are shown in the table and the data is convergence and can be used for analysis.

Estimated results

First, the study will present the estimation results according to two methods (1) random effects - REM, (2) fixed effects - FEM. However, the data of time series variables will present problems such as lag. When testing the stationarity of the variables, the variables are statistically significant. The results estimated by REM and FEM methods are both statistically significant. Indeed, the hausman test results indicate that using the results in REM method was better than the results in FEM method because domestic investment is endogenous as it depends on the business environment and the size of GDP. Therefore, the study use two-stage least squares (2SLS) regression analysis with REM method and then the 3SLS method and the results are presented in Table 2.

The result shows that FDI has a positive impact on the economic growth of the South Central Coast that is similar to the research results of Pegkas (2015) in the European region, Hoa and Hemmer (2002), Tran Trong Hung (2005). In the provinces in the South Central Coast, this capital inflow is significant in Quang Ngai, Binh Dinh and Phu Yen, but not statistically significant in Da Nang and Khanh Hoa.

Table 2: Estimated results

The dependent variable is ggrdp

Variables	Estimation methods				
	FEM	REM	REM (1)	REM - IV(2SLS)	3SLS - GMM
gfdi	0.234** (0.093)	0.24** (0.09)	0.261** (0.092)	0.139** (0.080)	0.308** (0.153)
gdominve	0.466*** (0.062)	0.43*** (0.06)	0.424*** (0.056)	0.512*** (0.058)	0.420*** (0.055)
gl	0.367 (0.261)	0.50** (0.22)	0.686*** (0.156)	0.213 (0.253)	0.671*** (0.149)
gh	0.433** (0.186)	0.42** (0.17)	0.271* (0.154)	0.572** (0.174)	0.235 (0.189)
D2			0.599*** (0.114)	0.369** (0.217)	0.583*** (0.118)
D3			-0.268** (0.141)	0.643*** (0.125)	-0.276** (0.134)
D4			0.282** (0.138)	-0.371** (0.132)	0.310** (0.163)
D5			0.479*** (0.119)	0.532*** (0.135)	0.488*** (0.113)
Constant	-0.816 (0.622)	-0.62 (0.61)	-0.941 (0.623)	-0.775 (0.615)	-1.195 (0.836)
R - squared	0.4243	0.4714	0.9139	0.9144	0.9293

Number of observations	66	66	66	66	66
Hausman test	Prob>chi2 = 0.5684				
Durbin-Watson	1.481998				
Wooldridge test for autocorrelation in panel data	Prob > F = 0.135				
vif	3.03 3.03				

*Note: in () is the standard deviation, ***. **, * are 1%, 5% and 10% significance levels*

(Source: Processing from the Statistical Yearbook of the provinces in the South Central Coast)

Domestic investment has a larger and positive impact on the economic growth of the South Central Coast than the impact of FDI on and it seems that in the context of the scarcity of investment capital in the South Central Coast, these two capital flows are complementary. Labor is still a factor that plays a large role in the economic growth and is also the biggest potential in the South Central Coast. Along with investment capital, human capital has a positive impact and is also a factor that helps FDI to promote its role.

The survey results of some experts in the management of foreign direct investment and business association leaders in the provinces of the South Central Coast also support the above analysis. Accordingly, FDI has a positive effect on the economic growth of the South Central Coast through the investment channel with the approval number of 60%. Moreover, FDI did not overwhelm domestic investment with an agreement of 57.1%. The impact of stimulating domestic investment through complementary effects such as creating inputs or outputs, providing services to domestic firms accounts for nearly 63% agreement of respondents. FDI enterprises are taking advantage of the labor when investing in Vietnam, so the level of consensus among experts regarding the contribution of FDI in promoting the labor resource is very high, nearly 70% of respondents' agreement. A 66% of the respondents agreed that the contribution of FDI in promoting the labor resource through direct and indirect job creation. FDI has also contributed to improve the local labor skills with a degree of agree of 60%.

4. Discussion and Conclusion

Firstly, in the process of the economic development of the South Central Coast, although the role of FDI is increasing, it is also weak as compare to other regions in Vietnam. FDI not only contributes directly to the GRDP of the provinces, but also promotes the economic restructuring, increases the investment resource for the economy, creates local budget revenues, jobs, employment, and income for the labor or promotes policy reform of the provinces in the region. Therefore, it is necessary to affirm clear and consistent views on the role of FDI as a part of the Vietnam economy and thoroughly grasp the views in all policies.

Secondly, FDI has a positive impact on the economic growth of the South Central Coast, but the level of impact in different provinces is different. In the present conditions, the FDI attraction policies of the probinces need to define mid- and long-term goals in relation to combined and successive solutions. Foreign investment policy in the coming years will not only focus on quantity attraction but also its additional impact on other factors of production to generate economic growth. It is necessary to pay attention and give priority to attract the large FDI enterprises with financial and technological potentials.

Thirdly, it is necessary to improve the business environment of provinces, increase the attractiveness of investors to enhance the competitiveness. Provincial governments need to create a fair competitive environment, appreciate the role of the economic components, especially the private economy, and determine the function and role of the state economy reasonably. Indeed, the Vietnam government has to formulate the laws and legal documents to create the legal framework for production and business of all economic sectors. Moreover, provincial governments need formulate synchronous policies to mobilize and use resources for the economic sectors. Public administration reform will be one of the important solutions to make the open business environment.

Fourth, provincial governments continue to mobilize the domestic capital source effectively for economic growth. Due to the limited intrinsic accumulation capacity and a decline in government funding, the sources outside the region will be a major source of funding. In addition to improving the business environment, investment attraction policies need focus on the difficulties and disadvantages of investors. Provincial governments need pay attention to supportive solutions both during and after investment.

Finally, provincial governments should mobilize the maximum of labor resource and give a priority for developing vocational training for workers. These governments need ensure the mobilization of the participation rate in economic activities towards full employment, in which job creation and unemployment reduction are basic solutions. These governments should encourage labor-intensive sectors and train qualified laborers who are suitable to the process of economic restructuring and the requirement of investors.

5. References

1. Agrawal Gaurav and Aamir Khan, Mohd. (2011). *Impact of FDI on GDP: A Comparative Study of China and India*. International Journal of Business and Management, 6: 71-79.

2. Braunstein, E. and Epstein G. (2002). *Bargaining Power and Foreign Direct Investment in China: Can 1.3 Billons Consumers Tame the Multinationals*? CEPA Working Paper 2002/13. New York: Center for Economic Policy Analysis.

3. Bùi Quang Bình (2019), *Thu hút vốn đầu tư nước ngoài vào miền Trung - Tây*

Nguyên, Kỷ yếu hội thảo quốc gia "Thực trạng phát triển khu vực FDI trong thực hiện chiến lược phát triển bền vững ở Việt Nam", NXB Đại học Kinh tế quốc dân Hà Nội -tháng 9/2019 , trang 61-71, ISBN: 978-604-946-689-2

4. Carkovic, M., & Levine, R. (2005). *Does foreign direct investment accelerate economic growth*? Does foreign direct investment promote development, 195.

5. De Gregorio, Jose. (2003). *The Role of Foreign Direct Investment and Natural Resources in Economic Development.* Working Paper No. 196. Central Bank of Chile, Santiago.

6. Hoa, N. and H-R. Hemmer (2002), *Contribution of Foreign Direct Investment to Poverty Reduction: the case of Vietnam in the 1990s*. Discussion Papers in Development Economics, Institute for Development Economics, 2002.

7. Hồ Đình Bảo, Lê Thanh Hà, Lê Quốc Hội (2020), *Vai trò của đầu tư trực tiếp nước ngoài đối với tăng trưởng kinh tế Việt Nam*, Tạp chí Kinh tế và Phát triển, số 279 tháng 7/2020.

8. Hồ Thị Thanh Mai và Phạm Thị Thanh Thủy. (2016). *Mối quan hệ giữa tăng trưởng kinh tế và đầu tư trực tiếp nước ngoài tại Khánh Hòa*. Tạp chí khoa học Trường Đại học Cần Thơ, 44(16), trang 28-38.

9. Lê Xuân Bá và nhóm tác giả (2006), *Tác động của Đầu tư trực tiếp nước ngoài tới tăng trưởng kinh tế ở Việt Nam*, NXB Khoa học Kỹ thuật Hà Nội – 2006.

10. Nguyen Phi Lan. "FDI and its linkage to economic growth in Vietnam: a province level analysi".Available<https://editorialexpress.com/cgibin/conference/download.cgi?db_name =ESAM07&paper_id=24>, 2006. Accessed 10 November 2007.

11. Nguyễn Thị Hồng Đào và Phạm Thế Anh (2012), *Hiệu ứng lan tỏa từ FDI trong ngành công nghiệp chế biến tại Việt Nam*, Tạp chí Phát triên kinh tế số 263 tháng 9/2012.

12. Pegkas, P. (2015). *The impact of FDI on economic growth in Eurozone countries*. The Journal of Economic Asymmetries, 12(2), 124-132.

13. Thu Thi Hoang, Paitoon Wiboonchutikula, Bangorn Tubtimtong (2020), *Does Foreign Direct Investment Promote Economic Growth in Vietnam?* Asean Economic Bulletin Vol.27, no. 3 (2010), pp.295-331.

14. Tran Trong Hung (2005), *Impacts of Foreign Direct Investment on Poverty Reduction in Vietnam*. Discussed paper, GRIPS, Vietnam, 2005

15. Mankiw, N. G., Romer, D., & Weil, D. N. (1992). *A contribution to the empirics of economic growth*. The quarterly journal of economics, 107(2), 407-437.

16. V.N. Balasubramanyam, M. Salisu and D. Sapsford (1996), *Foreign direct investment and growth in EP and IS countries*, The Economic Journal, 106(434), (1996), 92-105.

17. Yilmaz Bayar (2014), *Effects of Foreign Direct Investment Inflows and Domestic Investment on Economic Growth: Evidence from Turkey*, International Journal of Economics and Finance; Vol. 6, No. 4; 2014, ISSN 1916-971X E-ISSN 1916-9728, Published by Canadian Center of Science and Education.

THE IMPACT OF EXPORT ON ECONOMIC GROWTH OF KHANH HOA PROVINCE

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Abstract

The objective of the paper is to examine the effect of exports on the economic growth of Khanh Hoa province. The study used table data with secondary sources and applied regression estimation method of table data and 3SLS-GMM. The results show that exports have a positive effect on growth and spillover effects on other economic sectors. Along with that, capital and labor also have positive effects on economic growth.

Keywords: *Export; Economic growth; Khanh Hoa; 3SLS; FEM.*

1. Introduction

Theoretical basis of the study

The theories underpin quite a bit of research. According to the historical course and according to the different approach the role of exports in growth is considered. Classical Economic Theory adopts relative and relative snow advantage across economies to consider export advantage to promote economic growth. The endogenous growth theory holds that the diffusion of knowledge gained from trade in goods and the ability to imitate the products of foreign manufacturers are the driving force behind endogenous growth. Kaldor's Theory of Export-Based Growth: Kaldor (1970) developed an export-driven growth model built on the concept of capital accumulation, taking into account the fact that exports are the main ingredient. of the bridge. This model emphasizes the role of foreign demand growth in stimulating domestic output growth. Taylor's open structure theory holds that an open economic structure encourages international trade to promote efficiency and growth in output. The new economic theory of trade by Paul Krugman (1979) shows that the competitive advantage in international trade is due to industries that allow the efficient exploitation of traditional factors, while at the same time production specialization is required. depth is based on economies of scale. This drives the increase in the export size of that economy and the expansion of the economy.

On the basis of these theories, many empirical studies on the effects of exports have been carried out. The results of the studies have shown evidence of the role of exports in economic growth. Some of the studies are as follows:

Abou-Stait (2005) tested the export-based economic growth hypothesis also by applying the technique of co-ordination and test-causality to Egypt (1977-2003). The results support the hypothesis that exports, imports and GDP do not coalesce, and that exports are causally related to GDP growth. Moreover, the results also show that exports of goods remain an important source of economic growth and that export shocks lead to a significant response in GDP, which also gives confidence in the growth hypothesis, export-based growth.

Aurangzeb (2006) studied the relationship between economic growth and exports in Pakistan based on the analytical framework developed by (Feder, 1982). The author has tested the applications of hypotheses of increased economic growth due to expanded exports using the time series from 1973 to 2005. Research results show that the export industry has potential. Marginal social margins are significantly higher. Hence this study concludes that an export oriented policy and an expansion of international trade are necessary to promote economic growth in Pakistan.

He and Zhang (2010) studied the impact between international trade and domestic supply and demand of the Chinese economy by the input-output (I-O) method. The study also analyzed provincial-level data to examine the causal relationship between the growth of international trade with factors of aggregate demand, and with aggregate factor productivity. The results show that the contribution of exports to the country's economic growth is mainly due to the effect of exports on the growth of aggregate factor productivity in a supply-side approach.

Mishra (2011) examines the relationship between India's exports and economic growth during the period 1970-2009. This result confirms the existence of a long-term equilibrium relationship between India's exports and economic growth. Sahni and Atri (2012) also used time series data from 1980 to 2009 to examine India's export-based growth hypothesis. Research using tissue methods structure to estimate the relationship between gross national product, total export value, processed product exports and investment through a system of 6 equations. The results of the study confirm that the country's growth is export-based. In addition, the results also reveal that investment is not a transmission channel for exports that positively affects economic growth, but that investment has an independent impact on economic growth.

Phan Minh Ngoc et al (2003) conducted a study on the relationship between exports and growth in the case of Vietnam. This study analyzes statistics on exports and GDP of Vietnam during the period 1975-2001. The results show that, despite the fact that the export sector has grown significantly in recent years, there is no reliable econometric basis to confirm that exports are the engine of growth in Vietnam. South as is the case in other Southeast Asian countries. The conclusion of this study may be influenced by the quality of data when the two different periods of the Vietnamese economy are merged. That is before and after the renovation.

Research by Phan The Cong (2011) goes and directly assesses the impact of exports on Vietnam's economic growth. In this study, the author uses the models Feder (1983), Balassa (1978), Granger (1969) and the modified models for the period 1996-2006 with provincial data in Vietnam. The results of the study are a confirmation of the theory of economic growth based on export; At the same time, export plays an important role not only accelerating the economic growth of the country, but also contributing positively to the development of non-export factors (such as infrastructure, electricity, water, processed food ...) of the economy.

2. Method

2.1. Analytical methods

The study uses many different methods:

Econometric model

Based on the equation of national income account of Mankiw (2013), it can be considered that the economy includes the domestic production sector and the export production sector, referred to as the domestic sector (D) and export region (EX). Output in each sector depends on the volume of factors of production such as capital (K) and labor (L). The part of export volume used in the multiplier model stimulates growth (Bui Quang Binh (2012)). In addition, this portion of exports can also create a positive externality for other areas of the economy through the ability to develop effective international competitiveness, use of advanced technology, and training. high quality human resources or development of supporting industries. On the basis of the national income account equation of Mankiw (2013) and the production function model, Bui Quang Binh (2012) built a model to consider the impact of exports on growth when this factor is included into the model as input. Whereby:

Domestic sector: $D = D(KD, LD, EX)$ (1)

Export sector: $EX = X(KEX, LEX)$ (2)

In which D, EX is the output, KD , KEX , LD , LEX are capital inputs (production capital) and labor are used to produce goods and services.

The total amount of capital for production and labor in the economy is:

$K = KD + KEX$ (3)

$L = LD + LEX$ (4)

The output of the economy (Y) is equal to the total output of both regions:

$Y = D + EX \Rightarrow \Delta Y = \Delta D + \Delta EX$ (5)

The productivity of the inputs is its marginal product. So the productivity of the region in the country: $DK = MPKD = \Delta D/\Delta KD$ (6); $DL = MPLD = \Delta D/\Delta LD$ (7). Productivity of the export region: $EXK = MPKEX = \Delta EX/\Delta KEX$ (8); $EXL = MPLEX = \Delta EX/\Delta LEX$ (9)

Productivity in these two areas is different and equal to δ

Or EXK/DK = EXL/DL = 1 + δ (10)

When δ> 0 implies that the exporting sector has a higher input yield than the other region and δ <0 otherwise.

From (1) we have $\Delta D = DK\Delta KD + DL\Delta LD + DX\Delta EX$ (11)

From (2) when we get the differential we have $\Delta EX = EXK\Delta KEX + EXL\Delta LEX$ (12)

The annual investment determines the amount of capital produced because the annual capital production decreases in value (depreciation) and is compensated by the new investment - I (Mankiw (2013)).

Replace (11) to (14) with (5). After we have the results, we replace equations (10) and (12) and then change again, we have

$$\Delta Y = DK.(ID+IEX) + DL.(\Delta LD+\Delta LEX) + \frac{\delta}{1+\delta}.\Delta EX + DEX.\Delta EX \quad (13)$$

From equation (15), combined with I = ID + IEX, $\Delta L = \Delta LD + \Delta LEX$

We report $$\frac{\Delta Y}{Y} = DK.\frac{I}{Y} + DL.\frac{\Delta L}{Y} + \left(\frac{\delta}{1+\delta} + DX\right).\frac{\Delta EX}{Y} \quad (14)$$

Starting from (17), we have:

$$\alpha = DK \Rightarrow DK.\frac{I}{Y} = \alpha.\frac{I}{Y} \quad (15)$$

$$\beta = DL.\frac{L}{Y} \Rightarrow DL.\frac{\Delta L}{Y} = DL.\frac{L}{Y}.\frac{\Delta L}{L} = \beta.\frac{\Delta L}{L} \quad (16)$$

We have: $$\left(\frac{\delta}{1+\delta} + DEX\right).\frac{\Delta EX}{Y} = \frac{\delta}{1+\delta}.\frac{\Delta EX}{Y} + DEX.\frac{\Delta EX}{Y}$$

But $$DEX.\frac{\Delta EX}{Y} = \theta.\frac{D}{EX}.\frac{\Delta EX}{Y} = \theta.\frac{\Delta EX}{EX}.\frac{D}{Y} = \theta.\frac{\Delta EX}{EX}.\frac{Y-EX}{Y} = \theta.\frac{\Delta EX}{EX}.\left(1 - \frac{EX}{Y}\right)$$

$$\left(\frac{\delta}{1+\delta} + DEX\right).\frac{\Delta EX}{Y} = \frac{\delta}{1+\delta}.\frac{\Delta EX}{Y} + \theta.\frac{\Delta EX}{EX} - \theta.\frac{\Delta EX}{EX}.\frac{EX}{Y} = \frac{\delta}{1+\delta}.\frac{\Delta EX}{EX}.\frac{EX}{Y} + \theta.\frac{\Delta EX}{EX} - \theta.\frac{\Delta EX}{EX}.\frac{EX}{Y} = \left(\frac{\delta}{1+\delta} - \theta\right).\frac{\Delta EX}{EX}.\frac{EX}{Y} + \theta.\frac{\Delta EX}{EX} \quad (17)$$

Putting (15), (16) and (17) in equation (14) yields equation (18):

$$\frac{\Delta Y}{Y} = \alpha.\frac{I}{Y} + \beta.\frac{\Delta L}{L} + \left(\frac{\delta}{1+\delta} - \theta\right).\frac{\Delta EX}{EX}.\frac{X}{Y} + \theta.\frac{\Delta EX}{EX} \quad (18)$$

From (18) here we can propose the following analytical model

$$ggdpit = a + \alpha sit + \beta glit + \sigma xxit + \theta gxit + uit \quad (19)$$

In which: ggdp = ΔY/Y, s = I/Y, gl = = ΔL/L, xx = (ΔEX/EX)(EX/Y), gx = ΔEX/EX $\frac{\delta}{1+\delta} - \theta = \sigma$ and u is error.

Other methods

The research also uses other methods such as descriptive statistical analysis, comparison to consider the trend and changes in economic output, export activities of Khanh Hoa.

2.2. Data for analysis

The data used for the analysis are obtained from the statistical yearbooks of Khanh Hoa province and districts from 2010 to 2019, provided by the Statistics Department of Khanh Hoa province. In which economic output is the production value of districts at constant 2010 prices (the district level does not consider GRDP). The data of investment capital is also calculated at constant 2010 prices; Number of employees here is the number of employees working aged 15 and over by district. The export value by district is determined by the province at constant 2010 prices. In addition, the study also uses the population data and the income level of the households in each district for analysis. The province's districts are divided into 5 districts at the district level and include Nha Trang, Cam Ranh, Ninh Hoa, Van Phong (Van Ninh and Cat Lam) and the remaining districts are the other group (Khanh Vinh, Dien Khanh and Khanh Son).

3. Results

3.1 The State of Khanh Hoa's Economic Growth and Exports

a. Economic growth situation

The scale of the economy has been continuously expanded, the growth is quite high, continuous and quite stable compared to the general ground of the provinces of the Southern Oceania. At current prices, the GRDP value in 2010 is VND 28,358 billion, in 2015 it is VND 56,801 billion and in 2019 it is VND 86,121 billion. The scale of GRDP in 2019 is 3.03 times higher than that of 2010. At constant 2010 prices, the GRDP value in these timelines is VND 28,358 billion, VND 38,901 billion and VND 52,296 billion respectively. At constant prices, the GRDP has increased continuously, the annual growth rate has the highest rate in 2014 of 9.3% and the lowest of 4.6%, 10-year average of 7.05%. With such volatility, the stability rate is quite good, the stable rate is around (-34.6%; 32.2%), the average is 0.2%. The most stable period is 2016-2019.

The driving force for economic growth is the service sector and the non-state economic sector and breadth factors. Among the main industries of the economy, in the past 10 years the construction industry has had the fastest growth rate of value added, an average of 9.06% per year, the service industry has had the growth rate of value added. 7.34% and the growth rate of agriculture, forestry and fisheries is 1.4%. From the sector's share in GRDP, it can be seen that Khanh Hoa's GRDP growth is based on non-agricultural sectors, especially services. Compared with other provinces in the Central Coast of America in 2010 and 2019, it shows that Khanh Hoa's position in 2019 is worse than 2010.

b. Khanh Hoa's export situation

Export size and growth

Value export turnover of Khanh Hoa province has increased continuously in the past 10 years, accounting for a large proportion of the GRDP, but growth is slower than economic growth and accounts for a relatively small proportion of Vietnam's export value. The scale of Khanh Hoa's exports at current prices has increased over time. In 2010, the export value was 13,457 trillion VND and accounted for nearly 48% of GRDP; In 2015, it was nearly 23.9 trillion VND and accounted for 42.1% of GRDP and in 2019 it was 34.58 trillion VND and accounted for 40.2% of GRDP.

The province's export growth is quite high but unstable and slower than GRDP growth. In the period 2010-2019, the average growth rate of the economy is nearly 7%, while export growth is close to 8.5%. But the export growth rate is quite volatile, the highest year of growth was more than 10% in 2015 and the lowest was -4.46% in 2017. The reason given is that the nature of the province's exports are commodities, but they are biased towards agricultural products and raw exports. These export products have very volatile markets in terms of both input materials and output. This also requires the locality to choose an appropriate foreign trade strategy to reduce the volatility.

The trade surplus is high and gradually increasing. The rapidly increasing export turnover compared to the general level of the Central region and the import turnover of the province in recent years. the statistics shows that the value of exports is always higher than imports. In 2010, the export value was 13,457 trillion dong while the import was only 7.8 trillion dong, so the trade surplus was nearly 5.6 trillion dong; In 2015, export turnover was nearly 23.9 trillion dong, import was 14.4 trillion dong, and trade surplus was over 9.4 trillion dong; In 2019, these figures are 34.58 trillion dong; 19.6 and 14.9 trillion dong. These developments are explained by the structure of exports, which are mainly agro-forestry products, while imports are mainly raw materials for production such as cashew nuts for export processing, seafood raw materials, and raw materials, materials for tobacco production, machinery and silk thread ...

Although the province's export turnover scale is quite high compared to other provinces in the region, it is still modest compared to the whole country: In 2010, the export turnover of the province was 723.0 million USD, accounting for about 1.01% of the total export turnover of Vietnam, lower than that of Da Nang and higher than the rest of the provinces; In 2015, the export turnover of the province was 1127.3 million USD, accounting for 0.68% of Vietnam and in 2019 these indicators were 1497.1 million USD and 0.567% of Vietnam, still ranked second after Da Nang in the Central region. This shows that the province still needs to make great efforts to promote its potential to expand production for export in the coming years.

3.2. The results of analysis of the impact of exports on economic growth

Model and estimation method

This section will use econometric model (18) to conduct humility. Model (18) is used for OLS estimation, converging table data.

Estimation method: With data that is spatially medium - districts and cities of Khanh Hoa province and over time from 2010 to 2019, tabular data will be established. With this data, we can apply the raw OLS estimation method or method (Pooled OLS). With this method, time factor will be ignored but only pure data observations or cross data is used. The raw estimate is the OLS estimate on the obtained data set of spatial features, so then consider that all coefficients do not change between different objects and do not change over time. This is also a limitation of this method. We continue to use the random effect (REM) and fixed effect (FEM) convergence estimation method for the necessary tests, then use the Hausman test for selection (REM), continue to deal with the endogenous problem of the gex variable. Also here will use the 3SLS - GMM method by adding 1 equation gex = $\beta_0 + \beta_1$ $lnc_{it} + \beta_3$ csoy + uit (19) together with (18) to form a system of equations including (18) and (19) means that the variable gex is endogenous. Here the endogenous variable *gex* is solved through the exogenous variables in Equation 19. In this case, according to Zellner, A & Theil.H (1962), the 3SLS estimation method can be applied.

Metrics and descriptive statistics of the data

The data presented in section 2. With the above data on time series, problems such as the delay of the variable over time arise. However, for a short 10-year period such as this study, latency is not a problem.

Table 3.1: Descriptive statistics of the data in the model

Variables	Mean	Standard Deviation	Minimum Value	Maximum Value
ggdp	6.61	0.43	5.63	7.22
gex	8.48	0.36	7.80	9.30
gl	1.17	0.08	1.0	1.3
s	48.77	0.91	47.0	50.3
xx	230.12	23.22	177.3	276.0
lnc	11.175	0.780	10.28	12.56
csoy	38.490	1.610	34.10	41.20

(Source: processed from the Statistics Directory of localities at district level in Khanh Hoa province).

Table 3.1 shows some basic statistics about the variables in the model. The mean value of the dependent variable ggdp is 6.61, the minimum value is 5.63 and the maximum value is 7.22 (note that this mean is higher than the provincial GRDP growth rate as it uses the value data. production at district level). The mean value of the export growth variable -

gex is 8.48 and the maximum and maximum are 7.8 and 9.3. The baseline statistics for the other variables used in the analysis are shown in this table. The data have demonstrated convergence and can be used for analysis.

Estimated results

Estimated results are presented in Table 3.2. The estimation methods are fundamentally significant and can be used for evaluation.

This result shows that in recent years, export growth has had a positive impact on economic growth and confirmed the above qualitative statements when analyzing the trend of changing exports and the province's GRDP. Labor growth has a positive impact on economic growth, which is also consistent with the province's labor advantages and conditions. This is also the most influential factor. Ratio of investment to output - the rate of saving has a positive effect, which is also consistent with the current stage of development of developing economies like Vietnam. The regression coefficient of variable xx is 0.11, implying that export growth has a spillover effect on all sectors of the economy.

With the coefficients $\sigma = +0.015$ and $\theta = 0.475$ with REM; equal to $\sigma = 0.016$ because $\theta = 0.588$ in 3SLS method, so the coefficient δ can be realized. $\sigma = \delta / (1+\delta) + \theta \Rightarrow \delta < 0$ in both ends. This implies that the productivity of the exporting sector of the province is less than that of the other manufacturing sector.

Table 3.2 Estimates results

	Estimating methods		
	OLS	Random effects (REM)	3SLS
Dependable variable – ggdp			
gx	0.266*** (0.056)	0.475*** (0.135)	0.588*** (0.125)
gl	1.423** (0.430)	1.167** (0.513)	1.164** (0.469)
s	0.139** (0.040)	0.114** (0.048)	0.118** (0.044)
xx	0.011*** (0.002)	0.015*** (0.002)	0.016*** (0.003)
Constant	-5.937*** (1.502)	-7.84*** (1.88)	-7.721*** (1.621)
R - sq	0.9669	0.9606	0.9460
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity	chi2(1) = 0.28 Prob > chi2 = 0.5956		
vif	8.69 <10	7.42	
Durbin-Watson	1.302272	1.4215877	
N	50	50	50

Prob>F	0.000	0.000	0.000
Wooldridge test for autocorrelation in panel data		Prob > F = 0.2035	
Hausman test		Prob>chi2 = 0.2495	

*Note: in () is the standard deviation, ***. **, * are 1%, 5% and 10% significance levels*

(Source: processed from the Statistics Directory of localities at district level in Khanh Hoa province)

4. Discussion and Conclusion

4.1. Discussion

Firstly, the economic growth maintained continuously in the past 10 years is quite high and stable. Economic growth is driven by the service sector, the non-state economy and breadth factors (capital and labor). However, the economic growth rate of the province is not commensurate with its existing potentials and strengths; The economic status of the province compared to other provinces in the Central Coast of the Central region has a certain decline.

Secondly, the province's exports have grown continuously but less stable, slower than economic growth and quite small compared to Vietnam's exports. The export of the province is mainly based on the export of goods and on natural scavenging, which has no room for exploitation;

Thirdly, export growth has a positive impact on economic growth, but the impact level is not high and implies that if the export structure changes, it will gradually shift to service exports and exploit dynamic advantages.

Fourthly, the labor productivity of the export sector still has great potential to improve.

4.2. Policy implications

To promote the role of exports in economic growth, the following actions should be taken:

Firstly, the province's economic growth still has a lot of room, especially based on export strategy if it takes advantage of the trend of opening up the economy and exploiting the free trade agreements that Vietnam signed with other countries. and other economies.

Secondly, export has room to promote growth by improving productivity, changing export structure and exporting strategy from raw export to export based on processed goods and services;

Thirdly, improve the productivity of the economy in general and focus on improving the productivity of the export sector.

Fourthly, the export restructuring is associated with economic restructuring, especially the service - tourism sector of the province in order to exploit the advantages of exporting goods and services in the domestic market.

5. References

1. N. Gregory Mankiw (2013), Macroeconomics, Worth Publishers (2013),Eighth Edition

2. Bui Quang Binh (2012), Macroeconomics, Education Publishing House, 2010

3. Kaldor, N. (1970), *The Case for Regional Policies*, Scottish Journal of Political Economy, Vol. 18 pp. 337-348. Reprinted in Scottish journal of Political Economy.

4. Paul Krugman, (1979) *'Increasing returns, monopolistic competition, and international trade [159]'*. Journal of International Economics 9, pp. 469–79.

5. Aurangzeb (2006*), Exports, Productivity and Economic Growth in Pakistan: A Time Series Analysis*, The Lahore Journal of Economics 11 (1), p. 1-18.

6. Feder, G. (1982), *On Exports and Economic Growth*, Journal of Development Economics, Vol. 12, pp. 59-73.

7. Abou-Stait, R. (2005*), Are exports the engine of economic growth? An application of cointegration and causality analysis for Egypt, 1977-2003*, Economic Research Working Paper Series, Tunis: African Development Bank.

8. He, D. and Zhang, W. (2010), *How dependent is the Chinese economy on exports and in what sense has its growth been export-led*?, Journal of Asian Economics, 21, pp. 87–104.

9. Mishra, P. K. (2011), *The Dynamics of Relationship between exports and economic growth in India*, International Journal of Economic Sciences and Applied Research, 4 (2), pp. 53-70.

10. Sahni, P. and Atri, V.N. (2012), *Export-Led Growth In India: An Empirical Investigation*, International Journals of Marketing and Technology (IJMT), 2 (7), pp. 283-298.

11. Phan The Cong (2011), *Vietnam's model of economic growth based on exports*, Journal of Science, VNU, Economics and Business 27 (2011) p. 265-275.

12. Phan M. Ngoc, Nguyen T.P. Anh and Phan T. Nga (2003), *Exports and long-run growth in Vietnam, 1975-2001*, ASEAN Economic Bulletin, 20 (3), pp. 211-232.

13. Zellner, A & Theil.H (1962), *Three- Stage last squeres : Simultaneous estimation of Simultaneous equations*, Econometrica, 30, No. 1, 54-78.

THE IMPACT OF THE POLICY ON THE URBAN COMMUNITY OF HO CHI MINH CITY ON THE CURRENT ENVIRONMENTAL PROTECTION ACTIVITIES FROM A SOCIOLOGICAL PERSPECTIVE

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Abstract

Ho Chi Minh City faces many challenges of environmental pollution from economic growth, urbanization and population growth. Since the City Party Committee's directive and the determination of the implementation of the local government, the environmental sanitation situation in the city has improved; Models of community participation in environmental protection were formed, diversified in forms and gradually brought into play effectively, creating a positive change in people's awareness of environmental protection. Although there are still some shortcomings and shortcomings, it can be said that the implementation of the Party Committee's directive has had a great impact on the society, to solve the problem of environmental pollution and indiscriminate littering a job through, long term, requires the participation of the community.

Keywords: *Environmental protection, Ho Chi Minh city, sociology.*

1. Introduction

Environmental protection activities are activities to prevent and limit negative impacts on the environment; respond to environmental incidents; overcoming environmental pollution and degradation, improving environmental quality; rationally use natural resources, biodiversity and respond to climate change (National Assembly, 2020). Along with its achievements in socio-economic development, Ho Chi Minh City faces many challenges of environmental pollution from economic growth itself, urbanization and rapid growth population resistance, leading to great pressure on urban infrastructure, especially the current environmental protection problem.

In order to solve the city's environmental problems, the Party Committee and the city government have issued guidelines and policies to implement many key programs on reducing environmental pollution in the 2016-2020 period to improve the environment and increase the green area; renovate and embellish existing residential areas and build new urban areas with synchronous and environmentally friendly infrastructure; to form centralized waste treatment zones and step by step improve the quality of urban environment in the city.

However, environmental pollution still occurs frequently and alarming in residential areas, construction sites, on the streets and at public works. These restrictions stem from the sense of environmental hygiene of a part of the city population. Therefore, in order to concretize the above key programs with practical actions to propagate and advocate for changes in people's behavior and habits, to limit indiscriminate littering in public places. The Standing Committee of the City Party Committee issued Directive No. 19-CT / TU dated October 19, 2018 on the implementation of the campaign “The people of Ho Chi Minh City do not litter the streets and canals, for a clean and clean city reducing flooding” (Directive 19) (People's Committee of Ho Chi Minh City, 2021). The article aims to objectively assess the current situation and propose solutions to help the government have more scientific basis to improve current environmental protection activities from a sociological perspective.

2. Method

Qualitative data is used by the author and analyzed from documents of agencies and organizations of the City; Quantitative data was collected from sources of the Ho Chi Minh City Party Committee for Propaganda and Education conducted in June 2020 through a pre-designed questionnaire of response options, which was sent to respondents through applications using OTT (Zalo, Viber, Messenger), fanpage pages and handled by docs.google application for surveys and quick polls over the internet.

The survey results have 16,003 turns of respondents with the following characteristics: male rate is 30.6% and female is 69.4%; the young age (from 15-30) accounts for 22.2%, the middle age (31-60) accounts for 72.8%; in terms of education, under university is 27.63%, university is 63.13% and graduate is 9.24%; In the district, it is 86.4% and 15.6% in the district. Thus, more than two-thirds of women surveyed, most of them middle-aged, have a university or higher education, accounting for more than two-thirds and most of them live in the inner districts City of the City. Number of survey samples are selected at random, convenient, ensuring representative for the community.

3. Results

3.1. Comment on the propaganda campaign "City people do not litter the streets and canals, because the city is clean and less flooded"

3.1.1. People's interest in the campaign

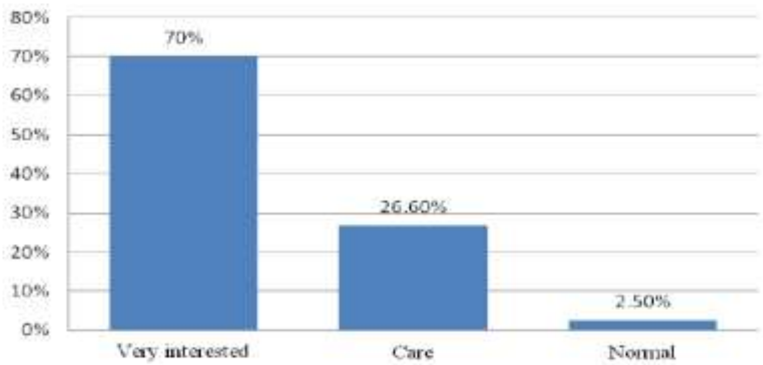

Figure 1. People's interest in the campaign

(Ho Chi Minh City Party Committee Propaganda Department, 2020)

The campaign has a direct and indirect impact on people's perceptions through propaganda channels from the media, local authorities to the Fatherland Front and socio-political organizations the spread of practical values in environmental protection activities of the city people. With the survey results in Figure 1 shows, the percentage of respondents answering "Very interested + interested" reached 96.6%, reflecting the majority of city residents' concern about this campaign. This is a good signal for the local authorities to have the basis to continue implementing environmental protection activities in the new period more favorable.

3.1.2. Local propaganda about the campaign

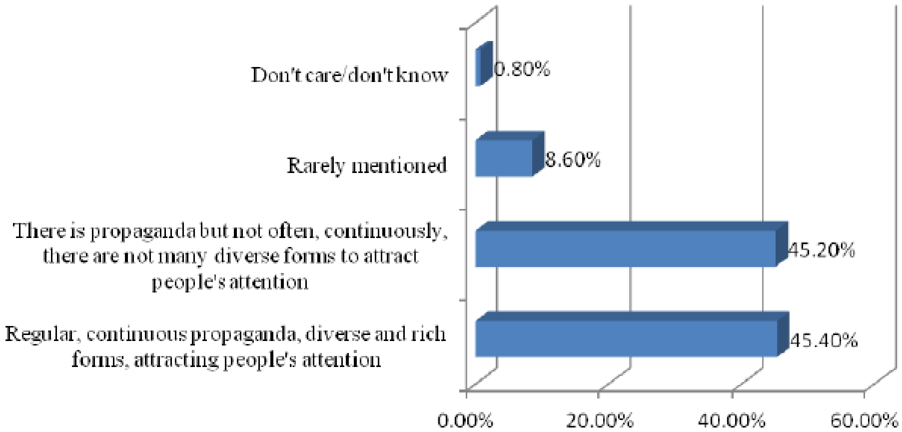

Figure 2. Local propaganda about the campaign

(Ho Chi Minh City Party Committee Propaganda Department, 2020)

One of the key points of the campaign is the local propaganda to help people understand the rights and obligations of individuals, families and communities to environmental protection activities in residential areas and domestic waste management. Survey results in Figure 2 show that the people's perception of local propaganda activities is as follows: nearly half of the respondents said that the locality had "Regularly and continuously propagated, forms are diversified and plentiful, attracting people's attention ”(45.2%). On the other hand, there are also half of the respondents said that “propaganda is available but not regularly and continuously, there are not many diversified forms to attract people's attention” (45.2%). Thus, in general, propaganda activities in localities have not been synchronous, yet effective is not high; In some places, which are interested by local leaders, propaganda regularly, continuously and diversely and richly, but there are places that have not attracted the participation of the people.

The concern or not of local leaders is very important to the success of the campaign. This issue poses for the city's advisory agencies to clearly define the responsibilities, obligations and rights of local leaders; at the same time, specifying the resources for the campaign to go into depth and form the "core" value in people's behavior standards for the protection of the surrounding environment.

3.2. Changes in people's behavior and habits since the campaign is implemented

3.2.1. People's comments on litter situation on roads, canals

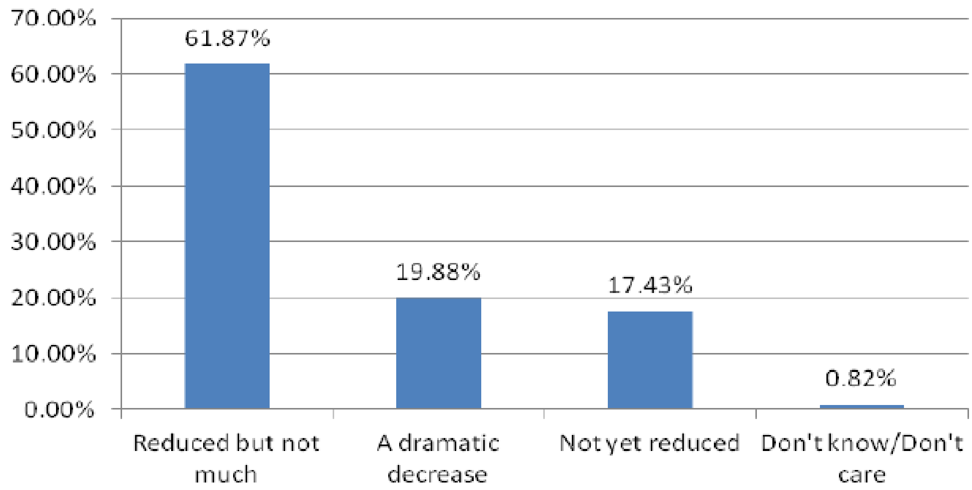

Figure 3. Changes in people's current littering on the street

(Ho Chi Minh City Party Committee Propaganda Department, 2020)

According to people's perceptions, the current change in the situation of people littering on the streets has had many positive changes after two years of implementing the Directive 19. According to the survey results, figure 3: people think that The current situation of littering on the streets "Much reduced" (19.88%), "Reduced but not much", about 3/5 respondents (61.87%) and "not reduced" (17.43 %). Thus, the majority of people affirmed that the current situation of littering on the streets of the city people has decreased, but not much, and a part of the people believe that it has decreased significantly. Although the results are not as expected of the local authorities, but also shows a change in awareness and actions of the city people in a positive direction towards the current environmental protection.

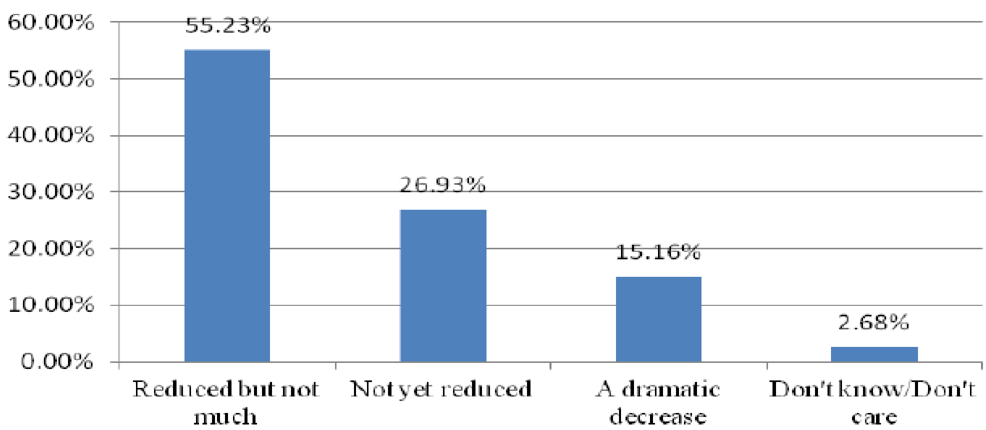

Figure 4. Changes in the current situation of people discharging garbage into canals

(Ho Chi Minh City Party Committee Propaganda Department, 2020)

The survey results of Figure 4 show that: for the change in awareness and action on the current situation of littering into canals, people have noticed: "Much reduction" (15.16%), "Already Decreased but not much "(55.23%), about half of the respondents," No reduction "(26.93%), about 1/4 of the respondents. Thus, the majority of people believe that the current situation of littering into canals in the city tends to decrease, but not yet in the afternoon; The proportion of people agreeing with the point of view "not yet reduced" accounts for a higher rate than the "Much reduction" point of view.

3.2.2. The change of people since the city started the campaign

Table 1. Changes in citizens since the City started the campaign (N = 16,003)

	N	**%**
1. Be more conscious, offload the use of plastic waste.	11074	69,2
2. To put garbage in the right place as prescribed, do not dispose of garbage indiscriminately in public places, residential areas.	9826	61,4
3. Limit the use of plastic bags.	8338	52,1
4. Prioritize the use of environmentally friendly products.	8018	50,1
5. Participate in activities aimed at preserving environmental sanitation, movements to collect and classify used products made from plastic, packaging, and plastic bags.	7041	44
6. Proactively collect garbage after attending activities (watching music, watching soccer, ...) held in public places.	5889	36,8
7. To classify waste into inorganic and organic waste.	5617	35,1
8. Remind others when they see their violations such as not to put garbage in the prescribed place, put garbage in canals, roadbeds, gas tunnels, discharge doors, put garbage at the manholes...	5345	33,4

(Ho Chi Minh City Party Committee Propaganda Department, 2020)

From the people's point of view in Table 1 shows that, since the city started the campaign up to now, the habits and positive behaviors of the people tend to change for the better, specifically: people “Yes be more aware, reduce the use of plastic waste "(69.2%)," Keep garbage in the right place, do not throw garbage indiscriminately to public places, residential areas "(61.4%), "Limit the use of plastic bags" (52.1%) and "Prioritize the use of environmentally friendly products (50.1%). Survey results show that the majority of people have positive changes from awareness, attitude to behavior in environmental protection activities and this is gradually being improved;

Among the comments about the change, the viewpoint "Be more conscious, reduce the use of plastic waste" is highly appreciated by the people, accounting for more than 2/3 of the respondents. This reflects a positive trend of social life into people's perception because of the action of replacing disposable plastic products into those made of glass, natural materials that are easy to digest eco-friendly and destructive is widely available; the activity "Leaving garbage in the right place, not disposing garbage indiscriminately in public places, residential areas" received more attention, about 2/3 of respondents affirmed the practical effect from the replacement people's exchange for this activity;

The remaining activities, according to the survey results, have 4 activities that people have changed since the city started the campaign such as: “Participating in activities to preserve environmental sanitation, collection and classification of used products made of plastic, packaging, plastic bags "(44%)," Actively collecting garbage after attending activities (watching music, watching soccer) ...) organized in a public place "(36.8%)," Sorting waste into inorganic waste, organic waste "(35.1%)," Remind others to see their violations as do not put garbage in the right place as prescribed, put garbage down canals, curb bed, gas tunnel, discharge door, put garbage at the drainage gates ... ”(33.4%). Although these rates are not high, about one third of the respondents, the process of changing awareness, habits and behavior of the people has been marked over 2 years of implementing Directive 19. This is also the case. Cause many thoughts for the city government to consider new and more effective solutions to stimulate the participation of people to join hands with the government to implement well the campaign towards the goal of a clean city. and reduced flooding.

3.2.3. The reaction of people when seeing other people dispose of garbage in the wrong place, litter it indiscriminately

Table 2. Reactions of people when they see other people dispose of trash in the wrong place, litter garbage on roads and canals (N = 16,003)

	N	**%**
1. It is very annoying, frustrating, and immediately reminded when other people have the above behaviors.	9042	56,5
2. Very annoying, pressing, but not reminded and ignored.	2705	16,9
3. To collect rubbish by himself at the right place.	2096	13,1
4. Immediately report to the local authority / hotline / area person... when such behavior is observed.	1264	7,9
5. Normally, this situation occurs every day, so there is nothing frustrating and annoying.	768	4,8
6. Not interested, not paying attention.	128	0,8

(Ho Chi Minh City Party Committee Propaganda Department, 2020)

To measure changes in people's perceptions, behaviors and habits after 2 years of campaigning by measuring people's reactions to seeing other people misplacing trash, littering yards. Survey results in Table 2 showed that more than half of respondents said that "It is very annoying, frustrating, and immediately reminded when they see other people commit the above behaviors" (56.5%). This is one of the great successes of the city government and people, which has created a common standard value of "not indifferent, indifferent to one's own community". That will help change people's bad habits to form new standard values of "community cohesion" and these values are recognized by the society;

For other people's reactions such as: “Very annoying, frustrated but not reminded, ignored” (16.9%), “Waste is collected at the right place” (13.1%). These two companions describe the "indifference, ignorance" characteristic of a part of the people, expressing a lack of faith in the social values of common standards, affected and negatively affected by their lifestyle urban areas, making urban population communities tend to live in closed-loop areas, appear individualism. Although the proportion of people agreeing with this view is not high, it has appeared and existed in the perception and action of a part of the population.

3.2.4 Citizens' perceptions of flooding will decrease compared to before when the city implements measures from the campaign

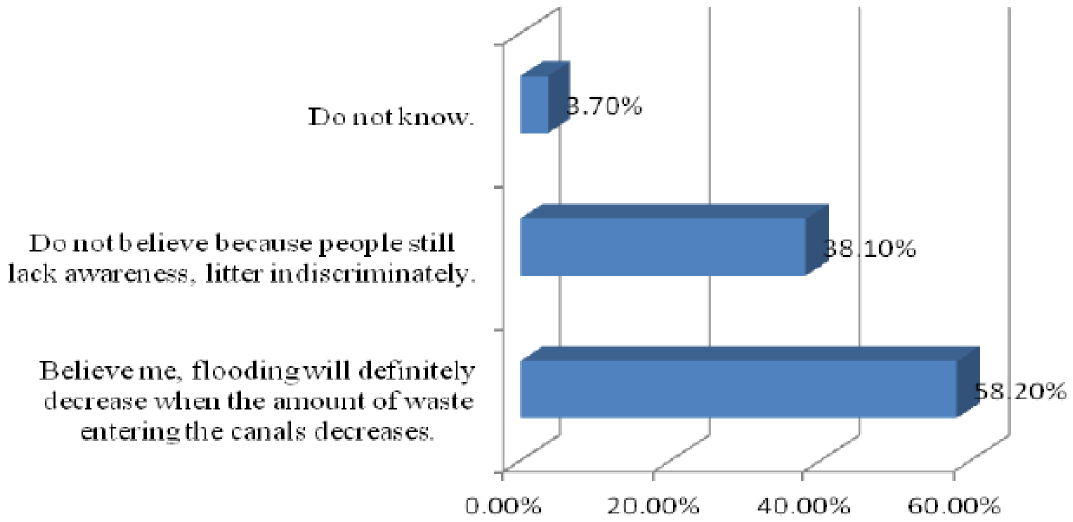

Figure 5. People's perception of the flooding situation compared to the past when the city implemented solutions from the campaign.

(Ho Chi Minh City Party Committee Propaganda Department, 2020)

One of the reasons for the city's waterlogging worsening is the domestic waste filling the canals and drains, making water inaccessible. The campaign for the implementation of Directive 19 has promoted the participation of the entire political system in mobilization to raise awareness; create good habits for people and communities to join the government in environmental protection activities that indirectly reduce flooding compared to the past. Survey results in Figure 5 show that nearly 3/5 respondents affirmed the viewpoint "Trust, surely the flooding will decrease when the amount of waste discharged into the canals decreases";

Besides, there is still a part of the people who feel “Not trusting because they still see lack of awareness, littering indiscriminately” (38.1%), with more than 1/3 of the respondents answered. Although, the amount of domestic waste in the canals and sewer systems is cleaned through mass movements. However, in order to maintain and broaden these movements, it requires the participation and close supervision from the communities in which the people are living, the effectiveness of this action will bring about sustainability.

3.2.5. Comment on the effect of the campaign

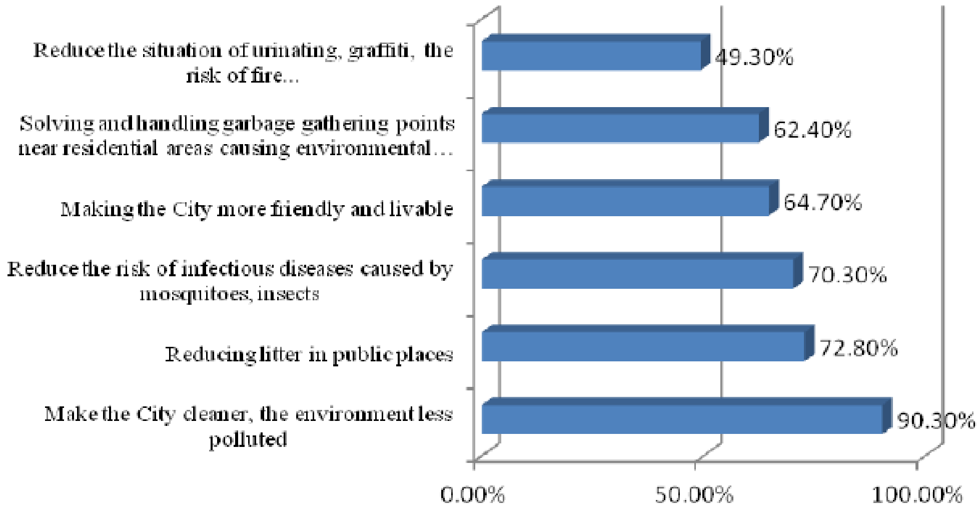

Figure 6. Comments on the effects of the campaign

(Ho Chi Minh City Party Committee Propaganda Department, 2020)

Survey results in Figure 6 show that: most of the people believe that the campaign "makes the city cleaner, the environment less polluting" (90.3%). This statement is also the message that the government has sent to all city residents during the past 2 years and has been spread to all classes of people to join hands to make the city cleaner, environment less. more pollution; On the other hand, the campaign's effect also reduces the number of indiscriminate waste in public places (72.8%), "Reduces the risk of infectious diseases caused by mosquitoes and insects" (70 , 3%). These two comments have a relatively high rate of people agreeing, accounting for more than 2/3 of the respondents. This proves the real effects and benefits from environmental protection activities that people, communities and authorities have done during the past time;

Besides, the effect of implementing the campaign is also significant: "Making the city more friendly and worth living" (64.7%), "Solving and handling gathering points. garbage near residential areas pollutes the environment, causing bad smell ”(62.4%). Both of these statements account for a relatively high rate, with about 3/5 respondents affirming this. The campaign is also an opportunity for people to express their personal views and practical reflections on the surrounding environment so that the government and people work together to commit to effective coordination; Comment on the issue "Reducing the situation of graffiti, graffiti, the risk of fire and explosion, ... (49.3%), nearly half of the respondents. The movement as an invisible life has affected and crept into every corner of the urban environmental protection in the residential area and spread to other fields.

3.3 Evaluate the local government's solutions to the campaign's implementation from the people's perspective

Table 3. Solutions for the campaign to be effective in the coming time (N = 16,003)

	N	**%**
1. Continuing to propagate and mobilize people to have a sense of responsibility in environmental protection	13635	85,2
2. Strictly handle acts of littering into the environment	12546	78,4
3. Arranging and organizing the regular and irregular inspection of garbage gathering points in residential areas to ensure environmental hygiene, urban beauty and synchronous connection of the time of garbage delivery by people - people. collection - a transporter, not to concentrate garbage and scraps and gather many garbage collection vehicles at the same time.	11010	68,8
4. Arranging more garbage cans with the function of garbage classification at public places and residential points.	9858	61,6
5. Praise, reward, and replicate good models and practices of neighborhoods, residential groups ... in implementing the campaign.	9586	59,9
6. Advocating at points of sale, small businesses, consumers ... to limit the use of plastic bags.	9442	59
7. Installing security cameras in combination with monitoring the quality and environmental sanitation in residential areas.	9074	56,7
8. Research and propose products to replace plastic bags and disposable plastic products.	8978	56,1
9. Launch emulation and constitutional movements to protect the environment.	8114	50,7
10. Implement a system to quickly and effectively receive and process people's opinions by many flexible and diversified methods.	7601	47,5

(Ho Chi Minh City Party Committee Propaganda Department, 2020)

For the campaign "City people do not litter the streets and canals, for a clean city and reduce flooding" to be effective in the coming time, it is shown through the question of selecting 10 solutions. Table 3's results show that there are some solutions with high response rates (3/10 solutions), specifically:

- According to the people, in order for the campaign to be effective in the coming time, the local government should "continue to propagate and mobilize people to have a sense of responsibility in environmental protection" (85.2 %). This is one of the solutions to be most appreciated and confirmed by more than 4/5 respondents; When propaganda and advocacy play a key role, it is necessary to have a more rigid support solution, that is "strictly handling acts of littering the environment" (78.4%) more than three-quarters of respondents. This treatment demonstrates the strictness and deterrence of the law to educate people to raise their awareness and responsibility towards the community, society and the surrounding environment, and at the same time helps people to take shape into a good habit; Solution "Arranging and organizing regular and irregular inspections of waste gathering points in residential areas to ensure environmental sanitation, urban beauty and synchronous connection of garbage delivery time of people, Collectors, transporters, do not let the concentration of waste, scrap and many trucks gather at the same time ”(68.8%) had a high response rate but lower than the two solutions before. This solution is related to technical factors and state management of waste gathering point, waste delivery process between people, collectors, transporters. Theoretically, the legal provisions have been clearly shown, but in practice there are still many shortcomings causing environmental pollution and urban beauty loss from these activities. State management agencies need to arrange and organize regular and irregular inspections to reorganize these activities in accordance with the provisions of law;

- Solution "Arranging more garbage cans with the function of separating waste at public places and residential areas" (61.6%) to form a habit of disposing of garbage in the right place and know how to classify Garbage at the people's source is an action contributing to the responsibility of local authorities in environmental protection activities. Therefore, when the local government allocates more public trash, it is necessary to research scientifically to create convenience for people to participate in keeping the general hygiene.

In addition, Table 3 shows that there are 4/10 solutions with the rate of more than 1/2 of the respondents confirmed to be effective in the coming time, specifically:

- Praise, reward, replicate good models and practices of neighborhoods, residential groups ... in implementing the campaign (59.9%); Advocating at points of sale, small traders, consumers ... to limit the use of plastic bags (59%); Installing security cameras in combination with monitoring on the quality of environmental sanitation in residential areas (56.7%); Research and introduce products to replace plastic bags and disposable plastic products (56.1%).

- These solutions aim at activities calling for the participation and promoting the role of the people, the community participating in solving problems related to environmental protection activities in the locality to create motivation sustainable development community. In addition, people propose additional technical assistance solutions from local authorities to improve the effectiveness of the campaign. However, these solutions need to be deployed and coordinated synchronously between state management agencies, people and businesses to achieve the highest efficiency in the implementation process.

On the other hand, the "Launch of emulation movements, constitutional to protect the environment" has about half of respondents agree. This is one of the activities to attract social resources and knowledge teams to contribute to the design of new and effective solutions that contribute to the overall success of the whole community; Besides, "Implementing a system to quickly and effectively receive and process people's opinions by many flexible and diversified methods" (47.5%) is also interested by many people. 1/2 of the respondents confirmed. For this solution to be really useful and effective, the government needs to research it to be convenient and easy to use for everyone.

3. Discussion and Conclusion

Based on the survey and analysis and assessment of the impact of the Policy on the urban population of Ho Chi Minh City on the current environmental protection activities from a sociological perspective, we can see the conclusion. The results are as follows:

The campaign has a direct and indirect impact on the awareness of the people and reflects the majority of city residents' interest in this campaign. Propaganda activities in localities have not been synchronous, effectiveness is not high, in some places are interested by local leaders but also in places that lack attention. Therefore, it is necessary to clearly define the responsibilities, obligations and rights of local leaders and specify the resources for implementation to deepen the campaign and form the "core" value in the standards of conduct people for environmental protection activities.

We see that the relationship between the local government and the people is not really closely linked with each other. The vast majority of people are interested in learning about the activities carried out by local authorities, only a part of the population lacks attention and a few are indifferent to the environmental protection work that local authorities has been and is being implemented; Currently, the change in the situation of people littering the streets has many positive changes. However, the government should consider new and more effective ways to stimulate the participation of the people.

The survey results show that the common standard values in the society appear as "people are not indifferent, indifferent to their own community", this will help change the poor habits of people and forming new standard values to help "bring the community together" in the context of the city's strong urbanization. However, in the urban residential community of the city also appears a part of the population with the attitude of "Indifferent, ignoring", showing a lack of faith in the values of common standards of the society, which are influenced and is negatively affected by the urban lifestyle, making the community more inclined to live a closed individualist life.

The campaign has promoted the participation of the whole political system in public mobilization to raise awareness, create good habits for people and communities to participate in contributing to reducing flooding. On the other hand, the campaign is like an impact wave, creeping into every corner of the urban life in the residential area and the campaign is the message to help spread good values to the people and also opportunities for people to express their personal views and practical reflections on the surrounding environment.

When propaganda and advocacy play a key role, it is necessary to have provisions of law to educate people to raise their awareness and responsibility towards the community and society on security activities environmental protection. In theory, the regulations on environmental protection activities have been clearly shown, but in practice there are still many shortcomings from these activities. Therefore, state management agencies need to organize regular and ad-hoc inspections to reorganize these activities.

Solutions calling for participation, wanting to promote the role of people, communities directly solving problems related to environmental protection combine technical solutions from local authorities to improve operational efficiency and towards sustainable development for the surrounding environment.

5. References

1. Congress. 2020. *Law No. 72/2020 / QH14: Law on Environmental Protection*, passed on November 17, 2020, Hanoi.

2. People's Committee of Ho Chi Minh City. 2021. *Report No. 05 / BC-UBDN of the People's Committee of Ho Chi Minh City on the results of the 2-year implementation of Directive 19-CT / TU dated October 19, 2018 of the Standing Committee of the City Party Committee on current campaign "People in Ho Chi Minh City do not litter the streets and canals because the city is clean and reduce flooding"*, Ho Chi Minh.

3. Ho Chi Minh City Party Committee Propaganda Department. 2020. *Survey data to assess the impact of Directive 19-CT / TU dated October 19, 2018 of the Standing Committee of the City Party Committee on the implementation of the campaign "The people of Ho Chi Minh City do not litter the streets and canals for a clean city and reduced flooding "*, Ho Chi Minh.

A STUDY ON THE ACTUAL COMPETITIVE CAPACITY OF THE SMALL AND MEDIUM TEXTILE AND GARMENT ENTERPRISES IN THE CENTRAL KEY ECONOMIC REGION

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Abstract

The Study evaluates the competitive capacity of the small and medium textile and garment enterprises in the Central Key Economic Region (CKER). The Study also proposes solutions for maintaining and improving competitive capacity of the those enterprises in CKER. The Study utilizes both quantitative and qualitative methods. The outcome is the successful development of the evaluation system of the actual competitive capacity of the small and medium textile and garment enterprises in CKER. Based on the outcome of the study, some factors have been proposed in order to enhance the competitive capacity of the small and medium textile and garment enterprises in CKER.

Keywords: *Competitive, Capacity, Textile and Garment, Central Region*

1. Introduction

The CKER including five provinces and cities under the central government: Thua Thien Hue, Da Nang, Quang Nam, Quang Ngai, and Binh Dinh has been oriented to become a dynamic region which creates jobs, improves the live and literacy of the people and, at the same time, makes a base for the development of the provinces in Cetral Coast Region and Tay Nguyen. In that orientation, the textile and garment industry is one of the key factors for the industrialization and modernization of the local areas. However, the textile and garment industry also have a strong international characteristic and is one of the industries that face increasingly strong competitiveness not only in Vietnam but also worldwide. The existence and development of these enterprises depend mostly on their competitive capacity which is a hot issue that attract attention of the company managers and the local authorities when it comes to enhancing the competitive capacities of Vietnam and local areas. Thus, the question is how to measure the competitive capacity of these enterprises and to find out the influential factors and propose solutions for sustainable competition. The Study is conducted in order to meet the goal of designing a evaluation system to assess the competitive capacity of the textile and garment enterprises that can be applied to the research region which is the CKER. The Study has formed a system of reasonable solutions to maintain and enhance the competitive capacity of the small and medium textile and garment companies in CKER.

Since the theories in economics were studied in a serious and systematic manner, competition has been viewed in a more academic way. Although studies on the competition in the economy in general and among the enterprises in particular have been conducted for quite a long time but the term competitive capacity and its relevant researches are still rather new. A lot of researchers believe that the studies on competitive capacity started as early as in the 70s and that they have only developed strongly since the 90s. Due to the outbreak in the 90s, the studies on competitive capacity have been quite abundant. Through those studies, we can sum up with some of the followings:

* *Levels of the studies on competitive capacity*

In the studies on competitive capacity, the definition of competitive capacity has been studied at three levels: National Level, Sectional Level, and Enterprise Level (and at product level)

At national level, you might encounter the definitions on national competitive capacity, evaluation criteria on national competitive capacity in the Report of the Committee of Industrial Competitiveness by the American president.

At sectional level, countless studies have been released on the Internet. Say for example, the studies by [2]

At enterprise level, you can found the studies by [4]; [3]; [1]

With its research purpose, the Study emphasizes on the competitive capacity at enterprise level.

By a blueprint theory on evaluating the competitive capacity and analyzing the factors affecting the competitive capacity of textile and garment companies, the Study needs to clarify the following matters:

+ the evaluation criteria equivalent to evaluation components: Competitive Outcome and the Competitive Potential that can be used to evaluate the competitive capacity of the enterprises in the study scope is a key economic region. Since the scope of evaluation is quite large, the evaluation criteria must not only reflect the competitive capacity as defined but also ensure the feasibility of the evaluation in reality.

+ The factors among the 6 groups of factors of the Diamond Model are considered to have real impact on competitive capacity of the enterprises in the study scope which is a key economic region. The quantitative importance of the factors are also determined.

2. Method

The Studied is conducted via a collective method: Combining quantitative and qualitative methods

+ Quantitative method: Studying the basic theory and expert interview

+ Qualitative method: using the method of statistics and description on Excel, index method, ANOVA analysis on Excel

3. Results

3.1. Evaluation on Competitive Capacity of the Small and Medium Textile and Garment Enterprises in the Central Key Economic Region

*Here, the competitive capacity of the small and medium ente*rprises is evaluated on two aspects: Competitive result and competitive potential With the competitive result, the evaluation criteria to evaluate competitive capacity consist of: Revenue growth speed, ROE, and average growth per labor (VA/L); on customer satisfaction which is evaluated via market share and on employee satisfaction which is evaluated via average income instead. On competitive potential, competitive capacity will be assessed via indexes of performance, unit labor cost (ULC), unit price and rate of inventory (in total assets) and unit price.

** Evaluation of Competitive Capacity of Small and Medium Enterprises against the Large ones in the CKER*

*** Evaluation of competitive capacity on the aspect of competitive result*

① On financial aspect

Average growth in revenue

Achieving a certain amount of revenue shows the effort of the enterprise on the two aspects: Persuading customers to buy a certain product with a preset price which both show the competitive efforts of the enterprise against its competitors. Expanding the revenue shows the success of the enterprise on those two aspects.

Since the limited data doesn't allow the evaluation of revenue growth of each enterprise, the average revenue will be determined using the following formula:

Average revenue = total revenue / total number of enterprises

Since an enterprise might operate more than one products, only revenue on textile and garment is considered. With the collected revenue, the revenue growth of the small and medium textile and garment enterprises is summarized in Table 1.1

Table 1.1: Average growth in revenue of the textile and garment enterprises in the CKER (based on enterprise's scale) in 2018-2020

Index	Year			Growth rate (%)	
	2018	2019	2020	2019 against 2018	2020 against 2019
Small and medium enterprises					
+ Number	67	63	108		
+ Revenue	118714	142703	477485.3		
+ Average revenue	1771.851	2265.127	4421.16	27.84	95.18
Large enterprises					
+ Number	26	36	40		
+ Revenue	2267672	2891951	7836888		
+ Average revenue	87218.15	80331.97	195922.2	-7.90	143.89

(Notes: The revenue is million Vietnamese Dongs)

(Source: The author used the resources of General Statistics Office of Vietnam)

Thus, as far as revenue is concerned, the average expansion in scale of the large enterprises in 2019 seemed to be less than that of the small and medium ones. However, in 2020, the large textile and garment enterprises made quite a change as they achieved much greater revenue growth compared to that of the small and medium ones.

Return on Equity (ROE)

The assets of enterprise sponsored by owner equity and debt. In 2019, the small enterprises used 111.589 billion Dongs equity for doing business. In 2020, this became 165.2826 billion Dongs While with a much larger scale, the large enterprises invested 661.377 billion Dongs of equity into business in 2020. And this capital of the large enterprises increased rapidly in 2020 which was 1426.863 billion Dongs. However, in both of these years, some of the enterprises had negative equity meaning that their business activities were completely funded by debt due to high ratio of loss in revenue for a long time.

In general, the large enterprises in 2019 and 2020 had better competitive capacity compared to the small ones as far as equity's profitability is concerned and this is shown in Table 1.2.

Table 1.2: ROE (%) of the textile and garment companies in the CKER

(Based on scale)

Some sorted statistic criteria	2019		2020	
	Small and medium companies	Large companies	Small and medium companies	Large companies
Average	-5.32	3.92	3.41	24.43
Minimum	-174.16	-86.76	-185.55	-93.99
Maximum	67.62	121.60	152.94	129.85

(Source: The author used the resources of General Statistics Office of Vietnam)

The above table was conducted based on the sorted data which excluded the spasmodic ones which made the difference in ROE between the enterprises too big. In particular, among the small and medium enterprises in 2019, two companies in Da Nang and Quang Ngai were excluded since their ROE were 848.68% and – 237.05% respectively. Similarly, among the large companies in 2019, the two large companies in Da Nang with ROE of -561.20 and 433.51 and one company in Quang Ngai with ROE of 70200 were not included in the Study. In 2020, one textile and garment in Da Nang was excluded since its ROE, which was -822.97%, was too low. Although some cases were removed, Table 1.2 shows that the enterprises from two groups have great variance when it comes to ROE and high heterogeneity

The Table shows that in 2019 the equity's profitability of the textile and garment enterprises was quite low with an average of -5.32%. Though most of the enterprises in this group have ROE greater than -5.32% (skewness = -2,53) and high concentration (kurtosis>0) , some of them still have extremely low ROE which makes the average ROE go down. Also in this year, the large enterprises had ROE ranging from -86.76% to 121.60%. Some of them had ROE smaller than the average which is 3.92% (skewness = 0,92) and high concentration (kurtosis = 8,10).

In 2020, ROE of both groups increased sharply, especially the large enterprises. With a variable from -185.55% to 310.44%, ROE of the small and medium companies falling around 3,41% , mostly under. Meanwhile with a range form -93.99% to 129.85%, the large enterprises reached a much greater average of ROE: A spasmodic increase of 24.43% due to increase in revenue and funding. However, most of the enterprises in this group have a ROE lower than the average (positive skewness) and a small concentration (positive kurtosis)

ANOVA analysis was used to verify the difference in average ROE between these groups. With a P-value of 0.201, assuming there is no real difference in average ROE between two groups in 2019. However, in 2020, P-value = 0,037 < 0,05 allows the conclusion that the factor of scale has impact on ROE or, in other words, the large textile enterprises has greater ROE compared to the small and medium ones with a mean of 0.05.

Value Added per Labor (VA/L)

With the statistics calculated in Table 1.3, average VA/L created in the large enterprises were greater than that of the small and medium enterprises and this was clearly shown in 2020. Thus, generally, the competitive capacity on value added creativeness of the large textile and garment companies is higher compared to that of the small ones and in CKER.

In particular, it can be seen that the index in the large enterprises has greater variability compared to that of the small and medium ones and the uniformity is also lower. The value of the variables shows that in 2019, most small and medium enterprises has VA/L smaller than 16.179 billion Dongs and less than 28.204 million Dongs in 2020. That also means that some of the enterprises in this group has extremely high VA/L which leaves strong impact on the avarege value. Meanwhile, most of the large companies had VA/L greater than 19.67 in 2019 and less than 41.729 million Dongs in 2020. Similar to the group of small and medium textile and garment enterprises, there were some in the large company group had VA/L much higher compared to others in the same groups.

Table 1.3: VA/L (million Dongs) of the textile and garment enterprises in the CKER.

(Based on scale)

Some sorted statistic criteria	**2019**		**2020**	
	Small and medium companies	**Large companies**	**Small and medium companies**	**Large companies**
Average	16.179	19.267	28.204	41.729
Minimum	-8.251	-41.897	-22.214	-43.963
Maximum	44.567	45.725	73.838	130.732

(Source: The author used the resources of General Statistics Office of Vietnam)

ANOVA analysis with a mean of 0.05, there is no characterized difference between average VA/L between the two groups of different sizes in 2019 (P-value = 0.213). However, this changed in 2020: P-value = 0.001 shows that the larges companies have greater VA/L than the small and medium ones. Thus, the large companies have greater competitive capacity compared to the small and medium enterprises in that aspect, with a mean of 0.05,

② On Customer Satisfaction

As mentioned earlier, based on the general expert interview and based on the real gathered data, the capacity to meet customer satisfaction of an enterprise is shown in the market share that it holds. A simplest way, considering the general demands for textile and garment products made in Vietnam (whether those demands come from Vietnam or internationally) to be met via revenue from selling those products, the market share, in its easiest way to calculate, is the total revenue of textile and garment product of Vietnam that the enterprise holds (Summarized in Table 1.4)

Table 1.4: Market share (‰) of the textile and garment companies in the CKER

(Based on scale)

Some sorted statistic criteria	2019		2020	
	Small and medium companies	Large companies	Small and medium companies	Large companies
Average	0.033	1.160	0.033	1.475
Minimum	0.001	0.064	0.000	0.067
Maximum	0.216	10.206	0.462	24.631

(Source: The author used the resources of General Statistics Office of Vietnam)

The statistics show the ability to gain market share of the large enterprises is much better than that of the small and medium enterprises not only in the scale but also in the ability to expand their market share. More detailed evaluations show that, in 2019, the market share of the small and medium enterprises in the region ranged from 0.001‰ to 0.216‰. Most of the enterprises in this group has a market share of less than 0.003‰ though some actually have a much better figure (skewness = 2,227). Many of them has the market share of approximately 0.003 ‰ (Kurtosis = 5,601). In 2020, the average market share of this enterprise group mostly stayed the same (approximately due to rounding) but the variability was great: from mostly 0‰ to 0.462‰. Most of the enterprises less than 0.033‰. The heterogeneity is also quite high.

Among the large enterprises, the variability of the market share was even greater, from 0,064‰ to 10,142‰ in 2019 and from 0,067‰ to 24,631‰ in 2020. The average market share was1.475‰ but most of the companies in this group had smaller market share that that average figure. And there are some enterprises that have greater market share compared to the rest (skewness = 3,245). High standard of derivation shows that the uniformity among the enterprises of this group is rather low.

However, the question is whether large scale really causes high competitive capacity as far as market share is concerned. The verified result shows that the scale has extremely strong impact on market share (in both two years, P-values are always greatly lower than 0.05) Thus, competitive capacity of the large enterprises is higher than that of small and medium ones when it comes to market share and this superiority has a mean of statistics with a mean of 0.05.

③ On Employee Satisfaction

The criterion used to evaluate the competitive capacity is the average income of workers in a year. The employee's income includes 1) salary and bonuses and 2) insurance. To ensure the accuracy in comparison, the enterprises which have too short time of operation in a year are eliminated. On that basis, the number of enterprises that are studied go lower.

Table 1.5: Average Income (million Dongs) of the Workers of the Enterprises in CKER (in scale)

Some sorted statistic criteria	2019		2020	
	Small and medium companies	Large companies	Small and medium companies	Large companies
Average	17.403	19.839	28.549	33.091
Minimum	10.000	11.690	4.342	13.832
Maximum	35.398	31.588	52.882	61.313

(Source: The author used the resources of General Statistics Office of Vietnam)

The garment industry requires a lot of labor. The most important factor to attract labor is income. On the the hand, the competitive result of a company is viewed in the eyes of the workers mainly through the income that they receive. Under this perspective, generally the large textile and garment enterprises have better competitive capacity than the small and medium one when the average income of the workers is distinctly greater. Table 1.5 shows that many small and medium textile and garment enterprises in 2019 had revenue lower that the average level (positive skewness) but the concentration is mostly that of average (kurtosis = 2,388). The low standard of deviation indicates high uniformity. In 2020 this criterion of the small and medium enterprises was distinct: Most of the enterprises had average income of worker greater than 28.549 million Dongs a year though there exist companies with pretty low income (negative skewness). However, the average income of worker among those enterprises are scattered compared to the average (negative kurtosis). Although there was great improvement but their competitive capacity is still lower that that of the large ones.

In 2019, most large textile and garment enterprises had average income of worker ranged from 11.69 million a year to the average which was 19.839 (positive skewness) and in 2020 many of them had average income of worker from 13.832 million a year to the average of 33.091 million a year but it is scattered compared to the average (negative kurtosis). The highest income of worker was 61.313 million a year.

Based on the ANOVA analyzed result, with P-value of 2019 and 2020 both lower than 0.05 (0.042 and 0.03), we can confirm that the large textile and garment enterprises have greater competitive capacity than that of the small and medium ones as far as the income of worker is concerned. And that's one of the reason why, in reality, the large enterprises find it easier to recruit workers compared to the small and medium enterprises.

The evaluation result of the competitive capacity of the textile and garment enterprises in CKER has been summarized in Figure 1.1. It can be easily seen that the line of competitive capacity of the small and medium enterprises falls within the line of the large ones. This means the superiority in the aspect of competitive result of the large enterprises in the region, especially in 2020.

*** Evaluation of competitive capacity on the aspect of competitive potential*

Competitive potential is evaluated based on performance, unit labor cost, ratio of inventory in total assets and unit price.

<u>Performance:</u>

As described in the analysis of average revenue, in order for the data not to vary too much, the newly operated enterprises and the ones whose data cannot be collected (1 small company in 2020), only 51/63 of the small and medium enterprises, 35/36 of large enterprises in 2019 and 91/108 small and medium enterprises are studied statistically.

Table 1.6: Profitability (million/worker) of the enterprises in CKER

Some sorted statistic criteria	2019		2020	
	Small and medium companies	Large companies	Small and medium companies	Large companies
Average	37.112	60.091	58.851	97.627
Minimum	5.192	11.553	5.036	20.470
Maximum	257.375	329.636	395.923	639.995

(Source: The author used the resources of General Statistics Office of Vietnam)

Table 1.6 shows that in 2019 many small and medium enterprises have performance lower than the average which is 27.112 million (with a high concentration around the average) but there are some enterprises with extremely high performance. However, that average performance is still much lower compared to that of the large enterprises. In this group of enterprises, the performance ranges from 11.555 million Dongs to 329.636 million DOngs and most of the enterprises have their productivity around the average level of 60.091 million Dongs. Among these, there are some enterprises that have extremely high productivity which affects the average performance of the group. In 2020, both of the groups had significant improvement in performance so the balance still remained unchanged. Some enterprises had had significant improvement in performance like 29/3 Textile and Garment Joint Stock Company had increased by 15% in 2020 compared to 2019.

The ANOVA analysis result shows that in 2019 the superiority of the large enterprises was not characterized. But that changed in 2020: With P-value = 0.017 < 0.05, it safe to day that there's difference in performance between the group of large companies and the group of the small and medium ones. In other words, the factor of scale affects the competitive capacity of the enterprises, as far as performance is concerned.

Unit Labor Cost

All garment enterprises who have statistics are put into analysis except for the ones with negative growth in net revenue. The elimination of these enterprises does not leave any effects on the comparison outcome. The result of analyzing ULC of the enterprises in the region is summarized in Table 1.7

Table 1.7: ULC (in Dongs) of the enterprises in CKER

(Based on scale)

Some sorted statistic criteria	2019		2020	
	Small and medium companies	Large companies	Small and medium companies	Large companies
Average	1.317	1.138	1.019	0.821
Minimum	0.453	0.575	0.455	0.326
Maximum	12.167	5.519	5.512	2.420

(Source: The author used the resources of General Statistics Office of Vietnam)

In 2019, the ULC of the small and medium enterprises changed from 0.453 to 12.167 Dongs and the uniformity was not high. Many enterprises in this group have ULC less than the average level which is 1.317 Dongs and a high concentration around this number but some have extremely high ULC compared to others (same skewness and kurtosis = 27.745). In that year, the competitive capacity of the large enterprises are higher appreciated since the ULCs of many enterprises in this group is smaller than the average which is 1.138. This average was affected by a few enterprises with outstanding ULC (same skewness).

In 2020 ULC of both of these groups fell but the large companies still showed better competitive capacity thanks to their efforts in effective use of labor. ULCs of the enterprises in this group fall around the average of 1.019 Dongs and the good thing is the number of enterprises with ULC less than 1.019 are quite many (same skewness) Meanwhile, average

ULC of the large enterprises is only 0.821. Some enterprises even had ULC less than the average level. The ULC concentration around the average level of the enterprises in this group is still high.

The analysis outcomes of the two years show that ULR of the large textile and garment enterprises is smaller than that of the small and medium ones but it doesn't have statistic mean with a mean of 0.05. Meaning to say that the factor of scale does not leave a strong impact on average ULC.

<u>Inventory Rate in Total Assets</u>

In the statistics and accounting figures of the enterprises include the inventory value including finished goods inventory, unfinished materials and products/work. Thus, the inventory rate in total assets reflect the effectiveness of various internal processes of the enterprises (incoming and outgoing logistics, management and production).

Table 1.8: Inventory Rate in Total Assets (%) of the Textile an Garment Enterprises in CKER. (based on scale)

Some sorted statistic criteria	2019		2020	
	Small and medium companies	Large companies	Small and medium companies	Large companies
Average	12.326	14.456	13.125	17.034
Minimum	0.000	0.000	0.000	0.000
Maximum	72.756	46.643	75.385	55.881

(Source: The author used the resources of General Statistics Office of Vietnam)

Table 1.8 shows that although there's a great variability, the small and medium textile and garment enterprises still have lower inventory rate compared to that of the large ones. However, the uniformity between the enterprises is low. In 2019, most of the small and medium enterprises have the inventory rate less than the average level which is 12.326% but there are some with the inventory rate accounting for 3/4 of the total assets making the average quite high. In 2020, since the product consumption of the enterprises in this group faced more difficulties thus the average inventory rate rose quite a bit.

The large enterprises have greater inventory rate comparing with the small and medium ones. The average inventory level was also influenced by only a few enterprises with an extremely high inventory compared to others. However, the analysis result shows that the factor of scale does not affect the average inventory rate with a mean of 0.05. Although the calculated result shows that, in general, the small and medium enterprises have better competitive capacity compared to the large ones, as far as inventory rate is concerned, this difference does not have any meaning for statistics.

Unit cost

As mentioned above, to ensure the comparability when the enterprises do business on many different products, the unit cost is an estimate: The number of Dongs to make a Dong of value added. The statistics of unit cost of the textile and garment companies in the CKER is summarized in Table 1.9

Table 1.9: Unit Cost (Dongs) of the Enterprises in the CKER (in scale)

Some sorted statistic criteria	2019		2020	
	Small and medium companies	Large companies	Small and medium companies	Large companies
Average	2.711	2.711	2.167	2.148
Minimum	0.448	0.847	0.530	0.791
Maximum	14.818	9.001	15.195	7.991

(Source: The author used the resources of General Statistics Office of Vietnam)

Not taking into account the one with negative value (one large enterprise in 2019 and 3 small and medium enterprises and 2 large enterprises in 2020), the calculated figures show that there's no significant difference in average unit cost. However, among the small and medium enterprises, many of them have unit cost higher than the average level in comparison with the large ones (skewness is much higher). The evaluated result also shows that there is no real difference in average unit cost between the two groups of enterprises. The positive side here is the average unit cost of both groups has the tendency to decrease which shows their efforts in cutting costs.

Generally, based on the average value of the evaluation evaluation, the large textile and garment enterprises have higher competitive potential compared to the small and medium ones. The large enterprises seem to show their weaknesses in consuming products and material inventory.

3.2. Some Solutions in order to Improve Competitive Capacity of the Small and Medium Enterprises in CKER.

By studying actual competitive capacity of the small and medium textile and garment enterprises in CKER, the author proposes some solutions to improve competitive capacity of these enterprises as follows:

** Solutions from local textile and garment enterprises*

*** Market diversification and product diversification*

in 2019 and 2020 the Indian textile and garment industry had significant advancement since, in addition to America, EU, Japan which are targeted by most of the textile and garment exporting countries, it had turned to Russia which brought it a high exporting value. Returning to the CKER, many enterprises are lucky enough to achieve good revenue growth with positive ROE since they not only look for new exporting markets like Korea, Cuba, East Europe, South America, Middle East, and so on but also take good care of the domestic market. Obviously, the right decision related to the market is also a solution for enhancing their competitive capacity. Besides, providing the market with suitable products is a way to enhance that competitive capacity.

** the large enterprises focus on the domestic market:

With the domestic market, the large enterprises might apply OBM and ODM methods. They can provide their own branded products to the customers who tend to use Vietnamese products and care about the standard or value of the products.

** The small and medium enterprises who tend to export their products:

With this group of enterprises, the ability to invest on brand and material storage is not that good due to limitation on resources. And the best solution for them is OEM and/or CMT methods.

** The small and medium enterprises who focus on the domestic market:

These enterprises can follow the model of the large enterprises: Making their own branded products (ODM) to attract the customers with low income who choose a more economical products. Besides, they can become the OEMs and CMTs of the domestic textile and garment enterprises. They actually prefer to be OEMs and CMTs.

*** Performance improvement and cost reduction*

With the unpromising predictions on the world's economy in the coming years, the customers in the major markets like EU, America, and Japan seem to tight their budget on many products, including clothing.

** Deduction of lead time

Lead time is the required period from order receival and product delivery. This requirement is increasingly important since the textile and garment industry tends to be associated with the fashion trend.

4. Discussion and Conclusion

In recent years, the development of economy and society in the CKER has always played an important role in the development of the Central Coast Region. The function of the region still remains in the future. In that development, the textile and garment has always held an important role in many local areas. Thus, the competitive capacity of the textile and garment enterprises is not only a hot issue to the enterprises themselves but to the local management. For all of the above-mentioned content, we can summarize some findings of the study as follow:

** The Result of the Study*

+ Choosing a set of criteria to evaluate the competitive capacity and the factors affecting the competitive capacity of the textile and garment which is applicable and suitable with the research scope which is the CKER based on the fundamental opinions of some of the managers of some specific textile and garment enterprises, the governmental officials in the industry and some of the researchers on garment and textile as well as consultation with the authorities on the feasibility of collecting actual data.

+ Proposing approximate evaluation of the actual competitive capacity of the textile and garment enterprises on different aspects with the methods: Based on the characteristic data of different groups of enterprises with distinct features; showing the difference in competitive capacity between the textile and garment enterprises of different scales, different economic sectors and in reference with the similar enterprises in the South Key Economic Region and North Key Economic Region (3 fundamental factors affecting the competitive capacity of the textile and garment enterprises in the CKER). That difference has been verified in a simple way by using ANOVA analysis

5. References

1. Chikan, A.(2006), *National and Firrm Competitiveness – Some General Consideration and the Case of Hungary*, Competitiveness Research Centre, Corvinus University of Budapest

2. Electronics and Electrical Engineering Laboratory (1993), *Measurements for competitiveness in Electronics*, US Department of Commerce, National Institute of Standards and Technology

European communities

3. Lucato, W. C. (2006), *Proposed model to measure the degree of competitiveness for auto parts manufacturing companies,* UNIMEP - Universidade Metodista de Piracicaba, Third International Conference on Production Research – Americas' Region 2006 (ICPR-AM06)

4. Sago, B. (2003), *Building organizational competencies for competitive advantage*, Business Credit; 105, 2; ProQuest Central, pp. 168-180

LIVELIHOOD DEVELOPMENT OF HANOI SUBURBANITES IN THE PROCESS OF URBANIZATION

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Abstract

The process of urbanization has created a strong impact on the socio-economic development in the peri-urban/suburban (or the edge of the city boundary) areas. Mass agricultural land conversion for urbanization, industries and services purposes have caused noticeable changes in the livelihood of peri-urban residents (or suburbanites). This paper discusses relevant theories in the literature and presents evidence which reflects the updated experienced reality of the livelihood development in the Hanoi's suburbs. This paper presents an original attempt to contribute to providing scientific explanation of the city peri-urban residents' livelihood development as well as proposes some policy recommendations for their livelihood development in the future[14].

Keywords: *Livelihood model, Sustainable development, Urbanization and efficiency*

1. Introduction

In the 2011-2020 period, Hanoi's urbanization process has been rapid in terms of both population and urban land. According to the Hanoi authority for Planning and Investment, Hanoi's population will reach about 11 million by 2045. In addition, the municipal governments have converted approximately 30% inefficient rice cultivation land for non-agricultural purposes (Nguyen Manh Quyen et al. 2019). The rate of urban population raise quickly: 3 from 36.8% in 1999 to 41% in 2009 and 49.2% in 2019 (Hanoi Statistical Office, 2019). The capital's population is expected to increase by about 200,000 people each year, equivalent to a large suburban district (Chau Anh, 2019). Meanwhile, the agricultural land area has been reduced by tens of thousands hectares because of urbanization and non-agricultural development purposes. In this process, tens of thousands labours have lost their agricultural-based jobs and have been seeking non- agriculture work to make ends meet. However, in recent times, this issue has not been adequately studied that practical solutions which can (1) improve the peri-urban people's livelihood development, (2) contributes to effective economic growth in the peri-urban landscape and (3) enhances their

[14] The use of "peri-urban area" and "suburban area", and the use of "peri-urban residents" and "suburbanites" is interchangeable in this article

incomes and standards of living. In this context, this paper provides additional and updated information about livelihoods of peri-urban people in Hanoi.

The article is structured as follows. The second section summarizes the research methods used. The third section provides a comprehensive analysis of the impact of urbanization on suburbanites' livelihood. This section starts with a brief overview of literature related to livelihood and livelihood model of suburbanites before describing the contemporary state and trend of urbanization in Hanoi and its impact on Hanoian suburbanites' livelihoods. Section four recaps the research findings of the paper and some concluding remarks are given in the conclusion.

2. Methods

To get an insight into actual livelihood experienced by peri-urban residents, the approach was simulated from theoretical livelihoods models to aggregate a comprehensive money-earning behaviors by different economic activity sectors. This is done via the Analysis of production efficiency which involves a close look at revenue and costs. Base on the collected data, the general method of production efficiency is used to calculate the livelihood model of Hanoi suburbanites. In addition, policy analysis is conducted and tabulated in table 6 to table 13.

Besides, two qualitative methods were used to highlight specific characteristics that might be omitted from the model which are field survey and expert interview. For field survey: surveys related to livelihood models in the Hanoi' peri-urban areas were conducted in the following fields: co-operative, farms models such as model of growing vegetables and medicinal herbs in Van Duc commune, Gia Lam suburban districts, Khai Thai growing vegetables need water in Phu Xuyen, Hoa Viên Modern Farm growing organic and fruits in Thach That, Thanh Xuan cooperative growing vegetables in Soc Son suburban district, Ba Vi clean food Corporation raises Oc Que pigs and chickens, a model of afforestation and raising honey bees in Ba Vi.

For expert interview, the authors consulted experts who are knowledgeable about the livelihoods of peri-urban people to evaluate the comments and suggestions.

3. Results

3.1. Main theoretical issues about the livelihoods of peri-urban residents

a) Awareness of the livelihoods of the suburbanites in the big city

Livelihood can be understood to consist of "assets capacity, approach (storage, resources, ownership, right-of-use asset) and activities necessary for life. (Chambers, 1983). Nguyen Minh Tien et al defined livelihood as a way of making of living, a process of earning a living and subsistence. It is a combination of use of resources and life-sustaining activities". (Nguyen Minh Tien, 2018). The authors argued that a sustainable livelihood is the ability to continuously maintain or enhance current standards of living without causing damage to natural resources.” (Nguyen Minh Tien, 2018)

The definition above indicates the concern for environment as the source of making a living. Other researchers have also proposed similar definitions of sustainable livelihoods. For example, Hanstad et al. (2004) specifically stated that: “A livelihood is sustainable in case of able response and recovery from effects, or can promote capabilities and assets both now and in the future without destroying the natural resources foundation”.

Koos Neefjes was in agreement with views above. He also believed that a livelihood must depend on capability and wealth (both assets capacity and social resources) and activities are all necessary to making a living. The livelihood of each person or a family is sustainable if they are able to response and recovery from stress and trauma, it has maintenance or enhances residents abilities and possessions in the future without damaging to environmental resources”. (Neefjes, 2000).

In summary, the general consensus on the definition of “livelihood” suggests some characteristics as follows:

- The resident's livelihood is understood as a methods and means of making a living or economic activities to seek jobs and earn money by themselves. Livelihood is always associated with specific situation and specific group of residents. Each individual or a group of inhabitants could have the same livelihood. The development of technological level, the capacity of the local governments, as well as the living circumstances can all equally have effects on resident’s life.

- Livelihood exists in a group of people, not just each individual. Therefore, livelihoods relates to a residential community and local governments.

- Livelihoods is also not constant but changes over time. However, it needs to develop relatively steadily in the period of time.

b) Awareness of suburban prevailing livelihood models in the big city

- Livelihood model can be defined as model of the method of making a living which is allowed by law (having legal status) or accepted by society that each individual or a group of residents use their capital to do economic activities to increase their income, improve standards of living and contributing to local prosperity. Scientists and policy makers use the term “Livelihood model” to reflect the universality of making a living in the research process. Livelihood models are connected with business activities and it is determined by resident’s commitment and investment capital.

- In essence, livelihood model refers to the model of making a living suitable with local context with primary aim to improve the inhabitant’s living standard and contributing to the socio-economic development in the peri-urban areas. Sustainability is necessary for developing the livelihood model. A livelihood model is not time-invariant, but its content and essence exist for a long time relatively. On the other hand, the livelihood model is also the solution to socio-economic development of the residential community or a group of particular residents in the edge of city.

- It is necessary to clearly identify two important aspects: resilience and stability when discussing the development of livelihood model. Resilience refers to the quality that the livelihood model has effectiveness and efficiency in the long-term. Whereas, stability is understood that the livelihood model has effective and promoting relatively stable development, with minimal. Together they indicate that development effectiveness of the livelihood model remained unchanged fairly in a long time, not only improving income for residents who make a living but also contributing to the society and community, as well as supporting the sustainable socio-economic development in the peri-urban area and entire Hanoi city. Sustainability is both development targets and requirement of the livelihood model development.

- Evaluating the results and effectiveness of the livelihood model development in suburban areas is vital. It is necessary to measure the size of the livelihood model by labour, capital-labour ratio, average income per person, the profit margin ratio.... Moreover, the public disclosure of assessment results is also important.

3.2. The contemporary state and trends of urbanization in Hanoi

a) Urbanization

Average urban population increase to 4.15%/year, rate of urbanization in 2030 is about 65 - 68% (Hanoi Statistical Office, 2019). This is a relatively high level of urbanization because the average population grows about 7.2%/year. Hanoi People's Committee has approved a plan to transform Hoai Duc, Dong Anh, Thanh Tri and Dan Phuong rural districts into urban districts by 2025 (Xuan Long, 2019). By that time, rural areas - in terms of both land area and number of districts - will be much narrower than it is today. In comparison, Hanoi’s urbanization rate is higher than the national average and faster than that of some centrally run cities (Table 1)

Table 1: Urbanization rate of some centrally run cities devided into two periods of 5 years

Unit: %

Comparative objects	The period 2011-2015	The period 2016-2019
1.The national average	3,15	2,29
2. Hanoi	6,10	2,31
3. Ho Chi Minh city	1,85	1,65
4. Hai Phong	1,10	0,71
5. Da Nang	3,10	2,01

Source: Hanoi Statistical Office, Yearbook 2019

The number of Hanoi's urban households and citizens increased rapidly. The high urbanization rate and the quick raise of the population and large amount of households lead to sharply effect the suburban Hanoi' s socio-economic development as well as the livelihood development of this area.

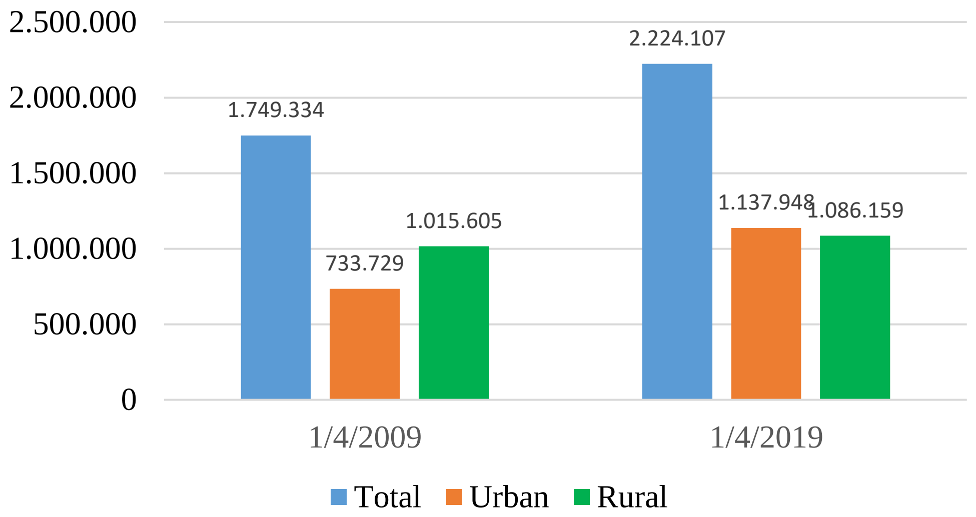
Table 2: The population density in Hanoi were compared to 4 centrally run cities

Unit: person/km²

	The population density in Hanoi	The population density in HCM city	The population density in Can Thơ	The population density in Hai Phong	The population density in Đa Nang
2010	1.962	3.530	854	1.221	722
2015	2.171	3.888	886	1.285	800
2019	2.410	4.385	859	1.302	841

Source: General Statistics office Yearbook 2015 and 2019

Figure 1: The number of households in Hanoi in the 2009 and 2019 Population and Housing Census by urban and rural areas



Source: Hanoi Statistical Office (2009, 2019)

The process of Hanoi's urbanization has been rapid, however the urbanization process has revealed some shortcomings. The most obvious being that the industry contribution shared in GRDP of the whole city is a limited level. Furthermore, high - tech industries is still not enough, even too few.

Table 3: Some indicators of Hanoi's population and GRDP

Indicator	Unit	2010	2015	2019	The average annual growth rate
1. Population	In thousand person	6.630	7.433,6	8.094	2,34
Urban population	In thousand person	2.784	3.650,5	4.000,3	4,15
% of total population	%	*42,0*	*49,1*	*49,4*	
Divide by:					
- Natural growth rate of population	In thousand person	6.576	7.242	7.531	1,145
- Net migration rate	In thousand person	54	148	563	9,5
2. Gross regional domestic product at constant 2010 prices	billions dong	351.571	497.473	660.900	7,2
Gross regional domestic product at current prices	billions dong	513.294	672.949	958.436	-
Gross regional domestic product per capita at current prices- Vietnam currency	million dong	77,4	91,6	118,4	-
Gross regional domestic product per capita at current prices)- Foreign currency (at average exchange rate)	USD	3.980	3.948	5,110	-
3. The industry ratios	%	18,9	20,79	22,77	-
Of which:					
The ratio of manufacturing	%	10,12	13,14	14,01	-

Source: Hanoi Statistical Office, 2015 and 2019

The figures indicates that that livelihood development of Hanoian suburbanites has not benefited significantly from rapid urbanization. The proportion of manufacturing grow slightly (see statistics in the table above); Therefore, high - tech industries has not been applied prevalence.

b) Trends of urbanization impacts on the livelihood of Hanoi suburbanite

In the 2010-2020 period, the process of urbanization in Hanoi city took place rapidly. Especially, after the neighbouring province of Ha Tay was merged into Hanoi, the process of urbanization took place vigorously and altered the socio-economic status of both the inner and the edge of city. According to incomplete statistics, more than 1 million immigrants arrived in Hanoi in 2019. Approximately 65-70 thousand immigrants in the North of Vietnam found jobs in the Hanoi's urban economy in 2019 (Nguyen Manh Quyen et al. 2019). This immigration trend has led to increasing competition for peri-urban residents to find jobs in the inner city. At the same time, the farm land decreased about 7225 hectares to non-agricultural purposes (Chu Phu My et al. 2019) . The agricultural land areas which has been recovered but not used is much larger than that.

Table 4. Some indicators of urbanization in Hanoi and the effect on livelihood development in suburbs

Year	Population (in thousand person)	Urban population (in thousand person)	The ratio of urban population (%)	Urban population growth (%)	Unemployment rate in suburb (%)	The decreased farmland areas, hectares[15]
2010	6617,9	2816,5	42,5	2,4	2,4	-
2011	6779,3	2880,6	42,5	2,3	1,14	629
2012	6957,3	2958,1	42,5	2,7	1,29	425
2013	7128,3	3024,6	42,4	2,2	2,18	632
2014	7265,6	3573,7	49,2	1,8	1,36	670
2015	7390,9	3629,5	49,1	1,6	0,99	780
2016	7522,6	3699,5	49,2	1,9	1,97	895
2017	7661,0	3770,0	49,2	1,9	1,92	898
2018	7852,6	3874,3	49,3	2,8	1,89	994
2019	8094,1	4000,3	49,4	4,15	1,88	1.299

Source: Hanoi Statistical Office. Yearbook 2019.

In 5 years (2016-2020), approximately 10 thousand hectares agricultural land was transferred to non-agricultural purposes. Average farmland areas decreases by around thousand hectares each year. Thus by rough calculation, if an average of one hectare cultivated land demand 4 labours, approximately 10,000 workers will become unemployed due to the loss of agricultural land. These are the group of labours that urgently need new jobs.

Generally, the social labor structure has a slight improvement in recent years, however it does not commensurate with the strengths and requirements of increasing labor productivity in order to rapid growth and sustainable economic development.

[15] *Compiled data from suburban districts*

Table 5: The labor structure in Hanoi by economic sector and by urban and rural areas

Unit: %

Years	Total (Thous. Persons)	Of which			Of which	
		Agriculture, forestry and fishing	Industry and construction	Service	Urban	Rural
2015	3868	19,7	26,8	53,5	44,7	55,3
2016	3900	17,4	29,0	53,6	45,0	55,0
2017	3927	16,6	30,2	53,2	44,1	55,9
2018	3987	14,2	30,9	54,9	43,8	56,2
2019	4049	12,1	32,1	55,8	44,5	55,5

Source: Hanoi Statistical Office. Yearbook 2019

3.3. Summary of the results and effectiveness of the livelihood model development in the Hanoi's suburb area

a) Hanoi People's Committee has paid attention to the development of livelihood's inhabitants and expressed their will illustrates the socio-economic development policies in the peri-urban area

The fact that, diverse spontaneously livelihood models has existed in different sectors in the peri-urban areas of Hanoi city. However, there has not been any particular models of livelihood defined in the peri-urban area, therefore there are no suitable policies for each livelihood model. The author attempted to synthesize different type of business activities in table 6 to table 13:

Table 6. The livelihood models development policies applied in the suburban Hanoi

Orientation and policies of livelihood development	The sustainable livelihood model of cultivation sector	The sustainable livelihood model of livestock sector	The sustainable livelihood model of forestry sector	The sustainable livelihood model of handicraft industry sector	The sustainable livelihood model of commerce sector	The sustainable livelihood model of tourism sector
1. The advantages	- Combine with new rural construction - Associated with organic agriculture	- Combine with new rural construction - Supportive the application of	- Combine with new rural construction - A policy of allocating forest lands to households and	- Combine with new rural construction - Building industrial clusters to attract	- Combine with new rural construction - Developing rural markets and	- Combine with new rural construction -Upgrading and renovating monuments,

	and high-tech	antimicrobial coating	sustainable forest development	investment and developing craft villages	wholesale markets	restoring festivals
2.The disadvantages	In general, it is not specific, or not synchronous (if any)	Local governments have not determined a specific brand names	The governments have not had supportive policies for afforestation and forestry on livelihoods	The city's government has not suitable guide and attraction policies	- Local governments have not had supportive policies for wholesale markets	- Local governments have not had priority credit policies; connecting with the travel agencies

Source: author's survey and suburban districts and commune official's data

In recent years, Hanoi People's Committee has promulgated manifold policies to develop the livelihood model in the suburbs and contributed to certain effect of the results. Nevertheless, it can be said that the policies are not attractive and effective enough to foster resident's livelihoods in the suburban areas.

b) In general, the each production and business activities has a proper livelihood model and lead to positive results

- In term of the cultivation sector

The losing land due to a massive farmland conversion for urbanization, industrialisation, service development ... motivated to seeking of the inhabitant's livelihood. However, the size of the livelihood model has a small-scale at households and co-operative economics.

Table 7. The livelihood models of cultivation sector

Model	The development	The challenges and difficulties encountered
The households and co-operative economics grow organic agriculture	- Growing organic farming (rice cultivation, vegetables, fruits, grapefruit, oranges, guava - Planting flowers in combination with sightseeing tours on a small - scale and spontaneity. There is no successful sustainable livelihood model. - Traditional production method (rice, potatoes ...)	- Basically unorganized. - The large corporations invest in high-tech agricultural development diffidently because of land accumulation. - There is a lack of advanced producing. - It is difficult to sell products due to having no advertising and obvious brand name of the products
Farms and households apply hi-tech agricultural producing	- Ecological farming associated with experience tourism. - In general, it is still small-scale and spontaneously.	- The households lack both funds and detailed information production, lack of an advanced producing; do not

	- Some households apply high technologies in producing (cucumber, tomatoes, grapefruit,..)	closely connected with the travel agencies
The households grow flowers, fruits combined with experience tourism	There are varied households production linked together in Thanh Tri, Chuong My, Gia Lam districts	-The production has not organized into diverse linked chains. - Lack of production orientation and incentive policies

Source: author's survey

- *In term of the livestock sector*

In the Hanoi's suburbs, apart from the livelihood model of dairy farming in Ba Vi and Gia Lam, there is only the production model of pig raising with small-scale slaughter, also mainly spontaneous and low effectiveness. Pig raising is not a high value-added activity so economic efficiency is also limited.

Table 8. The livelihood models of livestock sector

Model	The development	The challenges and difficulties encountered
The producing of co-operatives, farms, households associated with modern production facilities	- Underdeveloped. -The slaughters have not been closely connected with livestock facilities.	- Not organized, lack of the local governments' orientations and low effective management. - The large corporations have not participated production yet; - Lack of geographical indication, traceability and obvious product's brand name lead to sell goods hardly
The production of farms, households associated with slaughter facilities	- Growing spontaneously in several places. - Food safety is not ensured. - The production process has environmental pollution and urgent issues	Lacked the difficulties of state management and without eligible solutions could be methodical organization
Aquatic plant farm	Grew aquatic plant by household in some districts and achieved certain success	However, absence of food safety certification; geographical indication, traceability and obvious product's brand name

Source: author's survey

- *In term of the tourism sector*

Hanoi People's Committee, the district's People's Committee have paid attention to promoting tourism in the edge of city, however, tourism is also spontaneous and ineffective due to numerous issues. Tourism development depends on the travel agencies in the inner city. Suburbanites cannot do it by themselves.

Table 9. Livelihood models of tourism sector

Typical model	Available advantages	The developments
Homestay model is initial associated with craft villages and ecological zones	Human resources availability and the household's facilities	Master plan and support of local government will take shape clusters if this model continues grow
Tourism development model related to agro-ecological zones, ecological farming and experience tourism.	In the suburban area, there are several the agro-ecological zones, ecological forestry where attract traveller with ecotourism and experience tourism.	- Spontaneous development by household or travel agencies companies (For instance, Chimi Farm grow flowers or strawberry garden in the Red River's Stone Garden). Travel companies have not had specific plans to attract visitors - This model can develop vigorously but it is guided and organized by local governments.
Development model of cultural and religious tourism	There are lots of monuments, traditional festivals and cultures (for examples, ceremonial/festival song, a singing party at the songstress house, traditional operetta, modern theatre ...) and pagodas, village communal houses in the suburbs.	- The development model is spontaneous associated with available relics (pagodas, village communal houses, revolutionary war monuments ...) - Relics and tourism activities is not organized and linked together

Source: author's survey

- In term of the Industrial and handicraft industry

It can be said that all government levels has been concentrated on this sector. Hanoi People's Committee has planned 38 industrial zones with a total land area approximately 3776 hectares in the edge of city (Nguyen Manh Quyen et al. 2019). Hanoi Export Processing and Industrial Zones Authority is directly responsible for the efficient running of this industrial zones.

In addition, Hanoi People's Committee also has planned 70 industrial clusters with a total area of around 1400 hectares in the suburban area (Nguyen Minh, 2020). Nevertheless, due to the lack of specific orientation and insufficient guidance, the livelihood models of industrial and handicraft industry grew properly. Inhabitants mainly invested by themselves. The industrial clusters and craft villages model were took notice but residents are still perplexed, so the result of this model has not gotten desired results yet.

Table 10. Livelihood models of industrial and handicraft industry

Model	The development	The challenges and difficulties encountered
Industrial clusters	- By 2019, there are 106 industrial clusters operating in 17 suburban districts, 3864 operating enterprises, creating jobs for roughly 70 thousand workers, contributing to the state budget approximately 1,100 billion VND / year in the edge of city. (Nguyen Minh, 2020)	The master plan has changes, especially in terms of location and orientation priority. Scarcity of investment capital for infrastructure construction projects, absence of orientation information of industrial clusters to attractive companies
Small industry	- There are 261 planned small industrial (in the area of 386 communes) (Doan Mai Huong et al. 2020) but they has not desired effectiveness yet because there are no necessary supportive policies.	Due to absence of supportive policies, so it has not attracted high-values corporation yet.
Craft village	In the suburban area, there are roughly 1350 handicraft (of which approximately 300 traditional craft villages) (Chu Phu My et al. 2019). About 5 craft villages linked together in order to tourism development but their results are not desired effectiveness.	- Lack of geographical indications, communication, linking with travel agencies and obvious product's brand name. - Producing areas are too cramped and causing environmental pollution, thus they are necessity to move out of residential areas
Limited liability company	- Focus on producing stainless steel accessories for making all kinds of door hinges, gates of houses;… - Focus on producing shoes, wooden products, etc. Some associations were established however their activities are low effectiveness	Just small- scale production. Absence of special policies to encouraging business activities in rural areas.
Household's handicraft	Main handicraft products to serve villager life, for instants: making hats, fans, children's toys, making joss paper, producing vermicelli, etc.	Not enough information for producers. Craft production is key. The quality of the production is still low

Source: author's survey

- *In term of the commercial sector*

There is more than 4 million people in the peri-urban area (account for more than 50% of the city's population) (Hanoi Statistical Office, 2019). Although the total of suburbanite's income takes up approximately 70% the city average but if roughly 60% of that money is for consumption - it is quite huge. It means that the demand of exchangeable goods is massive. The livelihood model of commercial development is extremely necessary in the peri-urban area, but recently, it just has been mainly spontaneous.

Table 11. Livelihood models of the commercial sector

Model	The development	The challenges and difficulties encountered
Limited liability company	Little development. There are around 110 companies which have low *productivity* and efficiency in the suburban area.	Lack of investment capital, market information, absence of the local government's development orientation in the locality.
Rural market	There are 454 markets in the city, of which 15 class 1; 59 class 2; 329 class 3. The development of rural markets achieved certain effective, however there are still several problems.	Necessity for long-term orientation, in general, the commune officials have not had proper organization. In many places, the market was built but its activity is little or no.
Households	There are 386 business households in communes or along inter-suburban district and inter-communal roads. This model is quite popular in peri-urban areas, but its small funds and limited efficiency.	- Absence of necessary information, product's brand name. the communication is limited. - Lack of skilled and qualified labor

Source: author's survey

- *In term of the forestry sector*

In the edge of Hanoi city, forest area is small, only approximately 23 thousand hectares that located in mountainous Ba Vi, Soc Son and Son Tay town. Residents were guided how to grow sustainable forestry. Base on forest land allocation, individual households manage their areas and grow new forests where necessary.

Table 12. Livelihood models of the forestry sector

Model	Developments	Limitations and difficulties encountered
Forest households	- The silvicultural households grow forests for environmental protection and sustainable management. - Raising honey bees - Growing medicinal plants	Lack of funds and local government's specific orientation for forest trees.

Source: author's survey

According to the survey of authors and the calculations of official suburban districts, the author initially summarizes the results and the effectiveness of the livelihood model development in the Hanoi's peri-urban areas. Livelihood models of the industrial and handicraft industry, the commercial and the livestock sector are needed a massive funds, however their revenues received are also higher than other livelihood models.

Table 13. Results of livelihood model development in the Hanoi's peri-urban area

Indicator	Unit	Sustainable livelihood model of cultivation sector	Sustainable livelihood model livestock sector	Sustainable livelihood model of forestry sector	Sustainable livelihood models of industrial and handicra ft industry	Sustainable livelihood model of commercial sector	Sustainable livelihood model of tourism sector[16]
1. Average income per capital (per month)	million dong	51,9	62,3	41,2	86,9	75,8	63,1
2. Productivity of employed	million dong	68,4	82,8	54,7	115,6	100,8	83,9
3. The capital-to-labor ratio	million dong	90,9	89,2	58,1	134,5	95,6	77,8
4. The profit margin ratio	%	6,0	6,3	2,7	8,7	12,1	8,8
5. The number of jobs from sustainable livelihood model	In thousan d person	521,4	224,5	12,8	202,0	160,2	39,8
6. The ratio of state budget payment to revenue	%	-	1,5	-	10,8	11,2	2,3

Note: Average income per capital and Productivity of employed at constant 2010 prices

[16] Tourism statistics was calculated in 2019 before happening the Covid -19 pandemic

Source: Calculation from authors' survey and refer to project: Research and building sustainable livelihood model related to the process of urbanization and climate change in the Hanoi rural, 2020 .

In the suburbs, the average labor productivity of the livelihood models is quite low, only around 40% of the average level city. Thus, it can be said that residents' livelihoods are not high-paying jobs in peri-urban areas. It is necessary to focus on this issue in the coming years.

4. Discussion and Conclusion

4.1. Discussion

a). How does rapid Hanoi's urbanization affect the making a living in the peri-urban people areas. Previous studies illustrated several issues to livelihood development of Hanoian suburbanites, nevertheless inhabitant's livelihood has not reach of effectiveness as expected. Livelihood is related to high-paying jobs. All government levels is perplexed, this problem needs to be studied carefully and methodically. How to promote positive impacts and minimize negative effects of rapid urbanization.

b) What should the Hanoi's government do to enhance the making a living in the peri-urban residents areas. Although, Hanoi People's Committee and People's Committees of suburban districts direct their attention to the creation or development of feasible livelihood models, the results are not expected success. In fact that all government levels from the city to the suburban districts, communes play a great role in the inhabitant's livelihood development.

c). It is necessary to find out the reasons of the success and limitations to give suitable solutions that develop greatest livelihoods in the Hanoi's peri-urban people areas.

d). Sustainable and high-income livelihood development could be feasibily solved, nevertheless the effort from both People's Committees (at all levels) and suburbanites together is required to take action expeditiously and effectively in the whole Hanoi city.

4.2. The reasons of the success and the limitations of livelihood model development

a) The reasons of the success of livelihood model development

- The process of urbanization in Hanoi takes place rapidly, so the government officials from city to district level are aware of changes in livelihood for the inhabitant's suburbs. The Hanoi's government has paid attention to livelihood development for the peri-urban people area and promulgated initially supportive policies. The municipal governments are aware of vital livelihood and has promulgated great deal initial decisions implementation such as Hanoi People's Committee published Decision No. 2952/QD-UBND dated June 15, 2018, on the establishment of Phu Yen industrial and craft village cluster in Gie Ha Village, Phu Yen Commune, Phu Xuyen suburban district; or it has recently released the plan No. 99/KH-UBND dated April 12, 2021 on the development of rural careers in Hanoi in 2021. In recent years, the city government has issued multiple decisions on the enhancement of craft villages, industrial clusters, industrial zones as well as the growing organic agricultural products policies associated with experience ecological tourism

- Hanoian suburbanites also have experienced with various lessons spending of compensation by the state and investors because they used to be bankrupt and fell into struggling and sought jobs in the inner city, however the result is not the same as desired. Therefore, they have given much thought to livelihood development in their own homeland.

b) The reasons of the limitations

- A large number of farmers have to change their jobs because of agricultural land that has been converted to urbanization, non-agricultural development purposes and infrastructure construction projects. Therefore, seeking livelihood of peri-urban residents are happening at a relatively massive scale. In fact Hanoi People's Committee has not promulgated master plan for the whole peri-urban area promptly, established a production specialization area so peri-urban residents still face many difficulties.

- Due to the lack of information and lack of awareness about occupation changes, several peri-urban residents used the compensation to indulge in dissipation and became bankrupt, severely hinder their effort to improve livelihoods. Due to absence of a specific skill level, suburbanites could not seek jobs in the peri-urban areas and it is also difficult for them to look for occupations in the inner city. If any, there are simple unskilled employments such as porters, housework, etc with unsteady income or insurance.

- Hanoi People's Committee has not had a practical plan yet as well as sufficient supportive policies that lead to low efficiency of new livelihoods. More specifically, residents are not really interested in investment capital policies because it is just a small funds, required cumbersome and time-consuming process.

4.3. Conclusions

(1) The process of rapid Hanoi's urbanization will be happening fast in the future and greatly affects *the* equitable *development of livelihoods* in the edge of city. A huge number of agricultural workers who lost their land - the means of production need new occupations otherwise they are easy unemployed. The livelihood diversification is an *urgent request* in the Hanoi's suburbs. Making a living of the agricultural sector will have a strong attachment to high-tech agriculture, combine ecological agricultural with ecotourism and experience tourism. Livelihoods of the industrial sector also is required multifarious production and scientifically organized.

(2). Being the fact that sustainable development livelihood models must be associated with clean production and business without polluting the environment. However, the application of science and technological advances is still difficult for companies, co-operative economics and households due to limited funds. All government levels should provide both technical and investment capital as well as accompany in the production and business process.

(3). Making a living and livelihood model development are extremely necessary in the suburban Hanoi. Nevertheless, an effective and sustainable livelihood model development requires innovative approaches which differ from methods in recent years. First of all, all official government levels need determination, particular programs, obvious master plans to guide the inhabitant's production. It is necessary for the city government, the district and commune government to promulgate the special policies to supporting resident's livelihood development. Policies focus on particular business activities and individual people in different circumstances. There should be no general policies, absence of quantitative analysis

5. References

1. Chambers, Robert (1983), Rural development: Putting the last first, Longman Scientific&Technical, co –published in the United States with John Wiley & Sons, Inc New York.

1. 2 . Hanoi Statistical Office (2019), 'Hanoi: Preliminary results of the 2019 Population and Housing Census', Figures & Events Review of the GSO (MPI), 4 September, retrieved 23 April 2021, <http://consosukien.vn/ha-noi-ket-qua-so-bo -tong-dieu-tra-dan-sova-nha-o-nam-2019.htm>.[in Vietnamese]

2. Hanstad, Tim and Robin Nielsn and Jennifer Brown (2004), Land and livelihoods: Making land rights real for India's rural poor, LSP working paper 12, Food and Agriculture Organization Livelihood Support Program.

3. Doan Mai Huong et al. (2020), Research project on building a sustainable livelihood model associated with urbanization and climate change in rural Hanoi areas, Hanoi Department of Science and Technology. [in Vietnamese]

4. Nguyen Minh (2020), Hanoi City: Promoting the development of industrial clusters, The Banking Times, 19 August, , retrieved 27 April 2021, https://www.google.com/search?q=phat+trien+cum+ Cong+nghiep+in+hanoi [in Vietnamese]

5. Chu Phu My et al .(2019), Assessing the task of agricultural development, building new rural areas, improving the living standards of capital's farmers in the 16th congressional term (2015-2020) and orientation to 2025, vision to 2030, Hanoi Department of Agriculture and Rural Development. [in Vietnamese]

6. Neefjes, Koos (2000), Environments and Livelihoods: Strategies for Sustainability, Oxfarm, Oxford.

7. Nguyen Manh Quyen et al (2019), Report on " Assessing the Socio-economic Capital in the 16th congressional term (2015-2020)and development orientation to 2025, vision to 2030", the Hanoi authority for Planning and Investment. [in Vietnamese]

8. Nguyen Minh Tien et al (2018): Sustainable livelihoods for disadvantaged workers in Vietnam, Labor Publishing House. [in Vietnamese]

IMPACT OF LAND USE PLANNING ON SOCIO-ECONOMIC DEVELOPMENT OF PHO YEN TOWN, THAI NGUYEN PROVINCE

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Abstract

Socio-economic development of a locality is influenced by many factors, in which land management, especially land use planning is the leading factor and strongly affects all aspects of the economic and social development. To see that impact clearly, a study from 2019 - 2020 in Pho Yen town, Thai Nguyen province used sociological survey method to survey 3 regions of the town with different land users. The research results show that: The level of influence of land use planning on the process of Urbanization and industrialization and the process of infrastructure development is the highest, with the evaluation results reaching the index 3.68 – 4.02 in all 3 regions. Social development indicators such as People's income and living standards, Increasing employment opportunities and Reducing poverty rate are influenced by land use planning at a moderate level. From these evaluation results, it is necessary to have solutions to strengthen land use planning, especially to develop highly feasible plans to better support the process of socio-economic development.

Keywords: *Influence of planning, Socio-economic indicators, Land use planning, Pho Yen*

1. Introduction

Pho Yen town was formed from Pho Yen district of Thai Nguyen province according to Resolution No. 932/NQ-UBTVQH13 dated May 15, 2015 of the National Assembly Standing Committee and was recognized as a grade III city under Decision No. 530/QD-BXD dated June 17, 2019 of the Ministry of Construction.

Pho Yen is a town in Thai Nguyen province, 26 km south of Thai Nguyen city and 55 km north of Hanoi capital. It is one of the gateways of Hanoi capital to the northeastern provinces of Vietnam. The total area of the town is 25,888.69 ha, including 4 wards and 14 communes. Total population in 2019 is 197,088 people.

Since the town's establishment up to now, the economic growth rate and social innovation have made strong development steps. Total production value from 579.1 trillion VND in 2015 to 886.0 trillion VND in 2019. The economic growth rate of the town in the period 2015 - 2019 is very high, from 26.7% in 2015 to 35.2% in 2019.

Socio-economic development is influenced by many factors. External factors are the status and trends of socio-economic development of countries not only in the region but also in the world. The internal factors include: The country's strategic development orientation, the development plan for each year and period, domestic resources, general management policies and sectors.... In which, the activities of land management are considered to be very important. Land management directly affects the socio-economic development of Pho Yen, in which land use planning is the leading factor and has a strong impact on all aspects of economy and society.

To see that impact clearly, a study from 2019 - 2020 used the sociological survey method to survey 3 regions of the town with different land users. The research results will be a database to help policy makers come up with optimal solutions for the socio-economic development of Pho Yen.

2. Method

2.1. Expert surveys and sociological surveys

2.1.1. Survey of experts

- The topic surveyed the opinions of 31 experts, including 21 managers from the town level, departments of the town, People's Committees of communes and wards and 10 scientists on environmental resource management, economic management.

- Survey method: Direct interview according to predefined questions with survey content: Comment on socio-economic development criteria. By giving points in the questionnaire. Survey of experts on the assessment of socio-economic development of the town, as follows:

Rating: 1: Very little important; 2: Less important; 3: Relatively important; 4: Important; 5: Very important

No	**In your opinion, to evaluate the socio-economic development of the town, which of the following criteria are used?**	**Rating level**				
		1	**2**	**3**	**4**	**5**
1	Urbanization and industrialization					
2	Infrastructure development					
3	Attract investment					
4	Formation and development of the real estate market					
5	People's income and standard of living					
6	Increase job opportunities					
7	Reduce poverty rate					
8	Exercising equal rights					

2.1.2. Sociological Investigation

- The basis for selecting the survey sample:

- Criteria for selecting survey households/organizations are classified into 3 regions as follows:

+ Region 1 (Central region): This place has the economic, cultural and political centers of the town. In this region, the economy develops strongly and stably. Region 1 includes 4 wards, choosing 3 wards are Ba Hang, Bai Bong and Dong Tien.

+ Region 2 (sub-central area): is the development planning area. Currently, this place is developing at a moderate rate. According to the planning, this is the area with many key investment projects to develop the economic zone of Pho Yen. This area consists mainly of communes located in Diem Thuy and Sam Sung industrial zones. Select 3 communes: Hong Tien, Trung Thanh and Tien Phong.

+ Region 3 (Suburban area): is an area of socio-economic development in the direction of agriculture and ecology. This region selects 3 communes: Thanh Cong, Tan Phu and Phuc Thuan.

- Number of survey samples:

+ Each commune and ward selects 3 typical villages/groups representing the locality, the total number of households/organizations of 27 villages/groups of 9 communes/wards is 1,350 households/organization.

+ Number of survey samples: According to Slovin (1960; cited by Vo Thi Thanh Loc, 2010), the sample size is determined according to the following formula:

$$n = \frac{N}{1 + N.e^2}$$

Inside:

n: Survey sample capacity

N: Total number of households/organizations located in the survey area; n: number of representative households/organizations

e: 95% confidence level (Tolerable error, usually 0.05)

Applying Slovin's formula, from the number of 1,350 households of 27 villages/organizations of 9 communes and wards, the total number of samples to be investigated is 308,5714. Rounded up is 309 samples – 309 questionnaires.

On the basis of the number of samples to be surveyed as determined above, 103 households/organizations were selected for each region by the stratified random sampling method. Each region surveyed 6 economic organizations, 6 other organizations and 91 individual households.

The content of the questionnaire is as follows:

What is the impact of land use planning on socio-economic development of Pho Yen town?

Rating: 1: Totally disagree; 2: Disagree; 3: Can agree or disagree; 4: Agree; 5: Totally agree

Do you agree with the questions below?	**Rating level**				
	1	**2**	**3**	**4**	**5**
1. Is the land use planning an important basis?					
2. Is the land use plan built in the spirit of democracy?					
3. Is the construction land use planning valid?					
4. Are the land use planning and land use plans realistic?					
5. Is the land use planning done according to the annual plan?					
6. Has the land use plan been adjusted appropriately over time?					
7. Are the order and procedures for land use planning well conducted?					
8. Is the performance of land use planning at a good level?					

2.2. Methods of data processing and evaluation of research results

- The research data is processed with mathematical statistics on the software: SPSS and Excel.

- Using SPSS software in analyzing sociological survey data of Hoang Trong and Chu Nguyen Mong Ngoc (2007). Specifically, the application of IBM SPSS Statistics 20 software for analyzing sociological survey data. Applied to analysis of survey data from 309 questionnaires according to Likert scale to evaluate research results (Do Anh Tai, 2008).

- Rate according to 5-level Likert scale:

1: Totally disagree/very small/very low;

2: Disagree/small/low;

3: Confused/average;

4: Agree/big/high;

5: Totally agree/very large/very high.

- From the Likert scale, the specific rating hierarchy for 5 levels is as follows:

1.00 - 1.79: Very low

1.80 - 2.59: Low

2.60 - 3.39: Average/Medium

3.40 - 4.19: High

4.20 - 5.00: Very high.

3. Results

3.1. Evaluation of socio-economic development indicators of Pho Yen town

From the results of in-depth interviews with experts who are managers and scientists together with discussions to come to conclusions about socio-economic development indicators that are influenced by land management in Pho Yen town.

The data (Table 01) shows that there are 8 main indicators affected. The rating level is from high to very high, 3.39 – 4.39. In which, 6 indicators are highly evaluated, reaching the index 4.23 - 4.39. The other two indicators, namely the formation and development of the real estate market and the exercise of equal rights, are only rated at a medium to high level, 3.39 -3.48.

Thus, there are 6 important criteria selected for evaluation in Pho Yen town: Urbanization and industrialization, infrastructure development, investment attraction, income and living standards of the people, increase employment opportunities and reduce poverty.

Table 01: Summary of expert assessment results on socio-economic development indicators influenced by land management in Pho Yen town

No	Content of Land Management	Assessment	Standard Deviation
1	Urbanization and industrialization	4.36	0.80
2	Infrastructure development	4.39	0.62
3	Attract investment	4.32	0.70
4	Formation and development of the real estate market	3.48	0.68
5	People's income and standard of living	4.23	0.56
6	Increase job opportunities	4.29	0.64
7	Reduce poverty rate	4.23	0.56
8	Exercising equal rights	3.39	0.67

On the basis of expert survey results, the study conducted 309 questionnaires to assess socio-economic development indicators of Pho Yen town. The evaluation results in Table 02 show that:

- In the three contents of each socio-economic development indicator, it is generally assessed with an index from 3.38 to 4.14, reaching the average to high level.

- There are 5 socio-economic development indicators that are highly appreciated, reaching index 3.62 – 4.14. The poverty rate reduction target only reached an average of 3.38, but the index is in the upper bound of the average.

In summary, all six socio-economic development indicators of Pho Yen town are good performance aspects since the town's establishment until now.

Table 02: Evaluation of socio-economic development indicators of Pho Yen town

No	Indicators of socio-economic development	Assessment	Standard Deviation
1	**Urbanization and Industrialization (Overall Average)**	**4.14**	**0.46**
1.1	The process of urbanization and industrialization is concerned	4.16	0.60
1.2	The order and procedures for implementing the process of urbanization and industrialization are appropriate	4.13	0.58
1.3	Good results of the process of urbanization and industrialization	4.15	0.61
2	**Infrastructure Development (Overall Average)**	**4.12**	**0.44**
2.1	Infrastructure development is an important task	4.16	0.59
2.2	The order and procedures for implementing appropriate infrastructure development	4.12	0.58
2.3	Good infrastructure development performance results	4.07	0.58
3	**Attracting investment capital (Overall average)**	**3.74**	**0.39**
3.1	Attracting investment capital for development is an important task	3.81	0.59
3.2	Order and procedures for attracting investment capital for appropriate development	3.76	0.57
3.3	Good performance in attracting investment capital for development	3.65	0.59
4	**People's income and standard of living (General average)**	**3.86**	**0.46**
4.1	Developing people's income and living standards is important	3.80	0.64
4.2	The order and procedures for increasing income and living standards of the people are appropriate	3.89	0.62
4.3	The results of the implementation of increasing people's income and living standards are good	3.90	0.62
5	**Increased job opportunities (Overall Average)**	**3.62**	**0.38**
5.1	Increasing job opportunities is an important policy for social development	3.59	0.55
5.2	The order and procedures of implementation increase suitable job opportunities	3.63	0.59
5.3	The results of the implementation of the policy of increasing good job opportunities	3.63	0.55
6	**Reducing poverty rate (Overall average)**	**3.38**	**0.51**
6.1	Reducing the poverty rate in the society is of concern	3.37	0.56
6.2	The order and procedures for implementing poverty reduction are appropriate	3.38	0.58
6.3	Good results of poverty reduction	3.38	0.59

3.2. Evaluation of the implementation of land use planning in Pho Yen town

The data on the implementation of land use planning in Pho Yen town with 8 contents in Table 03 shows that:

- All 8 contents of the land use planning of Pho Yen town are highly appreciated, at 3.44 - 4.00 and the average index is 3.68.

- Out of 8 items rated at high level, content 8 is that the land use plan is feasible but the index is only 3.44, which is a high level but the lower limit of the high rating.

In summary, in general, the implementation of land use planning in Pho Yen town is quite good and there are many innovations in this work. This evaluation result is also consistent with the study of Vu Thi Kim Hao et al. (2020).

Table 03: Evaluation of the implementation of land use planning in Pho Yen town

No	Evaluate content	Assessment	Standard Deviation
1	The land use plan is built on a full basis	3.48	0.71
2	The land use plan is built in the spirit of democracy	3.64	0.65
3	The land use master plan and land use plan are realistic	3.63	0.66
4	The land use plan is made according to the annual plan	3.82	0.58
5	The land use plan is adjusted appropriately over time	4.00	0.56
6	The order and procedures for land use planning are well conducted	3.87	0.53
7	The performance of land use planning is at a good level	3.57	0.69
8	The land use plan is feasible	3.44	0.77
	Overall Average	**3.68**	**0.33**

3.3. The influence of land use planning on socio-economic development of Pho Yen town

To evaluate the influence of land use planning on socio-economic development of Pho Yen town, IBM SPSS Statistics 20 software supported the analysis of 309 questionnaires in 3 regions with 4 land users. The analysis results are aggregated by 3 regions and by 4 land users.

3.3.1. Evaluate by region

The results of assessing the impact of land use planning on socio-economic development of Pho Yen town in Table 04 show that:

Table 04: Impact of land use planning on socio-economic development of Pho Yen town by region

No	Indicators of socio-economic development	Region 1		Region 2		Region 3	
		Assessment	Standard Deviation	Assessment	Standard Deviation	Assessment	Standard Deviation
1	Urbanization and industrialization	4.02	0.30	3.94	0.24	3.87	0.27
2	Infrastructure development	3.82	0.31	3.76	0.32	3.68	0.28
3	Attract investment	3.41	0.50	3.36	0.49	3.30	0.46
4	People's income and standard of living	3.33	0.40	3.35	0.40	3.32	0.40
5	Increase job opportunities	3.33	0.38	3.32	0.37	3.29	0.36
6	Reduce poverty rate	3.38	0.36	3.38	0.35	3.37	0.35

- Land use planning affects 6 socio-economic development indicators in all 3 regions with an index from 3.32 to 4.02, an average to high rating.

- In region 1, there are 3 indicators of urbanization and industrialization, infrastructure development and investment attraction, reaching a high level, the index is from 3.41 to 4.02. While the other three indicators are income and living standards of the people, increase in employment opportunities and reduce the poverty rate, they are only assessed at an average level, reaching the index of 3.33 - 3.38.

- In region 2, there are 2 indicators, namely urbanization and industrialization and infrastructure development, reaching a high level, the index is from 3.76 to 3.94. While the other four indicators are attracting investment capital, income and living standards of the people, increasing employment opportunities and reducing the poverty rate, they are only assessed at an average level, reaching the index of 3.32 - 3.38.

- In region 3, there are only 2 indicators of urbanization and industrialization and infrastructure development reaching a high level, the index is from 3.68 to 3.87. While the other four indicators are attracting investment capital, income and living standards of the people, increasing employment opportunities and reducing poverty rate, they are only assessed at an average level, reaching the index of 3.30 - 3.37.

In summary: From a detailed assessment of the contents of land use planning that affect the socio-economic development of Pho Yen town by region, the topic is summarized and ranked in Table 05 for each region:

- The degree of influence of land use planning on the process of urbanization and industrialization and the development of infrastructure is the strongest, followed by quite strong on the attraction of investment capital. .

- Socio-economic development indicators such as income and living standards of the people, increase of employment opportunities and reduction of poverty rate are affected to an average extent by land use planning.

- The degree of influence of land use planning on socio-economic development of Pho Yen town also decreases gradually from region 1 to region 2 and 3.

Table 05: Ranking of the influence of land use planning on socio-economic development of Pho Yen town by region

No	Indicators of socio-economic development	Region 1	Region 2	Region 3
1	Urbanization and industrialization	H	H	H
2	Infrastructure development	H	H	H
3	Attract investment	H	M	M
4	People's income and standard of living	M	M	M
5	Increase job opportunities	M	M	M
6	Reduce poverty rate	M	M	M

Note: H: high; M: medium

3.3.2. Assessment by land users

In addition to assessing the influence of land use planning on socio-economic development of Pho Yen town according to 3 regions, the study also assesses by land users.

Summary data on the influence of land use planning on socio-economic development of Pho Yen town by land users in Table 06 gives comments:

- All 4 land users show that land use planning affects 6 socio-economic development indicators with the index from 3.22 to 4.22, the assessment is medium to high and very high.

- All 4 land users show that land use planning strongly influences 2 socio-economic development indicators, namely Urbanization and industrialization and Infrastructure development with the index from 3.57 to 4.22.

- Land use planning has an average influence on 3 indicators of attracting investment capital, income and living standards of the people and increasing employment opportunities in all 4 land users.

Table 06: Impact of land use planning on socio-economic development of Pho Yen town by land users

No	Indicators of socio-economic development	Agricultural household		Non-agricultural households		Economic organizations		Other organizations	
		Assess-ment	Standard Deviation	Assess-ment	Standard Deviation	Assess-ment	Standard Deviation	Assess-ment	Standard Deviation
1	Urbanization and industrialization	3.90	0.27	3.93	0.25	4.22	0.20	4.22	0.29
2	Infrastructure development	3.77	0.29	3.57	0.29	3.85	0.29	4.01	0.37
3	Attract investment	3.32	0.29	3.34	0.51	3.38	0.18	3.85	0.23
4	People's income and standard of living	3.34	0.41	3.32	0.42	3.26	0.29	3.28	0.20
5	Increase job opportunities	3.32	0.39	3.33	0.36	3.22	0.17	3.27	0.20
6	Reduce poverty rate	3.38	0.37	3.40	0.36	3.33	0.24	3.38	0.17

In summary: From detailed analysis of the influence of land use planning on socio-economic development of Pho Yen town by each land user, the topic is summarized and ranked in Table 07:

- The degree of influence of land use planning on the process of urbanization and industrialization and the development of infrastructure is the strongest, followed by quite strong on the attraction of investment capital.

- Socio-economic development indicators such as income and living standards of the people, increase of employment opportunities and reduction of poverty rate are affected to an average extent by land use planning.

Table 07: Ranking of the influence of land use planning on socio-economic development of Pho Yen town by land users

No	Indicators of socio-economic development	Agricul-tural household	Non-agricultural households	Economic organi-zations	Other organi-zations
1	Urbanization and industrialization	H	H	H	VH
2	Infrastructure development	H	H	H	H
3	Attract investment	M	M	M	H
4	People's income and standard of living	M	M	M	M
5	Increase job opportunities	M	M	M	M
6	Reduce poverty rate	M	H	M	M

Note: VH: very high; H: high; M: medium

4. Discussion and Conclusion

- The results of an expert survey on socio-economic development indicators influenced by land management in Pho Yen town have concluded that there are 6 important indicators, which are: Urbanization and industrialization. industrialization; infrastructure development; attract investment; income and living standards of the people; increase employment opportunities and reduce poverty. These are also the main and key socio-economic development development indicators that the State has included in the current national development strategy. Of these six indicators, the first three are about economic development and the last three are about the development of social stability.

- Evaluating the implementation of land use planning in Pho Yen town, the conclusion was drawn: All 8 contents of land use planning in Pho Yen town are highly appreciated, at 3.44 – 4.00 and the overall average is 3.68. Out of the 8 items rated at a high level, the Land Use Plan is feasible but the index is only 3.44, which is a high level but the lower limit of the high rating. This shows that the land use planning, especially the planning, still has many aspects, requiring solutions to overcome. However, in general, the implementation of land use planning in Pho Yen town is quite good and there are many innovations in this work.

- The influence of land use planning on 6 socio-economic development indicators of Pho Yen town:

+ The degree of influence of land use planning on the process of urbanization and industrialization and the process of infrastructure development is the strongest, followed by quite strong on the attraction of investment capital , with the evaluation results reaching the index of 3.68 - 4.02 in all 3 regions. The results of this assessment clearly show that in the process of urbanization and industrialization and the development of infrastructure of a locality, a feasible land use plan is required. That will accelerate the progress of local development.

+ Socio-economic development indicators such as People's income and living standards, Increasing employment opportunities and Reducing poverty rate are influenced by land use planning at an average level. This assessment result is also consistent with reality, which is in land management, land allocation, land lease, and issuance of land use right certificates; Land acquisition, compensation, support and resettlement are the factors that strongly influence the above indicators.

+ The degree of influence of land use planning on socio-economic development of Pho Yen town also decreases gradually from region 1 to region 2 and 3. This is also easy to explain because region 1 is the central area, is the area with the economic, cultural and political centers of the town. In this region, the economy develops strongly and stably.

Regions 2 and 3 are both far from the center, especially region 3, which is a suburb, an area of socio-economic development in the direction of agriculture and ecology.

\+ The influence of land use planning on socio-economic development of Pho Yen town according to land users: All 4 land users show that land use planning affects 6 indicators of socio-economic development with the index from 3.22 to 4.22, the assessment is medium to high and very high. All four land users show that land use planning has a strong influence on two socio-economic development indicators, namely Urbanization and industrialization and Infrastructure development with the same index. 3.57 – 4.22.

From the above evaluation results, it is necessary to have solutions to strengthen land use planning, especially to develop highly feasible plans. This will well support the socio-economic development of a locality.

5. References

1. Do Anh Tai (2008), *Textbook of Statistical Analysis, Thai Nguyen University of Economics and Business Administration*, Statistical Publishing House, Hanoi.

2. Hoang Trong, Chu Nguyen Mong Ngoc (2007), *Applied statistics in socio-economic*, Statistical Publishing House.

3. Ministry of Construction (2019), *Decision 530/QD-BXD of the Ministry of Construction dated June 17, 2019 on the recognition of Pho Yen town, Thai Nguyen province as a grade III urban area.*

4. Standing Committee of the National Assembly (2015), *Resolution No. 932/NQ-UBTVQH13 dated May 15, 2015 of the National Assembly Standing Committee on the establishment of Pho Yen town, Thai Nguyen province.*

5. Vo Thi Thanh Loc (2010), *Textbook of Scientific Research Methods and Writing Research Proposal*, Can Tho University Publishing House.

6. Vu Thi Kim Hao, Nguyen Le Duy, Nguyen Thu Thuy (2020), Evaluation of the effectiveness of land use planning and planning in Pho Yen town, Thai Nguyen province, *Journal of Science and Technology Technology at Thai Nguyen University, Vol. 225, No. 07 (2020), pp. 176 - 182.*

DEVELOPING MODEL OF TECHNOLOGICAL SCIENTIFIC INTERMEDIARY NETWORK OF VIETNAMESE SCIENCE AND TECHNOLOGY MARKET

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Abstract

This paper studies the current state of technology science intermediary network and propose a model of science and technology inermediary network for Vietnam. By using in-depth interviewing with managers in the system of state management agencies in science and technology, science and technology intermediaries, the research results pointed that a network of science and technology intermediaries has not existing in the science and technlogy market of Vietnam really. The network model of science and technology market could be proposed with the basic elements including the node point and the core point, the connection circuit between the nodal points of the network of science and technology intermediaries.

Keywords: *connection, collaboration and support, science and technology intermediaries, science and technology intermediary network*

1. Introduction

A network is a structure made up of nodes that are linked together by circuits. From that approach, it can be understood that an intermediate organizational network is a structure created by interrelated intermediate organizational nodes. The mediation network structure provides an opportunity for organizations to act as a science and technology intermediary (STI) by bridging structural gaps in the network or connecting different network communities (A. Caloffi, F. Rossi and M. Russo, 2015). Thus, the intermediate network must meet two basic requirements: bridging and connecting between science and technology intermediaries. A good middleman network helps intermediaries not only perform the pure “informants” and “broker” functions, but also perform other important functions such as facilitating relationships between firms by identifying potential partners for innovation projects (Shohert and Prevezer, 1996); information flow coordination (Lynn et al., 1996; Russo and Whitford, 2009) supports innovation processes by helping to encapsulate transferred technology (Watkins and Horley, 1986), selecting suppliers technology components (Watkins and Horley, 1986), adapting technology solutions available on the market according to the needs of the business (Stankiewicz, 1995) and storage operations, possibly offers solutions that incorporate new ideas from existing ideas (Hargadon and Sutton, 1997).

According to Doan X. H. et al (2020), a network of science and technology intermediaries is formed based on the relationships between science and technology intermediaries and the supply and demand sides of the science and technology market (STM) and the relationship between those science and technology intermediaries. In terms of functions, there are 3 groups of science and technology intermediaries, including: the connection mediation group, the cooperation and support intermediary group, and the science and technology service intermediary group.

(1) The connection intermediary group has two main function that are "gatekeeper" and "broker". First, this function is expressed through following activities: Connecting patent suppliers, seekers and stakeholders; building bridges for technology start-up and investment groups; building networks to overcome limitations in technology transfer activities; carry out communication activities and coordinate physical and social resources. Second, meet the need wich is done by: Providing opportunities to find partners; providing resources and participating in projects; providing supporting information and services.

(2) Collaborative and support intermediary group is to perform functions including: (i) Connection and information processing: Integrating knowledge from stakeholders; direct transfer of expert knowledge; research mobilization of universities; (ii) Commercialization: Support marketing, sales and sponsorship activities; commercialization of technologies; (iii) Forecasts and diagnostics: Orientation of social research according to the needs of the industry; provides an interactive model for technology transfer and reception; (iv) Screening and processing information

(3) Scientific and technological service intermediary group provides services on intellectual property, training, testing and evaluation, rules and arbitration.

The formation and development of science and technology intermediary organizations (STIO) of STM (hereinafter referred to as science and technology intermediaries (STI)) is one of the issues that the Government pays attention to and directs. In a short time, science and technology intermediary organizations have been formed, with types such as traditional organizations such as hi-tech parks, software parks, hi-tech agricultural zones, and technology incubators, technology exchanges, supply-demand matching events, business promotion organizations, innovation centers, co-working spaces. According to the regulations and guidance by Circular No. 16/2014/TT-BKHCN of the MOST, science and technology intermediaries have been established and operating in other fields and localities.

In fact, due to many reasons, the number of intermediaries operating professionally is not much. Some STIs were formed in a hurry. On the contrary, the establishment of new science and technology intermediaries faces many obstacles because of the procedures' inconsistency. However, science and technology intermediaries, service organizations in the market (brokerage organizations, consultancy, assessment, evaluation, valuation, testing, verification...) are not operating properly. As results, a lot of science and technology intermediaries has not confirmed the role of connecting, providing services ... to promote the development of the STM. The lack of quantity and weak quality of intermediaries are obstacles to connecting science and technology intermediaries to develop science and technology intermediary networks (STIN) of STMs. Besides, the regulations on the formation and operation conditions of STIs are not clear, so the implementation is not easy. In addition, the inconsistent and unified system of policies are also major barriers and obstacles.

In order to be able to apply breakthrough policy and management solutions to promote the development of STIN of STM, it is necessary to establish a network model of science and technology intermediaries of STM. The objectives of this paper are as follows: (1) assess the current state of the STIN of the STM in Vietnam, (2) propose a network model of STIs of the Vietnamese STM.

2. Method

The data needed for this study include both secondary data and primary data. Secondary data on the number, location, operational capacity,... of science and technology intermediaries is collected from reports and documents of management agencies at all levels, including mainly from the MOST and the Department of Science and Technology of some provinces/ cities. Articles and studies on domestic and foreign intermediary networks related to the subject's research have also been gathered, classified and edited for research purposes of the topic.

Primary data on assessment of the intermediary network of STM is collected through qualitative research by the technique of in-depth interviews with managers in the system of state management agencies in science and technology, science and technology intermediaries in the following industries: fisheries, food/beverage, wood processing, textiles, pharmaceutical chemistry, road construction, building materials and electrical power (solar power, wind power), science and technology experts and science and technology business administrators in related industries. In-depth interviews in each group aimed at the following objectives: First, identify the current network of intermediaries of the Vietnamese science and technology market; second, evaluate the limitations of the current network of intermediaries; third, propose a model of an intermediary organization network of the science and technology market in the near future

In-depth interviews were conducted at the headquarters of selected organizations and businesses in a convenient manner. Specifically, during the period from February 2020 to

June 2020, 56 in-depth interviews were conducted at organizations and enterprises in the North, Central and South of Vietnam. After finishing interview, the in-depth interview tapes are converted to a text format combined with the transcripts during the interview to be used for data editing prior to analysis.

The analysis of secondary data were done by using traditional methods such as statistics, synthesis and inference. Primary data were analyzed with the help of Nvivo11 software.

3. Results

3.1. Current number and structure of science and technology intermediaries

According to statistics of the Ministry of Science and Technology (MOST) updated to December 31, 2018, there are 10 technology exchanges and 1 copyright exchange, 3 technology transaction centers, and 67 technology transfer promotion and support center, 12 intellectual property valuation assistance companies, 10 incubators and business incubators in the whole country. The National Innovation Center was established also in 2019. This center is under the Ministry of Planning and Investment to support and develop a start-up ecosystem, innovate, and contribute to the renewal of the growth model on the basis of science and technology development. In the two years 2019 and 2020, a number of new intermediaries were established and put into operation. In addition to the types of intermediaries mentioned above, it is possible to list some types of intermediaries that exist in the STM, including: science and technology consulting enterprises; organization of standards, measurement and quality; science and technology organizations (in higher education institutions); science and technology enterprises; financial institutions and funds; industry associations (Le T. Th. et al., 2020). According to this approach, the number of science and technology intermediaries by 2019 will reach 1927 organizaions[17]. In the scope of this report, types of intermediaries are listed and classified according to the specific provisions of Circular 16 of the MOST.

Regarding technology exchanges, the country has 16 online and offline technology exchanges (MOST, 2020), Pham X. Ph. (2020). In addition, Thai Binh, Lai Chau, Nam Dinh, Ha Tinh, Quang Nam and Binh Duong are building electronic trading floors and technology exchange. Most technology exchanges are operating as non-business scientific and technological units, with autonomy and self-responsibility under the Departments of Science and Technology, partly covered by the State to maintain regular activity. The main activities of exchanges include: consulting and transferring technology, information technology and organizing events on science and technology. In addition to technology exchanges in the state sector, a number of non-public exchanges have also been established such as the OTC

[17] Incomplete statistics due to lack of data on events (techmart) device markets and regulators on science and technology

Idea Floor of the Business Solution Consulting Joint Stock Company, HCM City and the Copyright Exchange of Vietnam Record Book Center- Vietkings, HCM city. According to Tran V. T. (2018), in spite of achievement in developing the system of science and technology intermediaries, but science and technology intermediaries have not really shown its core role.

Regarding technology transaction centers, all 3 centers in operation are state-owned centers, of which 1 center is under the MOST, 1 center is under the Department of Information and Communication (DIC) Hanoi and 1 center under the DIC of Da Nang. However, both the centers in Hanoi and Da Nang are information and communication technology transaction centers.

Currently, in term of quantity, the centers for promoting and supporting technology transfer activities is largest. There are 67 centers of this type established and operating under different agencies, organizations and in different localities. In which, nearly half of centers are located in Hanoi, 18 centers are under ministries, 16 centers are under DST of provinces, 25 centers are under research institutes, universities and colleges. In addition, there are 8 centers in the non-state sector, including 3 centers belonging to industry associations, 4 centers privately owned and 1 center of a joint stock company.

In fact, the research and technology transfer center has been established and is active in science and technology research institutes, universities, colleges, and science and technology enterprises. For example, Center for Research and Technology Transfer under Vietnam Academy of Science and Technology, ... Up to now, there are no official studies on the number and operation of centers under this group. However, based on the results of the centers' performance in the past time, it can be said that the activities of these centers are limited to serving the technology transfer request of the organization to which it belongs.

Regarding the intellectual property valuation support center, there are 12 organizations that support the valuation of intellectual property, which are price appraisal companies out of a total of 298 companies are operating in the field of appraisal of prices in Vietnam (Ministry of Finance, 2020). All of these organizations are non-state companies, existing as independent companies, operating in the field of valuation, only engaged in providing intellectual property valuation services.

Regarding technology incubators and science and technology business incubators, according to the incomplete statistics of the MOST and Le Nguyen. D. Kh. research (2015), the number of nurseries and establishments Science and technology business incubation in Vietnam is quite modest, concentrating mainly in Hanoi and HCM City.

Some of technology business incubators and nurseries were formed quite early as the Hi-Tech Agricultural Enterprise Incubation Center in Ho Chi Minh (HCM) City in 2002 and FPT - Bach Khoa Business Incubator in 2004. However, the majority of technology business incubators and incubators that were established in 2006 and up to now, are in the early stages of development. Some nurseries have been operating effectively such as Phu Tho Technology Business Incubator (HCM City University of Technology), Hoa Lac Hi-Tech Enterprise Incubation Center.

In term of geographic location, science and technology intermediaries are concentrated mainly in two big cities, Hanoi and HCM. Specifically, nearly half of the centers for promoting and supporting technology transfer are located in Hanoi and more than 10% are located in the HCM city. Two-thirds of technology transaction centers are located in Hanoi. Most technology business incubators and intellectual property valuation support organizations are located in Hanoi and HCM. These two cities are also the two largest and most powerful science and technology centers in Vietnam today. With a high degree of concentration in the two cities of intermediaries, detecting and identifying nodes and circuits in the network of STIs presents certain difficulties. This situation poses challenges to the strategy of building and developing an intermediary network in the future.

In terms of ownership of science and technology intermediaries, it can be seen that the presence of non-state intermediaries is still very modest. Specifically, 100% of the intellectual property valuation support organizations are non-state companies, and more than 10% of technology transfer promotion and support centers are non-state organizations. All technology exchanges, technology transaction centers and incubators and technology incubators and technology businesses, and nearly 90% of technology transfer promotion and support centers are state-owned.

For state-owned intermediaries, most of these organizations are public science and technology non-business units under the direct management of the line ministry or the governing department (at the provincial/ city-level). Despite of having certain degree of autonomy, these intermediaries basically depend on the state budget as well as the decision of the governing body on personnel mobilization and the appointment of intermediaries' leaders.

3.2. The formation of a network of science and technology intermediaries

(1) Identify the junction, node, and core point of the intermediate organization network

Regarding the connection circuit between individual intermediaries, the relationship between the intermediaries is formed in the process of providing STI services to the parties in the market. In terms of horizontal relation, the relationship is formed and established through cooperation and coordination between intermediaries operating in the same locality, a certain area. There are no intermediaries in the building materials industry that are related on an industry-based basis because intermediary organizations are affiliated units of the industry (Vu T. T. and Le H. T., 2020). However, intermediaries in the same industry tend to operate relatively independently for example, intermediaries in the wood processing industry (Vu M. D., 2020). To a certain extent, the horizontal relationships between intermediaries can be considered as the horizontal link of the network in a given industry, region or locality.

The vertical relationships between the intermediaries are established mainly based on the vertical relationship from the governing body to the affiliated organizations and units. This relationship is more “administrative” than cooperative or coordinate relations. However, in reality, the vertical relationship in the network of science and technology intermediaries has not clearly formed.

The majority of science and technology intermediaries have just been established in the past 10 years. STI has operated in condition of weak resources, limited connection and cooperation. It could be said that the intermediary organization of the STM has played bridging between the supply and demand sides in the STM. But it has not yet the role of the “midwife” of technical and technological solutions, inventions, innovations. However, a number of STIs that have had quite effectively. They are technology exchanges and technology incubators and science and technology businesses such as Hai Phong Technology and Equipment Exchange, CRC – TOPIC (Hanoi University of Science and Technology), Technology Business Incubation Center, HCM city Nong Lam University.

(2) Connection between network members

Interconnect internally and locally within the network of intermediaries based on industry and local relationships. Each intermediary within industry, technology clusters and higher education institutions are relatively independent, self-contained. Moreover, the low number of intermediaries combined with the uneven distribution are factors that negatively affect the linkages and cooperation between the intermediaries of the STM.

At the level of interdisciplinary, inter-regional and regional, there has not been any connection activity between intermediaries. One of the factors hindering the connection and linkage between the intermediaries is the overlap in the functions of the intermediaries. The functions and duties of each type of intermediary organization have been identified by Circular 16. However, intermediaries has registered to carry out similar activities such as brokerage, connecting supply and demand, supporting science and technology transfer. In particular, the technology transfer promotion and support centers in the provinces perform many tasks overlapping with other types of intermediaries.

4. Discussion and Conclusion

From the above assessments, some comments on the current state of STIN could be taken as follows:

Firstly, science and technology intermediaries are not evenly distributed, leading to an imbalance in term of location. There is a high concentration of the number of intermediaries that could be seen in Hanoi and HCM City. However, even in these two cities, the number of intermediaries is not much and it is only concentrated in a few key technology fields. In the management aspect, although it is in the early stage of the formation process, there is a fragmented situation, many intermediaries managing the intermediary organization. Currently, at least two ministries are involved in the management and coordination of intermediaries. Specifically, the National Innovation Center belongs to the Ministry of Planning and Investment by decision of the Prime Minister. Meanwhile, the innovation centers at the provincial and city levels are under the Department of Planning and Investment in the provinces and cities. Furthermore, in each province, there exists a Center for Science and Technology Progress Application under the DST, which performs the tasks of information, consulting, linking technology supply - demand and transferring technology.

Secondly, the tasks and functions of the intermediary organization are not clearly defined, there is even an overlap in functions and tasks among the intermediary organizations of different types. Even in the articles of Circular 16, the functions of intermediaries have overlapped because some intermediaries in this type are allowed to perform the activities of intermediaries in other types. Specifically, according to the provisions of Article 3, Circular 16, the technology trading floor has the function of coinciding with functions of technology transaction centers, centers for promoting and supporting technology transfer activities, intellectual property valuation aid organizations and innovation support centers. A technology trading center has the same function as an exchange, an intellectual property valuation support organization, and an innovation support center. Similarly, the center for promoting and supporting technology transfer activities has the same function as the function of the intellectual property, the intellectual property valuation support organization and the innovation support center.

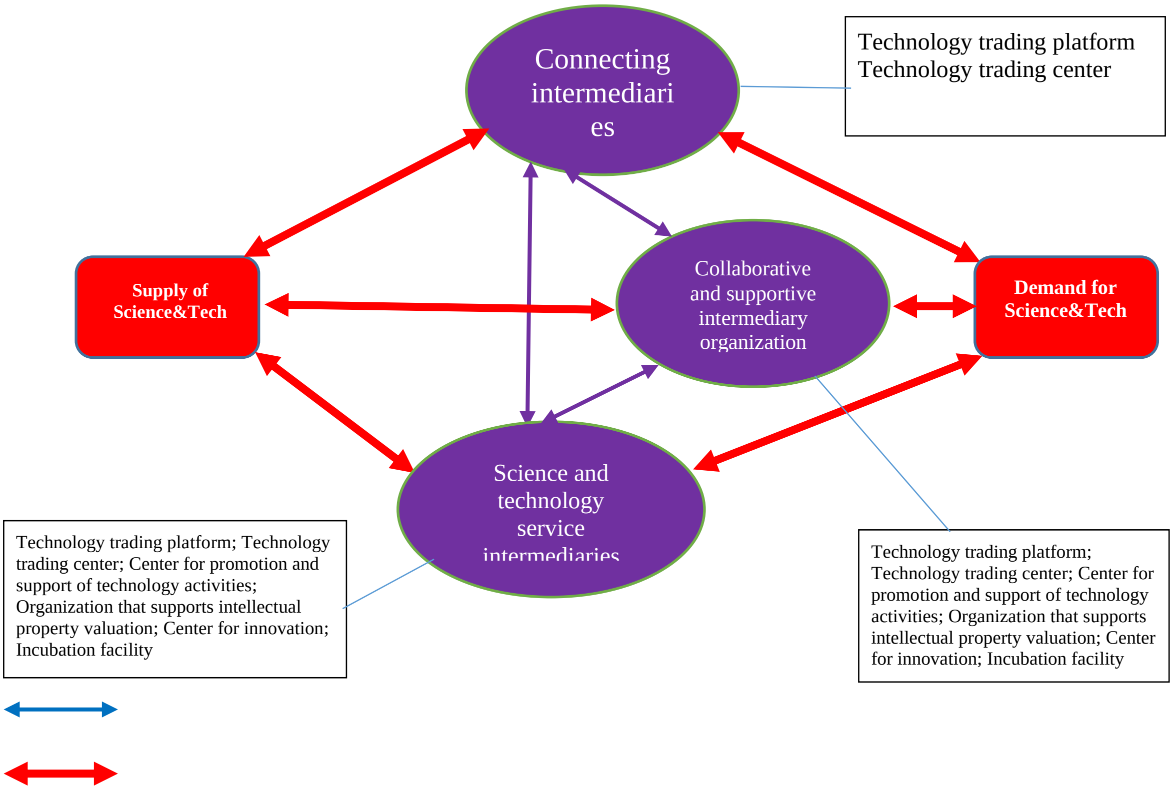
In the context of the need to innovate and apply technology that are not high, many intermediaries operate in moderation and do jobs that do not belong these organization. In contrast, on the demand side, enterprises cannot find an intermediary to connect with suppliers of equipment and technology. The redundancy and lack of science and technology intermediaries shows that the establishment and operation of the current intermediaries are not entirely due to the needs of the parties in the STM. Some centers for promoting and supporting technology transfer activities only exist formally, carry out movement work and are still heavily influenced by the centralized administrative mechanism.

Thirdly, the connection circuits between intermediaries have not yet formed. There is no connection and linkage between intermediaries of different types. Essentially, the intermediaries operate in isolation. In some cases, the intermediaries are connected and coordinated, but the connection has not been maintained regularly and sustainably. Single-connection circuits showing single relationships still exist quite commonly. Another aspect that needs to be clarified is the linkages and connections between more administrative science and technology intermediaries rather than professional connections. The connection and linkage activities between domestic intermediaries and with international intermediaries are still limited. Trading through technology exchanges and science and technology intermediaries accounts for a small number and only accounts for about 5% of the total technology transactions on the STM (Pham T. T. L., 2020).

Fourthly, the activities of intermediaries are fragmented, and duplicated. Each intermediary organization itself has not yet understood the needs for provision and transfer of science and technology of enterprises. This is combined with the lack of orientation in the operation and the overlap in the functions and tasks of each intermediary organization, making fragmentation tend to increase. Therefore, it is difficult to find a key intermediary organization that have strong resources, high quality and reputable enough to connect and coordinate among intermediaries of different types. In currently, the MOST has directed the DST in provinces and cities to review centers to promote and support technology transfer activities, innovation centers and research centers and technology transfer to assess the degree of functional overlap. In some provinces/cities, centers with overlapping functions have been merged into one center; unnecessary centers were dissolved. However, the fragmentation of distribution, overlapping in operational functions, ambiguity in tasks in STIO has not been overcome basically.

Finally, lack of focus, unification on direction and management along the current vertical system of intermediaries. In terms of the state management of the intermediate organization, no specialized division for the STI has been set up in the organizational structure of the MOST.

From the current status of the network of science and technology intermediaries as described above, it is necessary to establish a network model of science and technology intermediaries. The formed network must represent the organizational structure of the system of science and technology intermediaries and also show the relationship and connection between STIs in that system. Based on the approach, the network model of STM could be proposed with the basic elements including the node point and the core point, the connection circuit between the nodal points.



The connection between intermediate organizations

Liaison between intermediaries and supply-demand side

Source: *developed from Lopez-Vega & Vanhaverbeke, 2009; Doan X. H. et al., 2020*

Figure 1: General model of the network of intermediaries of Vietnam's STM

1) The nodal point of the mediation network is each individual intermediary institution. Intermediaries are classified and grouped into three groups: connection intermediaries, cooperation and support intermediaries, and science and technology service intermediaries.

Connecting intermediaries connecting the supply and demand sides in the STM and brokerage to help the supply and the demand side in science and technology find and meet the right partners, match the demand. demand and supply. According to Circular 16, a technology trading floor and a technology transaction center are two organizations that perform the connection function.

Collaborative and supportive intermediary organization has the function of connecting, screening and processing scientific and technological information, assisting parties in marketing, sales and sponsorship activities, and commercialization of technology; research and diagnose trends of innovation and technology transfer.

Science and technology service intermediaries providing intellectual property consulting services, intellectual property management; training, diagnosis, analysis and testing; consulting on standards and building standards.

2) Circuit connection: horizontal relationship, vertical relationship

Horizontal circuits are the horizontal relationships between intermediate organizations in the same group and the network. Connections are established and maintained through information exchange, cooperation, association and coordination in support projects and programs. Each intermediate organization can have many horizontal relationships at the same time. These relationships can be permanent or just temporary. One-one relationships between two intermediaries could be common. However, the connectivity of the network of intermediaries will be maintained and enhanced when the intermediary has a cooperative relationship with many other intermediaries. A network of intermediaries is well connected when it is set up and oriented to meet the needs of brokerage, connection, and assistance in technology transfer and transfer of the parties in the STM. Instead of formally forming an intermediary organization with common, ambiguous and overlapping common tasks and functions, professional intermediaries need to be formed. In the condition of uncompleted and developed STM, intermediary organizations should be built on a multi-functional model. Along with the development of the STM, intermediate organizations will gradually shift towards specialization.

Longitudinal circuits - vertical relationships: vertical relationships exist between science and technology intermediaries due to the existence of a regulatory relationship by industry. Another form of longitudinal circuit will be established when some types of intermediaries have formed including: National Technology Exchange, Center for Promotion and Support of Operations. National Science andTechnology and National Innovation Center. The national intermediaries play the leading role to direct, coordinate and connect the intermediaries at the sectoral, local level, not performing administrative management tasks.

3) The core point - that is, the key intermediaries have a central role in connecting, coordinating and coordinating activities between the intermediaries. In a network of intermediaries, national and regional technology exchanges, national innovation centers, and national technology transfer promotion and support centers are central intermediaries. In addition to national level science and technology intermediaries, intermediaries have outstanding competencies in performing the functions of connection, cooperation and support, and science and technology intermediation services in industrial clusters, industry and local can also be considered as the core intermediaries of the network local, industry, and industrial clusters.

In conclusion, the model of a network of intermediaries of the Vietnamese STM has been proposed with network components including science and technology intermediaries, and interconnections. The vertical relationship represents the management and direction relationship between the upper and lower intermediate organizations. At the same time, this relationship also includes relations of cooperation, connection and support between intermediary organizations at different levels. At each level, horizontal linkages between intermediaries are established, demonstrating a relationship of cooperation and support, connecting science and technology mediation in science and technology transfer projects. technology, innovation and application of science and technology in certain enterprises, industries and localities. The proposed model of a science and technology intermediary organization network is the basis for perfecting the intermediary organization system in terms of selecting key members to join the network, proposing mechanisms and policies to promote push participation, solutions to link space organizations and solutions to connect and share databases among intermediaries in the Vietnamese STM.

This research, as other studies, has some limitations. Firstly, the results are based on opinions from representatives of a small number of organizations and business. Secondly, the research used in-depth interview in collecting data which might be different from focus group interviewing in this case. Future research should develop the model by collecting data from a big sample and using focus group interviewing.

5. References

1. Bich N. (2018), ‘Cò’ công nghệ thời 4.0, https://vnexpress.net/khoa-hoc/co-cong-nghe-thoi-4-0-3760812.html

2. Caloffi A., F. Rossi and M. Russo (2015), “The emergence of intermediary organizations: a network-based approach to the design of innovation policies” in Cairney P. and R. Gyer (eds.) Handbook on Complexity and Public Policy, Cheltenham: Edward Elgar

3. Doan X. H., et al. (2020), Rationale and some proposals to promote the role of intermediaries in the science and technology market in Vietnam, Proceedings National Scientific Conference The role of intermediaries in Vietnam's science and technology market in the context of industrial revolution 4.0, National Economics University Publishing.

4. Government, (2020) Decree No. 94/2020 / ND-CP Providing preferential mechanisms and policies for the Government's National Innovation Center, issued on August 21, 2020, http://vanban.chinhphu.vn/portal/page/portal/chinhphu/hethongvanban

5. Government (2017), Decree No. 68/2017 / ND-CP on management and development of industrial clusters, issued on 25/5/2017, http://vanban.chinhphu.vn/portal/page / portal /

6. Government (2020) Decree No. 47/2020 / ND-CP Management, connection and sharing of digital data issued by state agencies on April 9, 2020

7. Government, (2015) Decree No. 15/2015 / ND-CP on investment in the form of public private partnerships, dated May 14, 2015, https://thuvienphapluat.vn/van-ban/ Investment

8. Hargadon, A. & R. Sutton (1997), 'Technology brokering and innovation in a product development firm', Administrative Science Quarterly, 42 (4), 716–49.

9. Le Nguyen D. Kh., (2015), "Analyzing the current situation and assessing the need to participate in the technology business incubator of Can Tho University," Journal of Science, Can Tho University, Part D: Science Politics, Economy and Law: 38 (2015): 83-90, https://sj.ctu.edu.vn

10. Le T. T. et al. (2020), "Identification of science and technology market intermediaries in Vietnam", Proceedings of the National Scientific Conference, The role of market intermediaries Vietnam School of Science and Technology in the context of Industrial Revolution 4.0, National Economics University Publishing.

11. Lopez-Vega, H., & Vanhaverbeke, W. (2009). "Connecting open and closed innovation markets: A typology of intermediaries," https://www.researchgate.net/publication/

12. Lynn, L.H., N.M. Reddy and J.D. Aram (1996), 'Linking technology and institutions: the innovation community framework', Research Policy, 25 (1), 91–106

13. MOST, (2014), Circular No. 16/2014 / TT-BKHCN Regulating conditions for the establishment and operation of intermediaries of science and technology market, issued on June 13, 2014

14. MOST,(2018), Report on the application of science and technology of provinces&cities

15. MOST, (2020), Statistics of Science and Technology Intermediary Organizations (updated to 31/12/2018)

16. National Science and Technology Database Center, MOST, https://vista.gov.vn/about/trung-tam-co-so-du-lieu-quoc-gia-ve-science-and-science-listening.html

17. Nguyen T. M. L. & Nguyen T. K. C. (2020), "Advantages and disadvantages in the development of science and technology intermediaries in the food and beverage industry," Proceedings of the National Scientific Conference "Policy solutions to support the development of intermediaries in the Vietnamese science and technology market", National Economics University Publishing.

18. Pham T. T. L. (2020), “Development of intermediaries in the Vietnamese science and technology market,” Proceedings of the National Scientific Conference “Policy solutions to support the development of intermediaries in the Vietnamese science and technology market”, National Economics University Publishing House

19. Pham X. Ph. (2020), Evaluation of operation of technology exchanges, Proceedings of National Science Conference “The role of intermediaries in the Vietnamese science and technology market in the context of Industrial Revolution 4.0”, National Economics University Publishing.

20. Science and Technology Media Research and Development Center (2019) Technology market development: the need for a closer connection between public exchange

21. Shohert, S. and M. Prevezer (1996), ‘UK biotechnology: institutional linkages, technology transfer and the role of intermediaries', R&D Management, 26 (3), 283–98

22. Stankiewicz, R. (1995), 'The role of the science and technology infrastructure in the development and diffusion of industrial automation in Sweden', in B. Carlsson (ed.), Technological Systems and Economic Performance: The Case of Factory Automation, Dordrecht: Kluwer, pp.165–210.

23. Tran V. T. (2018), National technology exchange model in the industrial revolution 4.0, https://tamnhin.net.vn/mo-hinh-san-giao-dich-cong-nghe- country-in-the-old-country-to-the-industry-40-9091.html

24. Vu M. D. (2020), “Identifying technology science intermediary services in wood industry: The view point of insiders”, Conference Proceeding International Conference on Contemporary Issues in Economics, Management and Business, Nov 18th - 19th Hanoi- Vietnam, Finance Publishing.

25. Vu T. T. & Le H. T. (2020), “Current status of science and technology intermediaries in the road construction industry”, Proceedings of the National Science Conference “Policy solutions to support development of teams an intermediary in the Vietnamese science and technology market”, National Economics University Publishing.

26. Watkins, D. and G. Horley (1986), ‘Transferring technology from large to small firms: the role of intermediaries’, in T. Webb, T. Quince and D. Watkins (eds), Small Business

TRAINING THE AGRICULTURAL HUMAN RESOURCES IN HANOI CITY IN THE CONTEXT OF THE FOURTH INDUSTRIAL REVOLUTION

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Abstract

In the economic structure of Hanoi city, although the productive value of the agricultural sector is not high, but it plays a very important role in agricultural development. This is the strategic foundation that contributing to the successful achievements of the industrial and modern process in Hanoi capital. At present, the context of globalization and international integration is going on over the world, especially the effects of the fourth industrial revolution have gotten both many chances and challenges in Hanoi agriculture. Actually, the evolution of this revolution has brought about a deep change in current background. Therefore, managers need to establish the overall solutions to promote Hanoi's agriculture to develop comprehensively follow the modern direction and the sustainable development. Therein, training human resources in agricultural sector plays the essential and urgent role. This article generalizes about the state of agricultural production; analyzing and clarifying the current situation of training the agricultural human resources in Hanoi city. Thence, proposing a number of recommendations to improve the quality of training of agricultural human resources in Hanoi city to meet the requirements of the Fourth Industrial Revolution.

Keywords: *Training, human resources, agriculture, Hanoi, the Fourth Industrial Revolution.*

1. Introduction

Hanoi is a special urban area of the country, but agriculture still plays a very significant role.It is the strategic foundation contribute to ensuring food security, maintaining socio-political stability, preserving and promoting cultural characteristics; creatingthe chances of employment and protecting the ecological environment. Hanoi is the largest central city in the country since the merge of Ha Tay province, the natural area of Hanoi city is 3,328.89km2. It consists of 12urban districts, 17 rural districts and 1 district-leveled town, therein the suburban agricultural and rural areas account about 60 percent of the population and 50 percent of the city's workforce.

Hanoi city’s Party and people are profoundly aware of the role of agriculture in the industrialization and modernization, so Hanoi city’sleadershaveproposed many guidelines and policies for agricultural and rural development and achieved the important results in recent years. However, Hanoi city's agriculture is also coping with many difficulties and challenges in the current context,such as: rate of the rapid urbanization lead to the area of agricultural production to shrink and fragmentation; applyingthe high technology to production is limited; productivity and quality of agricultural products are low; polluting theecosystems; the change of climate and epidemics impacted more complexly and seriously; the quality of agricultural and rural human resources is limited, the shortage of employment and the proportion of unemployment of rural workers are increasing; the quality of life and income of thesuburban Hanoi's people are still slow. Therefore, Hanoi City needs to combine the numerous elements to establish and develop a modern agriculture and civilized rurality in the context of the Fourth Industrial Revolution, therein training the high-quality human resources play the first essential role in a strategy of agricultural development.

2. Methods

The article used anoverall and comprehensive approach to collect and summarizethe last studies and reports that related to this topic. The source of the secondary data was used such as: Decisions, Reports and Projects of the Hanoi City Party Committee, The Hanoi municipal People's Committee, Department of Agriculture and Rural Development; Hanoi Department of Statistics. Besides, databases also were collected via the internet, newspapers, magazines ... as a basis for analyzing the state of agriculture and agricultural and rural human resources in Hanoi at present.

3. Results

3.1. Some of generalizations about agriculture in Hanoi at present

In recent years, Hanoi agriculture has achieved the important results contribute to the economic growth of the whole city. Agricultural production has gained the significant achievements, the value of production has continuously increased over the years. According to the report of The Hanoi municipal People's Committee, the total value of agricultural, forestry and fishery production in 2018 reached 35,959 billion VND (compare in 2010) increasingabout 13.08% compare in 2014. Growth rate of value added in agriculture in the period of 2014-2018 has increased on average about 2.32%, the growth in the value of agricultural, forestry and fishery production were 3.35%, wherein the cultivation,livestock and aquaculture were 2.4%, 4% and 6.06% respectively[18]. Moreover, many co-operative models and productive teams were formed and promoted effects thatcontributed to the development of suburban agriculture to meet the new requirements at present.

[18]*Ha Noi Department of Agriculture and RuralDevelopment (2018),* Results of the performance of tasks in *2017,*tasks and solutions*in 2018, Hanoi.*

The structure of agricultural production has transferred follow the positive direction that has formed many areas of the concentrated agricultural production contribute to improvethe high economic efficiency such as high-quality rice areas, fruit trees areas, livestock breeding areas and aquaculture areas. Some of the specific methods have been conducted, such as: promoting the conversion of inefficient rice land to other crops for higher economic efficiency, the value increased from 3 to 8 times compared to rice cultivation; building about 101 the concentrated productive areas of safe vegetable with a scale of over 20 hectares harvest about 400 - 500 million VND/ha /year of the productive value; developing about 50 productive areas of flower harvest about 0.5 - 1.5 billion VND/ha/year etc. Moreover, Hanoi city has built about 15 large-scale concentrated livestock areas outside residential areas that a value gained about 1-2 billion VND/ha/year; building about 12 collective brands for agricultural products... At the same time, the material and spiritual life of people is constantly improving, the income of people in rural areas reaches over 38 million VND/person/ year, increasing about 58.3% (compared in 2014).

However, the scale and growth rate of agriculture in Hanoi are not appropriate with the potential and strengths reality; it has not met the needs of the internal city and external provinces. The quality of Hanoi's agricultural growth is still low because the infrastructure of agricultural production are still small and fragmented units, so gaining the low efficiency. The state of small scale andbackward technology lead toHanoi’s facilities of the agricultural process have not linked between production and processing. Some essential services are limited (organizing the consumption of products, preserving and processing of agriculture, sylviculture and aquiculture etc.); sharing of responsibilities and benefits between agricultural provider and producer has not gained the high efficiency which affected negatively to Hanoi agricultural development.On the other hand, transferring of the agricultural economic restructuring in Hanoi is still slow. Both of the productivity and quality of food products are not high, safety and hygienic, so it has not met the needs of the Hanoi’s people. The forms of productive organizations have achieved initially the successes but many activities have not gained the positiveachievements, especially the co-operatives models with small scale and lack of government funds.

In brief, the above findings identify importance of the requirements of sustainable agricultural development, but the transference of Hanoi’s agricultural structure is still not really suitable and appropriate with Hanoi capital’s potential and advantages.

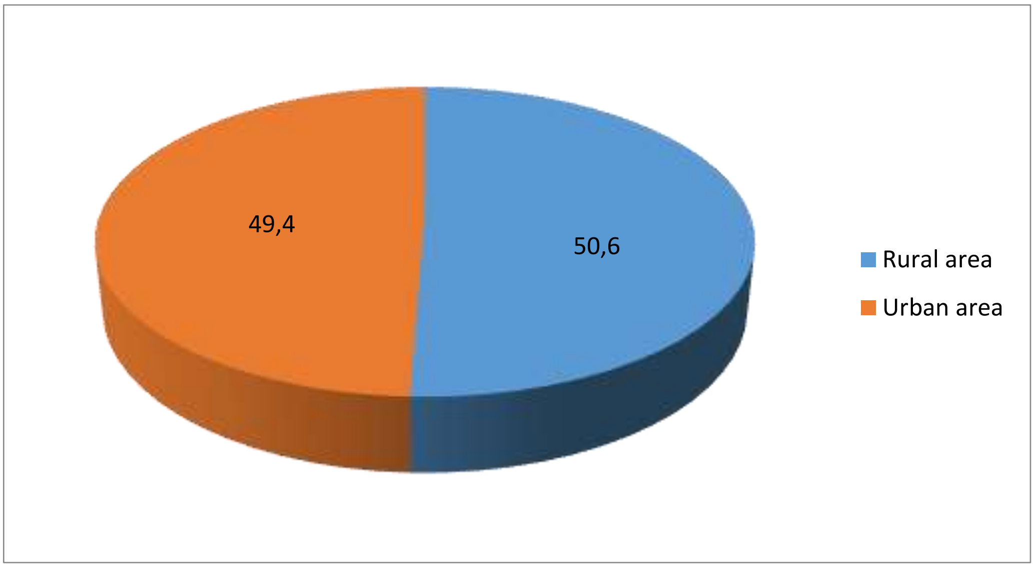
3.2. The state of training human resources inagriculture in Hanoi City at present.

According to the Hanoi Statistical Year-book, Hanoi’s the average population was estimatedat 8,093.9 thousand inhabitants in 2019, increasingabout 179.4 thousand inhabitants that was equivalent to 2.3% (compared withresult in 2018). Therein, the urban population is

4,000.3 thousand inhabitants that was equivalent to 49.4%; the population of rural areas is 4,093.6 thousand inhabitants that was equivalent to 50.6% of population in the entire city.

Table 1: The average population of Hanoi city in 2019

Unit of measurement: %



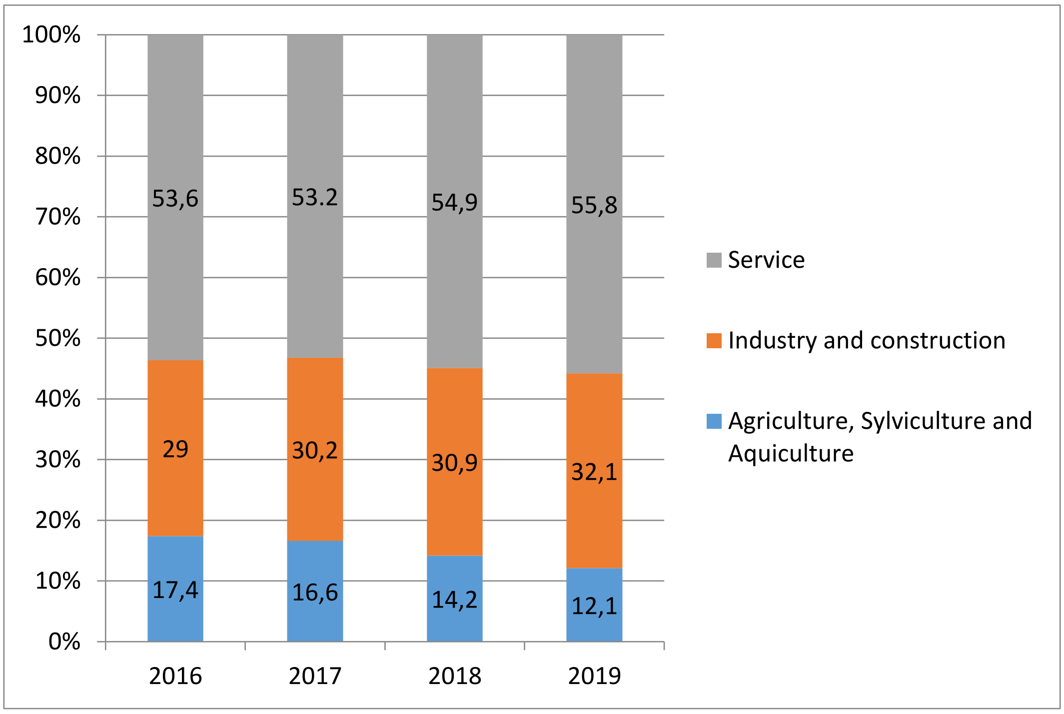
(Source: Hanoi City Statistical Year-book 2019)

In 2019, Hanoi's workforce (age of 15 years and above) was 4,122 thousand people (accounting for 50.9% of the population), therein, the labor force in Hanoi’s rural areas accounted for 51.6% compare with the labor force in whole city. Rural workforcesfrom age of 15 years and abovethat are working in the economic sectors in 2019 were 2,247 thousand people that was equivalent to 55.5% of the total number of workers fromage of 15 years and above[19]. The state of above population found that Hanoi's agricultural and rural areas are place where have theabundant human resources for socio-economic development in general and agriculture in particular. However, the process of industrialization and modernization create many opportunitiesfor employment, incomes and living conditions. These lead to increase the proportion of migrants from suburban areas and other provinces into Hanoi city that createthe serious pressure for Hanoi capital ’s the socio-economic development.

[19]Hanoi Bureau of Statistics (2019), *Hanoi Statistical Yearbook 2019,* Hanoi.

Table 2: Labor structure distribute on economic sector of Hanoi city for the period 2016-2019

Unit of measurement: %



(Source: Hanoi City Statistical Yearbook in 2016, 2017, 2018, 2019)

The labor structure of Hanoi city is transferring towards reducing the proportion of labor in the agricultural sector, increasing the proportion of labor in industry, construction and services. Currently, the labor structure distributed towards the economic sector, the proportion of agricultural labor was 12.1%, the proportion of industrial - constructional labor was 32.1% and the proportion of service labor was 55.8% in 2019.

Table 3: Percentage of employees from age of 15 years and above working in economicsector that trained in the period 2015-2019

Unit of measurement: %

Year	Total	Urban	Rural
2015	53.2	68.5	36.7
2016	56.9	71.9	40.2
2017	60.7	75.6	44.3
2018	63.2	76.2	47.2
2019	67.5	79.6	54.8

(Source: Hanoi city Statistical Yearbook in 2019)

Results of table 3 revealed that the quality of labor resources in Hanoi's the agricultural and rural areas of is gradually being raised. In 2015, the proportion of workers thattrained from the training facilities in all level (primary workers, vocational skills, vocational certificates under 3 months) only reached 36.7%, but this proportion of workers was 54.8% that increasingapproximately 18.1% in2019. However, the proportion of employees that have the agriculture's technical qualifications is still low when people compared to the labor market's needs.

Surveying from state of vocational training and creating chances of employment for rural employees are still limited, especially lack of employment in places where agricultural land is recovered for other purposes, the unemployment rate in rural areas was 1.4%, number of people lack of employment was 0.3%. Most of Hanoi employees still have a picky mentality in choosing their employment and income. The proportion of the sustainable employments increases slowly, the part -time and temporary employment is quite highand theincrease of young workforce tends to go away the agriculture and rural areas.

The process of industrialization, modernization and urbanizationnot only createsthehug demandsabout labor but also improve the productivity of agricultural laborthat led to the number of workers of this industry transfer to non-agricultural industries more and more. The limitations of the qualifications of agricultural workers in Hanoi directly obstructed to the transition and application of achievements of modern science and technology into production.

At present, in the context of globalization and international integration, especially the development of the fourth industrial revolution, it is necessary to have policies that create the chances for employment. Besides, managers also need to have the specific strategies in restructuring the agricultural workforce such as reducing the proportion of simpleworkforces, increasing the proportion of professional workforces who have certificated fromthe universities and colleges.

In recent years,perceiving precisely about the importance of training to improve the quality of human resources,Hanoi city is interested in the occupationaltraining for agricultural and rural human resources. Hanoi City's Party Committee grasped thoroughly and implemented the Prime Minister's Decision No. 1956/QD-TTg, 27 November 2009about the project "Occupational training for rural workers to 2020". Therefore, focusing on occupational training meet the demand of local human resources is themissionand vision of Hanoi's Party and people in next years. At the same time, implementing the programs and objectives build the new rural areas; the projects and plans about socio-economic development will be adjusted flexibly base on the reality of each locality.

Since 2010 to present, the whole city has opened over 6,000 classes about occupational training for nearly 220,000 rural workers. Completing many long and short training courses, over 80% of rural workers have had employment or they are working the old occupation but they have achievedthe higher productivity and quality. This result contributes to increase the proportion of trained workers in the city from 34.8% (results in 2010) to 70.2% in 2020.

However, the implemental process of the project also revealed many limitations. In some places, the organization of training is still formal without associated between training and the social needs; the effectiveness of these programs is not high and appropriate with the investment.

The high rate of workers who have not trained, the number of trained workers is a low level, while lack ofthe professional workers who can meet the requirements of modern agricultural production. In addition, the system of occupational training institutions and resource of professional teachers is also limited. Therefore, Hanoi City needs to have the effective solutions improve the quality of human resource training for agriculture and rural areas at present.

3.3. Some recommendationsimprove the quality of training for agricultural human resources in Hanoi City at present

First, Hanoi City needs to establishing overall plan, finalizing the mechanisms and policieson training human resourcesfor agriculturean druralareas. Training human resources is an important and long-termstrategy, itmusthavealong-termvisionand the appro priateguidelines. The system of mechanisms and policies play savery important role impact directly orindirectlyto the training and development of agriculturalandrural human resources. Training must be associated with appropriate use and remuneration that create motivation for agriculturalandrural human resources to develop comprehensively. In fact, many new mechanisms and policies have a positive impact on the quality of the agricultural and rural human resourcestraining. However, there are many limitations in the implemental process. Therefore, it is necessary to regularly adjust, supplement and improve the mechanisms and policiesin accordance withthe impact of the fourth industrial revolution, facilitating the training of agricultural and rural human resources.

Second, innovating the contents, programs and methods of training agricultural and rural human resources in accordance with the context of the fourth industrial revolution. Focusing on investing in material facilities, advanced documentsabout agriculture and rurality in the world. Especially, improving abilityofforeign language and soft skills, applyingabout information technology in teaching and educational management. Expanding international cooperation to approach science and technology shorten the duration of internationalintegration.

Third, coordinating closely with the agricultural universities and colleges to link training andtransferringthe agriculturalknowledge to farmers. The training institutions should organize regularlythe practical sessions improve practical knowledge, so that learners will propagate their knowledge to farmers increase the effect of agricultural production. Therefore, managers need to increasethe investable funds in education and vocational guidance from high school in rural areas and establish the favorable conditions to attract the professional and enthusiasticteachers for agriculture and rural areas.

Fourth, solving employment for workforce in rural areas. It is necessary to transfer restructuring of rural economy and developing infrastructure. Besides,promotingthe local advantages to develop tourism and trade to transfer the economic structure follows the modern way, diversifying the production and business forms. Increasing the support for farmers about fund, knowledgeabout market and integration so that farmers can produce items according to the needs of the market promote the production of goods.

Fifth, promoting the generalpower of organizations and forces for the training of agricultural and rural human resources. Training and development of human resources in general, agricultural and rural human resources in particular. This is an important mission of the whole political system in Hanoi capital's all levels, branches and people. Therefore, it is necessary to promote the role of many subjects, creating a general power for the training of agricultural and rural human resources.

Sixth, regularly evaluating, summarizing and replicatingthe advanced models in accordance with the transfer of technical advances in agricultural production. At the same time, investigating about the training programs at training institutions thatare suitable forpracticalproduction. This result will support to adjust the training program in accordance with the requirements of modern agricultural production.

4. Discussion and Conclusion

Currently, the fourth industrial revolution is going on strongly andopening up huge developmental opportunities for all of sectors, especially socio-economic domain. For agriculture, this is a specific domain that was affected by this revolution, it will gradually transfer from traditional agriculture to hightechnology and smart agriculture. Therefore, managers have to have the special strategies to improve the quality of training of human resources to adapt and get the best opportunities from the Fourth Revolution. Accordingly, Hanoi city needs to improve the system of mechanisms and policies for the training of this human resource; the training institutions need to innovate programs, contents and methods in accordance with the requirements of the Fourth Industrial Revolution. At the same time, promoting the role of organizations and forces that participate in the training of agricultural and rural human resources contribute to improve the quality and efficiency.

5. References

1. Hanoi Bureau of Statistics (2019), *Hanoi Statistical Yearbook 2019,* Hanoi.
2. Do Huy Ha (2019), Agricultural economic restructuring in Hanoi:Contents that need to focus on breakthroughs https://www.tapchicongthuong.vn/bai-viet/co-cau-lai-kinh-te-nong-nghiep-tren-dia-ban-thanh-pho-ha-noi-nhung-noi-dung-can-tap-trung-dot-pha-67224.htm.
3. Nguyen Hong Nhung (2017), Solving the employment for rural workers, http://tapchimattran.vn/kinh-te/giai-quyet-viec-lam-cho-lao-dong-o-nong-thon 5921 .html.
4. Hanoi Department of Agriculture and Rural Development (2018), *Results of performance of tasks in 2017, the main tasks and solutions in 2018,* Hanoi.
5. Hanoi Party Committee (2016), *Program No. 02-CTr/TU about agricultural development, constructing the new rural areas, improving the life of farmers in the period 2016 – 2020, April 26, 2016,* Hanoi.
6. Prime Minister (2009), *Decision No. 1956/QD-TTg about the project "Occupational training for rural workers to 2020",* November 27, 2009, Hanoi.

PROMOTING THE DOMESTIC PRIVATE ENTERPRISES IN THE NORTH CENTRAL REGION: THE CURRENT SITUATION AND PROBLEMS

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Abstract

Based on Barney's Resource-Based Theory of the firm and uses data on enterprises from official sources provided by the General Statistics Office namely annual enterprise survey data (period 2011-2018), the Provincial Competitiveness Index (PCI) by VCCI Vietnam, this article analyzes and clarifies the current situation of enterprise development of domestic private enterprises in the North Central region focusing on the following indicators and criteria: number of enterprises, structure enterprises by geographical areas, fields, capital and employment size; business efficiency via ROA and ROE targets; PCI index. Thereby highlighting the hindrances, limitations, and problems of enterprises in the domestic private sector in the North Central region and proposing suitable solutions in the years to come.

Keywords: *Enterprise, private economy, North Central Region, efficient operation*

1. Introduction

Since the 6th National Congress (1986), with comprehensive reforms, the Congress has set out policies for multi-sector economic development. After the 7th (1991), the 8th (1996), the 9th (2001), the 10th (2006), the 11th (2011), and especially the 12th National Congress (2016), our Party determined "The private economy is an important driving force of the economy". This is an important step in the Party's awareness regarding the position of the private economy in Doi Moi period, from recognizing private sectors to creating conditions for the development of the private economy. And after 35 years of innovating, the private economy has made great contributions to socio-economic development and brought about remarkable success. The private economy quickly affirmed its position and role in each stage of the country's development. The private sector accounted for the largest

GDP share during the period 1995-2017, ranging from 38-43%. However, in recent years, the proportion has decreased, from 43% (1995), to 39% (2010) and 38% (2017).

However, in Resolution No. 10 - NQ/TW of the 12th Central Committee of the Party, it was pointed out that "the private economy has not yet met its role as an important driving force of the economy" and the private sector is also facing many difficulties and limitations. Therefore, a proper assessment of the current situation, influencing factors, and problems on the development of the private sector, with a focus on domestic enterprises, from which to make recommendations on policies and solutions are needed. And development issues of the private sector need to be considered and evaluated for each economic region or specific localities.

The North Central Region is one of the seven economic regions of Vietnam, an important connection point in the strategic development axis of the Vietnamese economy, and a bridge between the key economic regions of the North as well as the South, an area linking Vietnam with Laos and Cambodia. The North Central Region consists of 6 provinces: Thanh Hoa, Nghe An, Ha Tinh, Quang Binh, Quang Tri and Thua Thien Hue; with an area of 51.5 thousand km2 (16.5% of the whole country), a population of 10.6 million people (15% of the whole country). However, the proportion of enterprises to the total population of the region is only 5.5%, illustrating that the development level of enterprises in this area is only 1/3 of the national average. Even though the number of enterprises compared to the whole country is modest, the natural resources of this area are quite diverse, rich, and outstanding in terms of sea, islands, deep-water bays, hills, lakes, waterfalls, cultural and historical heritages, border, etc., these are favorable conditions for the development of a general economy with many key industries such as tourism, health care, education, manufacturing, and organic agriculture. The North Central economic region has had many important shifts in economic structure and development orientation, which is industrial development in the direction of increasing the proportion of trade - services, together with high-tech agriculture, and forming a consumption supply chain, the industrial sector focuses on attracting high-tech production, energy development and deep processing. However, all localities have a low starting point compared to other economic regions, the quality of regional economic growth is unsustainable, insignificant, the economic restructuring remains slow, the industry is ineffective and unsustainable, the growth engine of the region is weak and unsustainable. The development institution has not been synchronized, the marine economy has not been determined based on the region's comparative advantages. Enterprises remain weak. Regional linkage, which placed the enterprises in the central position, is weak and yet to be connected.

With the potential for economic development, together with the context of integration and the era of connection and sharing, the industrial revolution 4.0, to develop the North Central Region sustainably, the participation of many economic sectors, including the core role of enterprises in the private sector is required. Therefore, assessing the situation of enterprise development in the domestic private sector in association with the sustainable economic development of the North Central Region, finding out the bottlenecks and problems from which to propose solutions are: meaningful, necessary, and is the purpose of the article.

Theoretical framework

The theoretical foundation used in this study is Barney's Resource-Based Theory. According to the resource-based theory of the firm (RBF), the birth and development of firms are explained through the question of how the firm generates resources, including: (i) Physical resources; (ii) Human resources; and (iii) Organizational resources. In RBF theory, the determinants of business development include: i) Valuable; ii) Rare; iii) Difficult to imitate.

Enterprise development is affected by internal factors such as existing resources (physical resources, human resources, organizational resources) and this is proven by the research of Barney and his partners (Barney, 1991; Barney et al., 2007, 2011). In addition, enterprise development is affected by external factors such as guidelines and policies of the Party, the State, economic regions, production organization factors, market factors, capital, ... this is proven in the studies of Garofoli (1994), Mathew Philip (2010), Sharmilee Sitharam, Muhammad Hoque (2016) …

In fact, the enterprise development level of the whole country and each locality is assessed through a set of indicators namely: the number of enterprises; labor development level; investment and finance attractiveness; investment and development of science and technology; business strategies, market development, brand building; environmental protection; results and efficiency of business development (revenue, income of employees, added value, profit, budget contribution ...) (In Decision 1255/QD-TTg dated September 26, 2018) of the Prime Minister). The level of enterprise development has an impact on the socio-economic development of each locality, region, and the whole economy.

In addition, the article also uses several arguments of institutional economics, which emphasizes the role of the institutional environment in the development of enterprises in general and private enterprises in particular.

Literature review

There are many different theories explaining the birth and development of firms. Popular studies explaining the birth and development of firms include approaches from behavioral and management perspectives (Baumol, W., 1959; 1962; Williamson, O., 1967), from a modern organizational perspective (Tirole, J., 1988), from the perspective of property rights (Williamson, O., 2002; 2009), and most recently, the work of Barney, J. B. (1991) and the studies that followed Barney's were approached from the perspective of mobilization and use of resources (Resource-based Theory of the Firm). Such resources can be divided into three groups: (i) Physical resources (inheriting Williamson, O. 1975); (ii) Human resources (inheriting Becker, 1964); (iii) Organizational resources (inheriting Tomer, 1987). Such physical resources includes: “machinery, plant, production site and access to raw materials (inputs of production)”. The studies of Darroch (2005), Mathew Philip (2010), Sharmilee Sitharam, Muhammad Hoque (2016) focused on internal and external factors affecting the development of private sector enterprises.

Vietnamese studies such as Nguyen Thien Phong (2007); Nguyen Quang Thai, Vu Hung Cuong et al (2010, 2016); Nguyen Xuan Khoat (2010); Nguyen Tu Anh et al (2015); Quan Minh Nhut et al (2009, 2012) focused on studying the current situation and analyzing the contribution role on some specific aspects of firm development in private sector, thereby pointing out the external barriers and internal limitations of private sector enterprises.

However, research on the development of domestic private sector enterprises in the North Central Region has not been studied and discussed in depth in previous studies. This research focused on determining the quantitative and qualitative indicators of firm development, determining the influencing factors, thereby finding the hindrances and bottlenecks in the development of domestic private enterprises in the North Central Region.

Research objectives: On the basis of research on the theory of resource-based enterprises, the study clarifies the current development state of domestic private enterprises in North Central region, highlights the hindrances, limitations, and problems of enterprises in the domestic private sector in the North Central region. Thereby, proposing suitable solutions.

2. Method

The article uses data on enterprises and business environment from official sources provided by the General Statistics Office namely annual enterprise survey data (period 2011-2018), national statistical yearbook, provincial statistical yearbook, to sketch a picture of the enterprise development in the North Central Region based on the theoretical framework presented above. In addition, the article uses the Provincial Competitiveness Index (PCI) by VCCI Vietnam. Calculation of indicators to evaluate the development of enterprises is done using the set of criteria approved in Decision 1255/QD-TTg dated September 26, 2018.

Statistical analysis is the main method used in the article in the statement of problem. Besides, comparative and synthetic analyzes are used interlaced to clarify the limitations and problems in the development state of domestic private enterprises in the North Central region.

Scope of study:

- Research subjects: Within the framework of this study, the research team classified the economic sectors by ownership including the public sector and the private sector, in which the private sector consists of the domestic private sector – also known as the non-state sector (including collective economy, individual economy, private economy) and foreign direct investment (FDI) sector.

- Research content: analyzing the current situation of enterprise development focusing on the following indicators and criteria: the number of enterprises, the structure of enterprises by geographical areas, fields, capital and employment size; business efficiency via ROA and ROE targets.

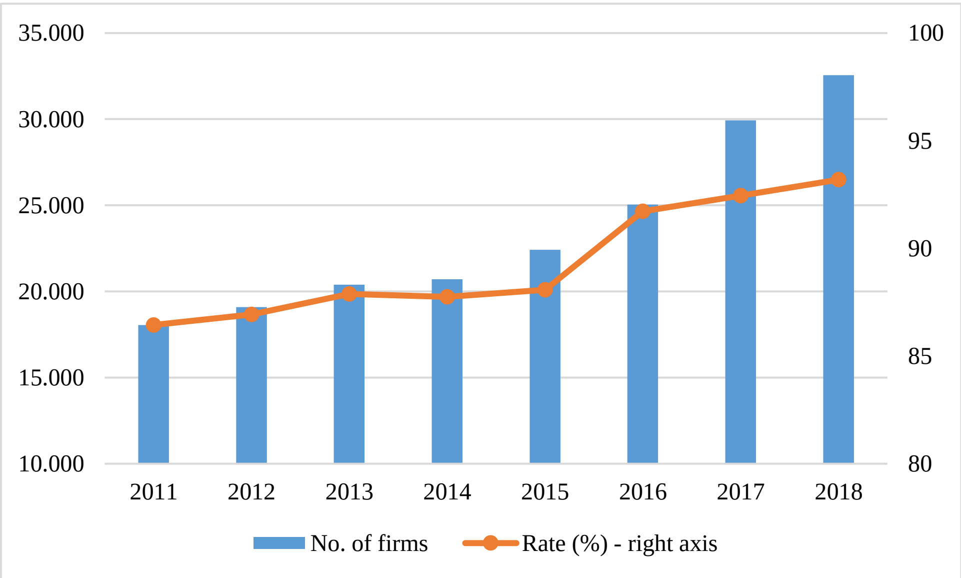
- Time: the 2011-2018 period

- Space: 6 provinces in the North Central Coast (Thanh Hoa, Nghe An, Ha Tinh, Quang Binh, Quang Tri, Thua Thien Hue)

3. Results

Firstly: The number of domestic private enterprises in the North Central region is increasing, accounting for a large proportion of the total number of active enterprises, but remains unbalanced in terms of location, size, and fields.

Figure 1. Number of domestic private enterprises in the North Central region in the period 2011-2018



Source: Calculation from the enterprise survey data collected between 2011 and 2018 by General Statistics Office

Calculation results from the enterprise survey data set period 2011-2018 show that enterprises in the domestic private sector are the core force with overwhelming numbers, accounting for more than 85% of the total number of active enterprises in the North Central region (2018), with an increasing proportion and by the end of 2018, this sector accounted for more than 93% of total enterprises. If including cooperatives and unions of cooperatives, domestic private enterprises account for more than 98% of the total number of active enterprises in the North Central provinces.

In terms of absolute number, in the period 2011-2018, the number of domestic private enterprises increased rapidly with an average rate of 9%/year from 18.059 enterprises (2011) to 32.555 enterprises (2018).

Considering each locality in the region, Nghe An has the largest number of domestic private enterprises in the region with 9.894 enterprises (2018) - accounting for more than 30% of the total number of private enterprises in the region. Next is Thanh Hoa with 9.552 enterprises, accounting for 29% of the total. Quang Tri is the province with the lowest number of enterprises in the region, accounting for only 6,8% (details in Table 1). Thus, it shows that private sector enterprises focus on provinces with favorable development conditions, the uneven development situation among provinces creates an imbalance in resource allocation and a development gap among provinces in the region.

Table 1. Number of active domestic private enterprises by provinces in the North Central region 2011-2018

Year	Thanh Hoa	Nghe An	Ha Tinh	Quang Binh	Quang Tri	TT. Hue
2011	4.447	4.967	1.981	2.103	1.548	3.013
2012	4.669	5.347	2.188	2.212	1.749	2.927
2013	5.128	5.628	2.364	2.262	1.969	3.037
2014	5.203	5.732	2.555	2.392	1.895	2.935
2015	5.570	6.384	2.929	2.601	2.000	2.941
2016	6.613	7.456	2.943	2.727	2.060	3.250
2017	8.494	8.800	3.652	3.250	2.190	3.552
2018	9.552	9.894	3.926	3.305	2.217	3.661

Source: Calculation from the enterprise survey data collected between 2011 and 2018 by General Statistics Office

Regarding the structure of enterprises by size, economic sector, and type: Calculation results show that the majority of domestic private enterprises in the region are micro and small-sized enterprises, accounting for 98% of the total number of active enterprises. Medium and large enterprises account for a very modest proportion and tend to decrease (Table 2). By the field of operation, the majority of private enterprises are operating in trade and services - accounting for over 62%, followed by industry and construction - accounting for about 35%. the rest are enterprises in the fields of agriculture, forestry, and fishery (Table 3). By type of enterprise, non-state limited liability company (LLC) is the most common form and accounts for an increasing proportion of figures. In the period 2011-2018, the number of limited liability companies increased from 52,1% (2011) to 64,2% (2018). Next are joint-stock enterprises (without state capital) and private companies. While the group of joint-stock companies kept the proportion at about 25% of the total number of active private sector enterprises, the proportion of private companies decreased sharply from 22,1% in 2022 to 10,6% in 2018 (Table 4).

This situation shows that the number of large enterprises in the region is too small. The problem is that there are no large enterprises to take the role of the driving force, leading, and pulling other enterprises in the region to develop. Besides, medium-sized enterprises account for a small proportion, therefore, it's difficult for them to develop into large enterprises. At the same time, they are unable to take on the role of a bridge and link with large and small-sized enterprises to create a foundation for development. This emerges as a difficulty for investment in technological innovation and participation in production value chains for businesses in the region.

Table 2. Structure of enterprises in the domestic private sector in the North Central region in the period 2011-2018 by employment size

Year	Micro-sized enterprises	Small-sized enterprises	Medium-sized enterprises	Large-sized enterprises
2011	60,8%	36,1%	1,8%	1,3%
2012	61,7%	35,2%	1,8%	1,3%
2013	63,7%	33,3%	1,7%	1,3%
2014	64,5%	32,6%	1,7%	1,2%
2015	66,1%	31,0%	1,7%	1,2%
2016	66,8%	30,4%	1,6%	1,2%
2017	71,5%	26,2%	1,3%	1,0%
2018	74,0%	24,1%	1,1%	0,9%

Source: Calculation from the enterprise survey datat collected between 2011 and 2018 by General Statistics Office

Table 3. Structure of enterprises in the domestic private sector in the North Central region between 2011 and 2018 by fields

Year	Agriculture, forestry and fisheries	Industry and construction	Service
2011	0,9	37,1	62,0
2012	1,1	37,1	61,9
2013	1,0	36,6	62,4
2014	1,1	36,8	62,1
2015	0,9	36,3	62,8
2016	1,0	34,7	64,3
2017	1,2	34,4	64,4
2018	1,6	35,5	62,9

Source: Calculation from the enterprise survey data set collected between 2011 and 2018 by General Statistics Office

Table 4. Structure of enterprises in the domestic private sector in the North Central region between 2011 and 2018 by type

Year	Joint Stock Company (NN<50%)	Joint Stock Company (NN=0%)	Partnership	Limited Liability Company	Private Company
2011	0,6%	24,5%	0,0%	52,1%	22,7%
2012	0,6%	24,3%	0,1%	53,3%	21,7%
2013	0,6%	24,4%	0,0%	54,1%	20,9%
2014	0,4%	24,8%	0,0%	55,3%	19,4%
2015	0,2%	25,4%	0,0%	57,2%	17,1%
2016	0,2%	26,3%	0,0%	58,3%	15,1%
2017	0,1%	25,1%	0,0%	62,5%	12,2%
2018	0,1%	25,0%	0,1%	64,2%	10,6%

Source: Calculation from the enterprise survey data set collected between 2011 and 2018 by General Statistics Office

Secondly: Firms in the domestic private sector in the North Central Region have a rapid increase in capital, but a decrease in the employment size.

In the period 2011-2018, firms in the domestic private sector in the North Central Region experienced rapid growth in capital of all sizes. The group of micro and small-sized enterprises had capital growth (on average) of up to 80%, while medium- and large-sized enterprises had a more modest increase of 52% and 34,6%, respectively. (Table 5).

Table 5. Average capital size of enterprises in the domestic private sector in the North Central region between 2011 and 2018 (Unit: million dong)

Period	Micro-sized enterprises	Small-sized enterprises	Medium-sized enterprises	Large-sized enterprises
2011-2014	3.068	15.025	69.871	346.852
2015-2018	5.583	27.078	106.294	466.717
Compare 2 stages	182,0%	180,2%	152,1%	134,6%

Source: Calculation from the enterprise survey data set collected between 2011 and 2018 by General Statistics Office

In terms of business fields, the agriculture, forestry, and fishery sector is the industry with the largest average capital size, followed by the industry and construction sector, meanwhile, the service sector accounts for the smallest amount of capital. In particular, the industry and construction sectors have the fastest capital growth rate. A typical industrial and construction enterprise increased its capital by 70,3% in the period 2015-2018 compared to that of the period 2011-2014. In contrast, agriculture, forestry and fishery enterprises have the slowest capital growth rate. However, in general, private enterprises have growth in capital size in all three areas. (Table 6)

Table 6. Average capital of enterprises in the domestic private sector in the North Central Region by sector

Period	Agriculture, forestry and fisheries	Industry and construction	Service
2011-2014	40.674	14.704	9.698
2015-2018	50.082	25.043	13.387
Compare 2 stages	123,1%	170,3%	138,0%

Source: Calculation from the enterprise survey data set collected between 2011 and 2018 by General Statistics Office

In terms of locality, enterprises in Nghe An have the largest average size in the region, followed by Thanh Hoa. In the period 2015-2018, the average capital size of each enterprise in Nghe An and Thanh Hoa was VND 5,6 billion and VND 5,2 billion, respectively. This is about 10% higher than that of the 2011-2014 period. In the opposite direction, Quang Tri and Thua Thien Hue are the two localities where enterprises have the smallest size in the region with an average capital of VND 3,6 billion and VND 3,9 billion respectively. (Table 7)

Table 7. Average capital size of domestic private enterprises in the period 2011-2018 by locality in the region

Year	Thanh Hoa	Nghe An	Ha Tinh	Quang Binh	Quang Tri	TT. Hue
2011-2014	4.728,4	5.066,8	4.499,4	4.425,6	3.245,1	3.366,4
2015-2018	5.213,3	5.617,7	4.902,8	4.809,3	3.650,5	3.978,0
So sánh 2 giai đoạn	110,3	110,9	109,0	108,7	112,5	118,2

Source: Calculation from the enterprise survey data set collected between 2011 and 2018 by General Statistics Office

With the above capital size, the problem is for regional enterprises to invest in technology and equipment innovation, improve production and business efficiency, which is limited due to the small investment capital. It will be difficult to develop the business force of the region.

Regarding the employment size of enterprises, in contrast to the capital size, the average number of employees of enterprises tended to decrease gradually in the period 2011-2018. Table 6 shows that the employment size of private sector enterprises has decreased at all sizes. Specifically, in the period 2011-2014, each large private sector enterprise had 214 employees, but in the period 2015-2018, there were only 154 people. Similar to the group of small and medium-sized enterprises, according to calculations from the survey data for the period 2015-2018, there were only 81% and 64% of employees compared to that of the previous period (Table 8).

Table 8. Average labor size of enterprises in the domestic private sector in the North Central region in the period 2011-2018

Unit: mil. VND

Period	Small-sized enterprises	Medium-sized enterprises	Large-sized enterprises
2011-2014	14	102	214
2015-2018	11	65	154
Compare 2 stages	81%	64%	72%

Source: Calculation from the enterprise survey data set collected between 2011 and 2018 by General Statistics Office

Thirdly: The production and business efficiency of domestic private enterprises is much lower than that of SOEs and FDI enterprises in the North Central Region.

Limited capital and employment size compared to state-owned enterprises and FDI enterprises make the revenue of domestic private enterprises significantly lower. In the period 2015-2018, each domestic private sector enterprise in the North Central Region achieved an average revenue of VND 14,4 billion, an increase of more than 19% compared to the 2011-2014 period. However, this is much lower than the 39% increase of SOEs and 68% of FDI enterprises (Table 9).

Table 9. Average revenue of enterprises in the North Central Region in the period 2011-2018 by ownership

Period	**State enterprises**	**Domestic private enterprises**	**FDI enterprises**
2011-2014	222.330	12.065	283.086
2015-2018	309.077	14.405	475.780
Compare 2 stages	139%	119%	168%

Source: Calculation from the enterprise survey data set collected between 2011 and 2018 by General Statistics Office

Capital size is a major factor affecting the business results of domestic private enterprises. Table 10 shows that, while large enterprises tend to increase, small and medium-sized enterprises have a decrease in revenue.

Table 10. Average revenue of enterprises in the domestic private sector in the North Central Region in the period 2011-2018 by capital size

Period	Small enterprises	Medium-sized enterprises	Large enterprises
2011-2014	5.751	62.469	264.269
2015-2018	5.499	54.050	287.223
Compare 2 stages	96	87	109

Source: Calculation from the enterprise survey data set collected between 2011 and 2018 by General Statistics Office

Evaluating the performance of enterprises based on two indicators, return on total assets (ROA) and return on equity (ROE), shows that domestic private enterprises are much worse than SOEs. and FDI enterprises in the period 2011-2014; In the period 2015-2018, domestic private enterprises still did not have an improvement in efficiency index. However in the same period, while SOEs and FDI experienced a sharp decline in ROA and ROE, the results of domestic private enterprises are positive. (Table 11)

Table 11. Return on total assets (ROA), on equity (ROE) of enterprises in the domestic private sector in the North Central region

Index	Period	2011-2014	2015-2018
ROA	SOEs	0,013	0,006
	Private enterprise	0,002	0,002
	FDI	0,018	-0,012
ROE	SOEs	0,029	0,018
	Private enterprise	0,006	0,005
	FDI	0,027	-0,031

Source: Calculation from the enterprise survey data set collected between 2011 and 2018 by General Statistics Office

In terms of localities, Nghe An and Thua Thien Hue are the two provinces where businesses operate more efficiently in the period 2015-2018 than in the period 2011-2014. In the opposite direction, Ha Tinh, Thanh Hoa, Quang Binh and Quang Tri are the localities where the efficiency of enterprises decreases (Table 12).

Table 12. Return on assets (ROA) and equity (ROE) ratios of domestic private enterprises in the North Central region by location

Province	ROA		ROE	
	2011-2014	2015-2018	2011-2014	2015-2018
Thanh Hoa	0,005	0	0,012	0
Nghe An	-0,002	0,006	-0,005	0,019
Ha Tinh	0,005	0,001	0,013	0,001
Quang Binh	0	-0,008	0	-0,026
Quang Tri	0,006	-0,002	0,017	-0,006
Thua Thien Hue	0,005	0,006	0,012	0,017

Source: Calculation from the enterprise survey data set collected between 2011 and 2018 by General Statistics Office

In terms of fields, agriculture, forestry and fishery; industry and construction have better profitability in the period 2011-2018, while the service industry has the opposite trend. Specifically: ROE for agriculture in the period 2011-2014 is -0,119, for the period 2015-2018 is 0,032, ROE for the construction industry in the period 2011-2014 is 0,009, in the period 2015-2018 is 0,012, and ROE in the field service period 2011-2014 is 0,012, in the period 2015-2018 is -0,006. (Table 13)

Table 13. Return on assets (ROA) and equity (ROE) ratios of domestic private enterprises in the North Central region by fields

Index	Period	Agriculture, forestry and fisheries	Industry and construction	Service
ROA	2011-2014	-0,060	0,004	0,004
	2015-2018	0,010	0,005	-0,002
ROE	2011-2014	-0,119	0,009	0,012
	2015-2018	0,032	0,012	-0,006

Source: Calculation from the enterprise survey data set collected between 2011 and 2018 by General Statistics Office

Regarding the income of workers, there is a big difference between domestic private enterprises and state-owned enterprises and FDI enterprises (Table 14). This is a challenge for private enterprises to attract qualified, skilled and senior workers because it is difficult to compete with SOEs and FDI enterprises.

Table 14. Average income of employees in enterprises in the North Central Region by ownership

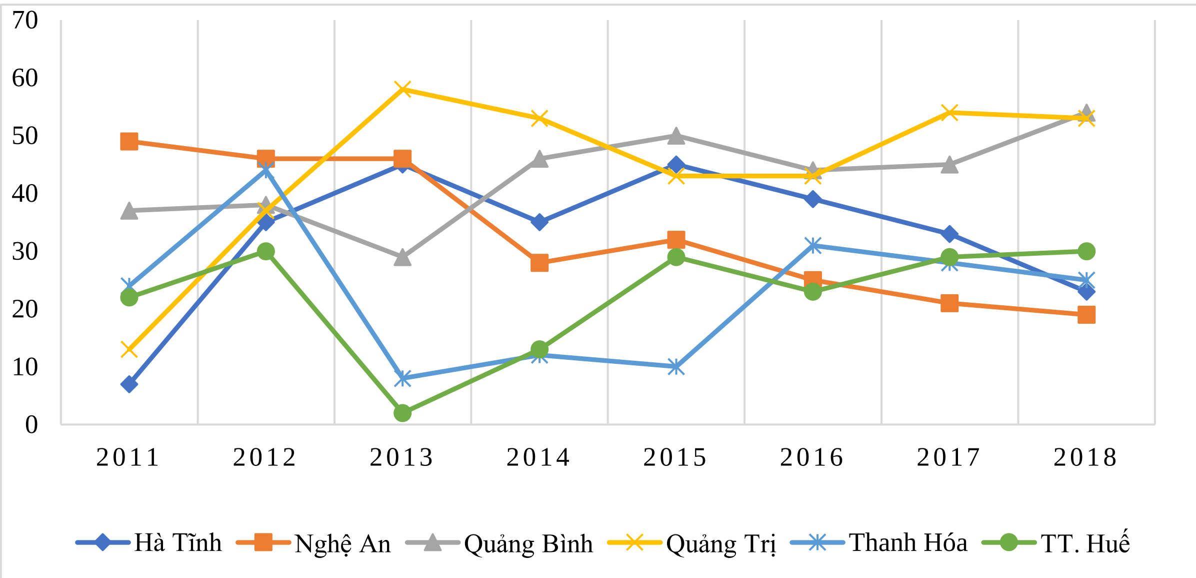
Period	State enterprises	Domestic private enterprises	FDI enterprises
2011-2014	4,6	3,3	5,8
2015-2018	5,0	3,9	6,0
Compare 2 stages	109	116	103

Source: Calculation from the enterprise survey data set collected between 2011 and 2018 by General Statistics Office

Fourthly: The business investment environment through the PCI index of provinces in the region has improved, but there are relatively clear differences between localities in the region.

The PCI index of the North Central provinces falls into group 3 (good) and group 4 (moderate). In which, Nghe An and Ha Tinh provinces have significantly improved in 2014, Nghe An ranked the 28th, increased to 19th in 2018; Ha Tinh ranked the 35th in 2014 and ranked 23rd in 2018. Meanwhile, there are 2 provinces in which the PCI index has not improved and is ranked in the middle group, namely Quang Binh and Quang Tri (in 2018 Quang Binh ranked the 54th and Quang Tri ranked the 53rd). And among the sub-indices, provinces have low indicators of fair competition, informal costs, land access and provincial government dynamism. Thereby, indicating the problem in creating conditions and business investment environment and attracting investment enterprises in limited areas.

Figure 2. PCI ranking of the provinces in the North Central region



4. Discussion and Conclusion

Through the results of research and analysis, it shows that there are many problems of enterprise development in the private sector in the North Central region. With small and micro-enterprises accounting for the majority, the field mainly focuses on services and commerce. The private economy is not large enough to reach out to foreign provinces and abroad. The number of manufacturing enterprises is small, the rate of technological innovation is very low, while a number of priority areas for development of the North Central region require association with high technology and modern technology. Labor qualifications and employment size for each type are limited. Production and business efficiency are low, making it difficult to compete, accumulate capital and expand production and business. This triggers the risk of lagging businesses in the region when facing the current integration and the 4.0 technology revolution.

The number of large enterprises in the region is too small, the problems is that there is no large enterprise to take the role of a driving force, a leader, a locomotive to pull businesses in the region to develop, besides that medium-sized enterprises account for a small proportion, so it is difficult to develop into large enterprises and at the same time unable to take the role of a bridge and the link between large and small enterprises to create a foundation for development. And this is a difficulty for investment in technological innovation and participation in production value chains for businesses in the region when the reality of capital size is low. When the business environment is not equal, it is impossible to create links, without a chain or network of business links, it is difficult to create a business force. Besides, businesses do not have a business strategy. Too few innovative start-ups.

With the above issues, business development of the private sector in the North Central Region should pay attention to: (1) Strengthening research and development capacity, technological innovation, creating conditions for mechanisms and policies to develop innovative start-ups. (2) Enterprises are interested in business models, business culture and application of corporate governance technology and actively participate in linkages between enterprises in the region. (3) For industries and products in which localities and regions have strengths, develop mechanisms and policies to encourage the development of associated industry clusters, value chains, and build product brands according to the region's advantages. (4) Support training in management skills for entrepreneurs of the business sector to form a team of entrepreneurs with enough reach to lead businesses participating in the chain. (5) Promote the development of business associations, industry associations with extensive participation of businesses in the private sector.

5. Reference

1. Barney, J. (1991), ‘Firm resources and sustained competitive advantage’, *Journal of management*, 17(1), 99-120.

2. Barney, J. B., Mackey, A., Mackey, T. B., (2007), 'Corporate social responsibility and firm performance: Investor preferences and corporate strategies', *Academy of management review*, 32(3), 817-835.

3. Barney, J. B., Ketchen Jr, D. J., & Wright, M. (2011), 'The future of resource-based theory: revitalization or decline?', *Journal of management*, 37(5), 1299-1315.

4. Baumol, W. J. W. J., & Turvey, R. (1959), Economic dynamics; an introduction (No. 04; HB71, B8 1959.).

5. Baumol, W. J. (1962), 'On the Theory of Expansion of the Firm', *The American Economic Review*, 52(5), 1078-1087.

6. Cooke, P. (1997) 'Regions in a global market: the experiences of Wales and Baden Württemberg', *Review of International Political Economy*, 4:2 , 349-381.

7. Conner, K. R. (1991), 'A historical comparison of resource-based theory and five schools of thought within industrial organization economics: do we have a new theory of the firm?', *Journal of management,* 17(1), 121-154.

8. Garofoli, G. (1994a), 'New firm formation and regional development: the Italian case', *Regional studies*, 28(4), 381-393.

9. Garofoli, G. (1994b), 'The industrial district of Lecco: innovation and transformation processes', *Entrepreneurship & Regional Development*, 6(4), 371-393.

10. M. Hoover và Frank Giarratani (1999), *An Introduction to Regional Economics*, third edition, Regional Research Institute, West Virginia University.

11. Mac Sweeney, N. (2008). Private-sector development in post-conflict countries. Cambridge: DCED.

12. Dr.Mathew Philip (2010), factors affecting business success of small & medium enterprises (SMES), APJRBM, November, 2010.

13. Porter, M. (1994), 'The role of location in competition', *Journal of the Economics of Business*, 1, 1: 35-39.

14. Central Committee (2017), Resolution No. 10-NQ/TW dated June 3, 2017 of the 12th Central Committee of the Party on developing the private economy into an important driving force of the socialist-oriented market economy

15. Ministry of Planning and Investment (2019), Vietnam Enterprise White Paper 2019, Statistical Publishing House, Hanoi.

16. Government (2016), Resolution No. 35/NQ-CP dated May 16, 2016 of the Government on supporting and developing businesses until 2020.

17. Prime Minister (2013), Decision No. 1114/QD-TTg dated July 9, 2013 of the Prime Minister approving the master plan for socio-economic development in the North Central and Central Coast regions to 2020.

18. Prime Minister (2018), Decision No. 1255/QD-TTg dated September 26, 2018 of the Prime Minister approving the project to build a set of indicators to evaluate the level of business development.

19. Nguyễn Thiện Phong (2007), *Tác động của chính sách tài chính hỗ trợ phát triển doanh nghiệp nhỏ và vừa ngoài quốc doanh vùng Đồng bằng Sông Cửu Long*, Luận án tiến sĩ kinh tế, Đại học Kinh tế TP Hồ Chí Minh.

20. Phan Anh Tú, Phan Thị Ngọc Khuyên, Trương Khánh Vĩnh Xuyên và Trần Thị Bạch Yến (2013), 'Vì sao các doanh nghiệp tư nhân ở đồng bằng sông Cửu Long phải thanh toán tiêu cực phí?', *Tạp chí Khoa học Trường Đại học Cần Thơ*, số 27.

21. Quan Minh Nhựt (2009), 'Đánh giá các phản ứng chiến lược của doanh nghiệp Đồng bằng sông Cửu Long trong điều kiện hội nhập kinh tế', *Tạp chí Khoa học Trường Đại học Cần Thơ*, số 12.

22. Quan Minh Nhựt (2010), 'Các nhân tố tác động đến hiệu quả sản xuất của các doanh nghiệp chế biến thủy sản khu vực Đồng bằng Sông Cửu Long', *Tạp chí Khoa học Trường Đại học Cần Thơ*, số 13.

23. Nguyễn Quang Thái, Vũ Hùng Cường và Bùi Trinh (2010), 'Phân tích đóng góp của các thành phần kinh tế đến tăng trưởng kinh tế', *Tạp chí nghiên cứu Kinh tế*, số 5/2010, 24-35.

24. Nguyễn Xuân Khoát (2010), 'Phát triển khu vực kinh tế tư nhân ở Việt Nam hiện nay', *Tạp chí khoa học, Đại học Huế* , số 10, 133-140.

25. Trần Đình Thiên (2014), 'Thể chế kinh tế và doanh nghiệp: Thực trạng vấn đề và giải pháp', *Tạp chí Nghiên cứu kinh tế*, số 5/2014, 20-28.

26. Vũ Hùng Cường (chủ biên), Nguyễn Quang Thái, Nguyễn Kế Tuấn, Phí Vĩnh Tường, Lương Minh Huân, Nguyễn Việt Phong, Trần Thanh Phương (2016), *Kinh tế tư nhân – Một động lực cơ bản cho sự phát triển*, Nhà xuất bản Khoa học xã hội, Hà Nội.

27. Ngân hàng thế giới (2017), Việt Nam tăng cường năng lực cạnh tranh và liên kết của DN vừa và nhỏ, bài học kinh nghiệm trong nước và quốc tế.

28. Đức Thành (2018), *Kinh tế tư nhân chiếm tỷ trọng lớn nhất trong GRDP của Việt Nam*, truy cập ngày 13 tháng 10 năm 2018, từ [https://laodong.vn/kinh-te/kinh-te-tu-nhan-chiem-ti-trong-lon-nhat-trong-gdp-cua-vn-635749.ldo]

29. TS Vũ Tiến Lộc (2019), Bài phát biểu khai mạc diễn đàn "Vài trò doanh nghiệp trong phát triển kinh tế vùng Bắc trung Bộ ngày 18/10/2019 tại Hà Nội, truy cập ngày 19 tháng 10 năm 2019, từ [https://dangcongsan.vn/kinh-te/phat-huy-vai-tro-doanh-nghiep-trong-phat-trien-kinh-te-vung-bac-trung-bo-539785.html].

THE IMPACT OF FOREIGN DIRECT INVESTMENT ON URBANIZATION IN VIETNAM

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Abstract

This study uses statistical data of 63 provinces and cities in Vietnam for the period 2011-2018 and employs the ordinary least square method (OLS) to investigate empirically the impact of foreign direct investment on urbanization in Vietnam. The study finds that foreign direct investment has played a significantly positive role in the level of Vietnam's urbanization. Apart from research results, the study proposes practical and feasible solutions for promoting positive impacts and restraining negative ones of foreign direct investment on Vietnam's urbanization.

Keywords: *Foreign direct investment, urbanization, Ordinary least squares, Vietnam*

1. Introduction

Foreign direct investment (FDI) brings into a host country a package of capital, technology and other specific intangible assets from the firm's investing process, and therefore, it is expected that FDI will play a positive role in the economic development process of a host country. According to the data on the urbanization rate calculated by permanent population, Vietnam has experienced a significantly increase in the level of urbanization that increased from 13,1 percent in 1955 to 37,7 percent in 2020 with an urban population growth rate of 3,4 percent on average (United Nations, 2020). Nevertheless, Vietnam's urbanization level still relatively lowers than developed countries' one. Therefore, as far as socio-economic development in Vietnam is concerned, accelerating the transfer of surplus labour from rural areas to cities and increasing the urbanization rate are still the important tasks in long run.

According to the data from General Statistics Office of Vietnam, foreign direct investment plays an important role in the Vietnam economy when the FDI's contribution to GDP increased from 10,3 percent in 1998 to 19,6 percent in 2017 and the recorded investment proportion of the FDI sector in GDP fluctuated around 23.5% during the period from 2015 to 2018 that has reinforcing the important role of FDI in developing and maintaining economic conditions in Vietnam (General Statistics Office of Vietnam, 2019).

While FDI has significantly contributed to Vietnam's economic development, has it also contributed to the level of urbanization in Vietnam? In recent years, there have been a number of studies which focus on assessing the attraction and the implementation of FDI inflows or analysing its impact on aspects of socio-economic development. With theoretical and methodological bases from published studies, a number of domestic studies indicate two transmission channels through which FDI has been improving the efficiency of the host country's development activities are technology transfer to and technology spillover effects on domestic enterprises. However, researching the impact of FDI still has some deficiencies in methodology and practical issues. There are no domestic studies using quantitative data analysis methods to invesigate the impact of FDI on urbanization in Vietnam, no studies with comprehensive approaches of impacts of FDI on the process of urban development as well as studies on the scope of metropolitan areas and coastal urban ones. Accordingly, the research team proposes the research topic "The impact of foreign direct investment on urbanization in Vietnam" with the aim of specifying the impact of FDI on the urbanization process in Vietnam and offering reasonable solutions to Vietnam's urbanization strategy. This study will answer some following main questions: Does FDI have an impact on urbanization in Vietnam? Does FDI have a positive or negative impact on the urbanization process in Vietnam? Which solutions promote the positive impacts and limit the negative ones of FDI on urbanization in Vietnam?

2. Literature Reviews

In abroad, some studies have affirmed positive relationship between foreign direct investment and urbanization. For example, Tam Bang Vu, Byron Gangnes & Ilan Noy (2008) indicated that FDI has played a positive and statistically significant role in economic growth, and through interactions between FDIs inflows and labour resources, the impact of FDI has the huge difference among economic sectors, in which are mostly concentrated on secondary sector. When Yan Wu and Chunlai Chen (2016) used a city level panel data containing 262 cities for the period 2004-2012, they found that FDI on average has played a significantly positive role in China's urbanization. However, the impact of FDI on urbanization contribute greatly to the difference of urbanization rates between coastal and inland regions in China. The study found that FDI has a positive and significant impact on urbanization in the coastal region but has no impact on urbanization in the inland region. Concerning the data of 262 China's cities during the period from 2004 to 2013, in the following study, Yan Wu and Chunlai Chen (2017) also found that FDI has a positive and significant impact on urbanization in the coastal region but has no significant impact on urbanization in the inland region. These studies indicate that FDI inflows not only concentrate in coastal regions but will also tend to contribute to industrial and service sectors. Moreover, concerning the impact of FDI on urbanization in African countries, Carl Grekou and Ferdinand Owoundi (2020) found that urbanization appears as a corollary to economic development to which FDI inflows contribute significantly to developing countries, especially in Africa.

In Vietnam, the impact of foreign direct investment on urban development in Vietnam has been paid attention in the last few years but with limitations. For example, when building theoretical framework for the impact of FDI on urbanization in PhD thesis, Nguyen Thi Hoa (2014) only focused on proposing viewpoints, orientations, and solutions to promote positive influences and limit negative effects on FDI on urbanization on a sustainable manner in Da Nang towards 2025. Another example is the Tran Kim Cuong (2015) 's research paper on the relationship between foreign direct investment and economic growth, the study based on the data from national level of 44 countries which are mostly developing countries, especially the countries received the most FDI including Vietnam, for the period of 1995-2012 to estimate the impact of FDI on economic growth through the GMM estimation method, and to compare with the result of the OLS regression method. The result shows that urbanization plays an important role in promoting the spread of FDI in the host country, leading to an increase the number of urban areas with highly qualified human resources and large consumer demands , and attracting the investment from FDI enterprises.

In contrast, some negative impacts of foreign investment on urbanization are shown in some recent works such as the study of Cao et al (2015), when analysing the relationship between FDI and the level of urbanization in the coastal areas in Jiangsu and Guangdong provinces of China, study showed that FDI has a negative impact on the GDP growth in urban areas, the high level of correlation is not recorded in Jiangsu while recorded the negative correlation in Guangdong. Additional, A study by Wanshu Wu and Kai Zhao (2017), concerning the effects between FDI and urbanization, showed that FDI is an exogenous force for the new process of urbanization and this process strongly supports attracting foreign capital inflows. However, this study also showed that concentrating FDIs inflows on surrounding areas would restrain the process of local urbanization and increasing urbanization in surroundings would restrict FDIs inflows in the local area.

3. Method

Research methods

The study uses descriptive statistics and quantitative research to investigate the impact of FDI on urbanization. Descriptive statistics are used to describe the basic features of the data in a study. They provide simple summaries about the sample and the measures. Together with simple graphics analysis, descriptive statistics form the basis of virtually every quantitative analysis of data. With the help of the quantitative research combined with panel data models, it helps to design quantitative observations of variables, analyse quantitative data, and explain the relationships between variables by quantitative relationships.

Data collection methods

The data in this study are cited from publications of the General Statistics Office of Vietnam such as Socio-economic statistical data of 63 provinces and cities in 2015-2018 periods, Statistical yearbook from 2011-2018, annual reports on economic development, ... Moreover, these data are also in the process of collecting additional information, collating approximate figures, and supplementing missing ones from World Bank reports.

Methods of data processing

The dependent variable is the urbanization rate, the ratio of urban population to their total local population, can reflect the changes of urban population what are affected by economic factors, so it is a more accurate indicator of the urbanization rate in Vietnam. To investigate the impact on FDI on urbanization, we use the ratio of foreign direct investment to Gross regional domestic product (*FDI/GRDP*) that the calculation of this ratio has several steps. Firstly, the annual US dollar value of FDI inflows was converted into Vietnamese dong value by using the current exchange rate. Next, the ratio of foreign direct investment to gross regional domestic product of each city is calculated. Therefore, we expect that the variable of the ratio of FDI to GRDP (FDI/GRDP) to have a positive impact on urbanization.

Moreover, based on the collected data, we pay attention to the following variables which are expected to have impacts on urbanization. The economic structure of a city has an important impact on the level of urbanization, so we use the share of primary sector in GRDP (*PS/GRDP*) to control for the economic structure of a city. It is expected that the higher share of the primary sector in GRDP, the lower the urbanization level of a city will be. In addition, the value of per capita GDP (*PGDP*) also reflect the level of economic development and we expect the variable of per capita GDP to have a positive impact on urbanization. The value of assets and long-term investment (*FAI*) is concerned. In fact, FDI in public utilities and transportation infrastructure is essential for the urban development and the flow of labours, goods and information between urban and rural areas to facilitate the development of urbanization. Moreover, the size of population or the total population (*POP*) in each city could also reflect its urban development in the future therefore have to add to model.

Model specification

In overall, there is no standard theoretical framework to lead the empirical studies on the relationship between FDI and urbanization at national level in Vietnam, so we establish an experimental model based on Yan Wu & Chulai Chen 's empirical model which estimates the impact of FDI on urbanization in China. Therefore, we estimate the impact of FDI on urbanization in Vietnam by using the following experimental model:

$$UR_{it} = \beta_0 + \beta_1 {*} UR_{it-1} + \beta_2 {*} FDI/GRDP_{it-1} + \beta_3 {*} PS/GRDP_{it} + \beta_4 {*} lnPGDP_{it} + \beta_5 {*} lnFAI_{it} + \beta_6 {*} lnPOP_{it} + u_{it}$$

Table 1: the explanation about variables in our experimental model

Biến	Explanation
UR_{it}	The urbanization rate at city *i* and in year *t*
UR_{it-1}	The urbanization rate at city *i* and in year *t-1*
$FDI/GRDP_{it-1}$	The ratio of FDI to GRDP at city *i* and in year *t-1*
$PS/GRDP_{it}$	The share of primary sector in GRDP at city *i* and in tear *t*
$lnPGDP_{it}$	Natural logarithm of per capita GDP of city *i* and in year *t*
$lnFAI_{it}$	Natural logarithm of the value of assets and long-term investment of city *i* and in year *t*
$lnPOP_{it}$	Natural logarithm of total population of city *i* and in year *t*
u_{it}	Random disturbance term

Source: Author team

When establishing the experimental model, we consider the major aspects that based on assumptions in the empirical model of Yan Wu & Chulai Chen (2016). They explained about their variables that past urbanization influences the present urbanization process because of inertia (Zang and Wan, 2013) and FDI has an impact on urbanization on the assumption that there will be a time lag before FDI works.

In this study, we use the method of estimation of regression coefficients that is the ordinary least squares method (OLS) to investigate the impact of FDI on urbanization in Vietnam. In this model specification, the variable of our interest is *FDI/GRDP*. If the coefficient of β_2 is positive and statistically significant, then FDI has contributed to increasing urbanization in Vietnam. In contrast, if it is negative and statistically significant, the FDI has contributed to reducing urbanization in Vietnam.

4. Results

Descriptive statistics of the variables in the model

Table 2: Descriptive statistics of the variables

	N	Min	Max	Mean		Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Std. Error	Statistic	Std. Error
UR	504	.0976	.8780	.278294	.0076138	.1709284	1.754	.109	2.798	.217
FDI/GRDP	502	.0000	.8540	.050018	.0039785	.0891397	4.038	.109	22.474	.218
PS/GRDP	500	.0031	.5604	.243407	.0058023	.1297433	.065	.109	-.759	.218
LnPGDP	500	-.3546	5.9705	3.612861	.0250400	.5599122	.472	.109	7.171	.218
LnFAI	504	7.5055	15.1559	10.465337	.0596197	1.3384582	.847	.109	1.126	.217
LnPOP	504	5.6924	9.0594	7.079325	.0247088	.5547106	.795	.109	2.160	.217
Valid N	498									

Regression results and explanations

After completed the estimation of regression coefficients, the regression results of the specified model are reported in Table 3.

Table 3: Estimation of regression coefficients in the model

Dependant Variable: UR
Method: Least Squares
Date: 04/06/21 Time: 09:04
Sample (adjusted): 1/02/2011 3/04/2018
Included observations: 497 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob
C	-0.487740	2.251349	-0.216643	0.8286
UR(-1)	-0.006170	0.044902	-0.137409	0.8908
FDI/GRDP(-1)	1.771967	0.814185	2.176369	0.0300
PS/GRDP	-0.804975	1.350008	-0.596274	0.5513
LnPGDP	0.454774	0.303299	1.499424	0.1344
LnFAI	0.001918	0.129768	0.014777	0.9882
LnPOP	-0.094867	0.245718	0.386081	0.6996

R-squared	0.021938	Mean dependent var	0.415736
Adjusted R-squared	0.009962	S. D. dependent var	2.960312
S.E. of regression	2.945530	Akaike info criterion	5.012439
Sum Squared resid	4251.312	Schwarz criterion	5.071715
Log likelihood	-1238.591	Hannan-Quinn criter.	5.035705
F-statistic	1.821777	Durbin-Watson stat	2.035958
Prob(F-statistic)	0.091089		

The results show that there is only a variable of ***FDI/GRDP(-1)*** which is statistically significant (***p_value*** = 0.0300 <0.05) and there is enough evidence to remove the variables including ***UR(-1)***, ***PS/GRDP***, ***ln(PGDP)***, ***ln(FAI)***, and ***ln(POP)*** because they have not statistical significance. The reduced model has the following form:

$$UR_{it} = \beta_0 + \beta_1 * FDI/GRDP_{it-1} + u_{it}$$

Table 4: Estimation of regression coefficients in the reduced model

Dependant Variable: UR
Method: Least Squares
Date: 04/06/21 Time: 09:21
Sample (adjusted): 1/02/2011 3/04/2018
Included observations: 501 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob
C	0.3000510	0.140592	2.137463	0.0330
FDI/GRDP(-1)	1.835808	0.809101	20268947	0.0237

R-squared	0.010212	Mean dependent var	0.415212
Adjusted R-squared	0.008228	S. D. dependent var	20948551
S.E. of regression	20935395	Akaike info criterion	4.996227
Sum Squared resid	4302.587	Schwarz criterion	5.013059
Log likelihood	-1249.555	Hannan-Quinn criter.	5.002831
F-statistic	5.148121	Durbin-Watson stat	2.008094
Prob(F-statistic)	0.023698		

We now consider the regression results based on the reduced model. The results show that ***p_value*** of the variable of the ratio of FDI to GRDP (*FDI/GRDP*) is lower than 0.05, indicates that this variable is statistically significant; and R_squared coefficient has not significant difference between the specified model and the reduced model, so the model could be accepted after reducing the variables which are not statistically significant. In addition, the regression results show that the regression coefficient of *FDI/GRDP* has positive value, implying that the higher level of FDI presence in a city, the higher the urbanization level of that city will be. This finding provides strong evidence that FDI has played a positive role in promoting the development of urbanization in Vietnam.

5. Discussion and Conclusion

Discussions of the results

When compared with the research results of Yan Wu & Chunlai Chen (2016), after the authors used the research data of 262 Chinese cities in the period 2004-2012, their results showed that FDI has a positive impact on promoting urbanization both in the overall data of 262 cities as well as in the data of coastal areas. The research results can be explained by reasons that the coastal area is the main destination for FDI inflows, attracting about 80% of total FDI into China (Yan Wu and Chunlai Chen, 2016); at the same time, FDI also plays a significant role in the process of job creation, income enhancement, and economic development, thereby facilitating changes in the regional economic structure and attracting a large number of labours to urban coastal areas that is the leading force in increasing urban population. With the similarity in geographical location when 28 out of 63 provinces and cities of Vietnam are in coastal areas within 19 coastal economic zones (as of 2020), investment capital inflows, especially foreign investment, will play a crucial role in the goal of forming dynamic economic zones and promoting multi-sectoral development in Vietnam. The above explanation reinforces the expectation as well as the analysis results of the author team that FDI will have a positive impact on urbanization in Vietnam, increasing the contribution of FDI will increase the level of urbanization in the localities received this capital.

Recommendations

Throughout estimating the impact of FDI on urbanization, the study proposes two groups of solutions to promote the positive effects and limit the negative effects of foreign direct investment on urbanization in Vietnam.

(i) The group of solutions promote the positive effects of FDI on urbanization:

Firstly, it is necessary to prioritize the careful selection of FDI inflows that based on types of sectors to be appropriate to the requirements of socio-economic development in Vietnam in each period, and to limit oversea investments to domestic enterprises' strong fields.

Secondly, when the country's internal resources are still limited, it is important to promote the attraction of FDI destinations where FDI plays a leading role in contributing to economic development through creating an open business environment, building an attractive investment mechanism, and implementing investment support activities in duration of project planning as well as the project implementation.

(ii) The group of solutions limits the negative effects of FDI on urbanization:

Firstly, to minimize the environmental consequences caused by the development and urbanization process, authorities must carefully inspect FDI projects, tighten up licensing conditions, and careful select investment projects with the commitment on environment regulations.

Secondary, to limit the potential risk of becoming a destination for outdated technologies, it is necessary to have legally binding agreements and inspection activities on the process of transferring machinery, equipment, and operating technology and manufacturing that must take steps to ensure the quality of technology, properly assess the effects of these technologies on other economic sectors, carefully consider investment projects using technology in lines, and promulgate policies to encourage enterprises to innovate technology.

Thirdly, to limit inequality in front of the impacts of FDI on the economic structure in urban areas, it is necessary to appraise and evaluate FDI projects on the basis of object judgments, approve FDI projects in accordance with development context , and also implement support activities to improve the capacity of both labours and domestic firms by creating learning environment for labours and establishing mechanisms to support business activities, thereby increasing adaptability as well as enhancing competitiveness.

Conclusion

The main purpose of the study is to investigate the impact of FDI on urbanization in Vietnam. The study is based on the theoretical and methodological basis to identify the aspects of urbanization, to estimate effects of FDI on the socio-economic development that have mentioned in other studies. In this study, we consider research models that investigate the impact of FDI on urbanization in the world to reinforce theoretical foundations and to establish the empirical model that is appropriate to the socio-economic conditions in Vietnam. Based on previous studies, the study establishes the empirical model with a panel dataset including data from 63 provinces and cities of Vietnam during the period from 2011 to 2018 and uses OLS regression method to investigate empirically the impact of FDI on urbanization in Vietnam. Besides, the study presents the socio-economic situation of Vietnam from 2011 to 2018 as well as observable positive and negative effects of FDI on urbanization. The results of the study on the relationship between FDI and urbanization show that FDI has a positive impact on the process of increasing urbanization in Vietnam. The study creates a premise for attracting more FDI inflows to Vietnam in order to develop and maintain socio-economic conditions of the city. At the same time, the study proposes several solutions for urban authorities to increase the positive effects and limit the negative effects of FDI on urbanization in Vietnam.

6. References

1. C. Can-ming and D. Jin-jun (2014), *An empirical analysis on the relationship between FDI and urbanization of Jiangsu Province*, 2014 11th International Conference on Service Systems and Service Management (ICSSSM), Beijing.
2. Carl Grekou and Ferdinand Owound (2020), *Understanding How Foreign Direct Investments Impacts Urbanization in Africa*, International Economics.
3. Chunlai Chen and Yan Wu (2016), *The impact of foreign direct investment on urbanization in China*, Journal of the Asia Pacific Economy.
4. Chunlai Chen and Yan Wu (2017, January-February), *Impact of Foreign Direct Investment and Export on Urbanization: Evidence from China*, China & World Economy.
5. Chunlai Chen, Yen Wu (2019), *Interregional impact of foreign direct investment on China's inland urbanization*, The Singapore Economic Review.

6. General Statistics Office of Vietnam (2013), *Statistical yearbook 2011*, General Statistics Office of Vietnam.

7. General Statistics Office of Vietnam (2014), *Statistical yearbook 2012*, General Statistics Office of Vietnam.

8. General Statistics Office of Vietnam (2015), *Statistical yearbook 2013*, General Statistics Office of Vietnam.

9. General Statistics Office of Vietnam (2016), *Statistical yearbook 2014*, General Statistics Office of Vietnam.

10. General Statistics Office of Vietnam (2020), *Socio-economic statistical data of 63 provinces and cities*, General Statistics Office of Vietnam.

11. Hsiao, Cheng & Shen, Yan, (2003), *Foreign Direct Investment and Economic Growth: The Importance of Institutions and Urbanization*, Economic Development and Cultural Change.

12. Huong Thi Thanh Tran, Hang Thu Pham, (2021), *Impact of Investment Structure by Economic Sectors and Other Factors on Economic Growth: Evidence from Vietnam with SGMM Estimation and Bayes Factor Approach*, Behavioral Predictive Modeling in Economics.

13. Jie Shen & Chunlai Chen & Mengyu Yang & Keyun Zhang (2019), *City Size, Population Concentration and Productivity: Evidence from China*, China & World Economy, Institute of World Economics and Politics, Chinese Academy of Social Sciences.

14. Joshua U, Bekun FV, Sarkodie SA (5/2020), *New insight into the causal linkage between economic expansion, FDI, coal consumption, pollutant emissions and urbanization in South Africa*, Environ Sci Pollut Res Int.

15. Nguyen Thi Hoa (2014), *Anh huong cua dau tu truc tiep nuoc ngoai toi do thi hoa theo huong ban vung o Da Nang*, Development Strategy Institute.

16. Nguyen, H. T., Nguyen.V.H., and Meyer, E.K. (2003) 'Foreign Direct Investment in Vietnam', project survey report, Institute for Technology Development Strategy, Vietnam unpublished

17. Smarzynska B.K (2002), *Does Foreign Direct Investment increase the productivity of domestic firms?* In Search of spillovers through backward linkages, World Bank.

IMPACT OF CONDOMINIUM MANAGEMENT SERVICE FACTORS ON SATISFACTION OF RESIDENTS IN VIETNAMESE CITIES

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Abstract

The development of apartment buildings is an inevitable trend of Vietnamese cities. Sustainable apartment development depends on the quality of apartment operation management services to ensure that the needs of residents are met. This research paper surveyed a sample of 255 residents living in a number of apartment buildings in Hanoi and Hai Phong to assess the satisfaction of residents and measure the impact of service factors on the building operation management of apartments to the satisfaction of residents. The study identified 6 groups of service components that have a decisive impact on the satisfaction of residents with the quality of management services of apartment operation management boards, thereby proposing some key implications and policies to improve the satisfaction of residents living in apartments.

Keywords: *Residents' satisfaction, service quality of operation management, utility management, management policy, apartment repair and maintenance, security, cleaning, landscape and entertainment*

1. Introduction

Vietnam is a developing country, the process of urbanization is taking place rapidly, the dense population concentration has created a huge demand for housing in urban areas. The demand for housing has increased, the land fund has narrowed, leading to the development of high-rise apartment buildings as an inevitable trend in Vietnam's urban areas. Housing businesses have been developing many multi-owner apartment buildings, including utilities to maximize human life. By 2020, 34.4% of the total population of Vietnam will live in urban areas. The population density in big cities like Hanoi is up to 9,343 people/km2. Preliminary statistics so far, the country has about 5,000 apartment buildings; in which concentrated mainly in Hanoi and Ho Chi Minh City. However, the process of residents moving into apartment buildings has generated many inadequacies, affecting residents' confidence in the apartment living environment.

The satisfaction of residents living in high-rise apartment buildings is not just about their apartments. Satisfaction depends on the provision of services and utilities such as water supply, electricity, access roads, drainage systems, waste treatment facilities as well as attention to prompt repair and maintenance, etc. depends on the management and operation of the apartment building. The reality of apartment management in Vietnam over the past time has shown that there are still many shortcomings in the management and operation activities of apartment building management organizations. Organizations that manage and operate apartments also face the problem of increasing number of residents' complaints and disputes as well as other dissatisfaction issues.

Therefore, measuring the satisfaction of residents in high-rise apartment buildings has received attention from housing policy makers and housing businesses. With the potential controversy often occurring around the management activities of apartment buildings, there have also been studies on people's satisfaction focusing on the quality of housing services in general. However, to ensure the satisfaction of residents living in apartment buildings, it is necessary to pay attention to the quality of services that apartment management organizations provide in more detail. The evidence to date shows that there is a lack of in-depth studies on the apartment services provided by apartment management organizations and the satisfaction of residents with the services they receive.

The quality of apartment building operation management services is very important to maintain the operation of the building. That must be ensured through the commitment and efforts of the apartment management board in regularly reviewing the quality of building operation services, in order to bring satisfaction to residents. Therefore, the requirement to improve the provision of apartment building management services to support and maintain the general activities of the apartment complex becomes increasingly urgent. The reality of apartment building management poses an urgent need to study and assess the satisfaction of residents with the quality of apartment building operation management services in Vietnamese cities in order to improve management activities. apartment buildings, improving the quality of apartment services for residents.

2. Literature Review

The satisfaction of people living in the apartment is the satisfaction of the place to live and the living environment in the apartment. Researchers agree that occupant satisfaction is a multidimensional concept that reflects residents' aggregate assessment of the apartment living environment. The assessment of residents' satisfaction with the elements of apartment building operation management services helps apartment management organizations understand the needs of residents and improve the quality of apartment operation management services. (Abolade et al., 2014). Therefore, measuring resident satisfaction with apartment operations management services plays an important role in improving the performance of apartment management (Abolade et al., 2014).

The available studies show that the quality of apartment building operation management services directly affect the satisfaction of residents. The service elements of apartment operation management include housing management policy, repair and maintenance, security, cleaning, landscaping and entertainment, management of utilities. These six groups of operational management service elements are the basic causes of residents' satisfaction/dissatisfaction. Below is the relationship between these factors and the satisfaction of apartment residents.

Utilities management is an important component of apartment management, including all utilities serving the population, such as energy services, water supply, telecommunications, gas supply and use. These services are guaranteed by service companies based on contracts signed with residents. The apartment service management organization coordinates with other providers to ensure the functionality of utilities and interacts with residents to ensure that residents receive these services smoothly. Availability of basic services, such as electricity, water supply and drainage in an area that is well linked to other parts of the city, infrastructure, and guaranteed ownership are considered indicators. number of good quality accommodation (Ibem, 2011). Therefore, it is necessary to study the quality of management of utilities and it is necessary to identify this as an important variable affecting the satisfaction of residents.

Hypothesis H1: The quality of utility management has a positive impact on the satisfaction of residents for apartment building management and operation services.

Several existing studies have examined the impact of apartment management policy on resident satisfaction (Paris and Kangari, 2005; Gurstein and Small, 2005; James et al., 2009). Management policies are considered an important part of the apartment environment (Ahlbrandt and Brophy, 1976; Sadacca et al., 1974; Bechtel 1973;). Researchers have shown that resident satisfaction is positively correlated with apartment management's certainty in enforcing the rules and management's ability to respond to residents' needs. These studies point to the direction of improving apartment operations management services as a way to increase resident satisfaction (Ahlbrandt and Brophy, 1976). After that, a large number of studies on housing management, which emphasized the importance of management policy for resident satisfaction (Ariff and Davies 2011; Pfrang 2015; Boyne and Walker 1999).

Hypothesis H2: The quality of housing management policy of the apartment building management board has a positive impact on the satisfaction of residents about apartment operation management services.

Apartment buildings also require adequate and effective repair and maintenance to avoid damage, affecting people's health and life (Ishak et al., 2007). Building maintenance is defined as work "in addition to daily and regular cleaning, necessary to maintain the performance of the building structure and its services" (BSI 1986, cited in Wood 2009). Alternatively, Wood proposes a shorter definition for building maintenance as "the sum total of all the work that keeps the building running efficiently" (Wood 2009). Maintenance and repair play a role. management of apartments and residents' satisfaction in Scotland (Croal et al., 2003) It is clear that maintenance is a factor that has a strong impact on overall apartment satisfaction. Therefore, it is necessary to study the factors related to maintenance contractors that affect the satisfaction of residents.

Hypothesis H3: Service quality of facilities management, repair and maintenance has a positive impact on residents' satisfaction with apartment operation management services.

Security needs for people, and families or society is a natural and important need. Apartment buildings must always be safe and well protected. Security is one of the apartment building management services that has become important for any apartment complex. Apartment service management companies have found that in addition to their core business, non-core activities (such as cleaning and security) are part of their efforts to provide occupant satisfaction (Razali et al., 2007).

Hypothesis H4: Security service quality has a positive impact on residents' satisfaction with apartment building operation management services.

Cleaning service is an essential service in apartment buildings. Cleaning the apartment environment is considered a core activity of housing service management organizations (Binder, 1992; Park, 1998). Cleaning is a key function of apartment building management organizations to ensure the health of residents. Today, clean facilities are very important to health care and occupant satisfaction, and it is also one of the most expensive services when operating a building (Klungseth and Blakstad, 2016; May and Pitt, 2012). Therefore, the standard of environmental cleanliness will have a direct impact on resident satisfaction.

Hypothesis H5: Cleaning quality has a positive impact on residents' satisfaction with apartment operation management services.

Recreational activities and physical activity are indispensable requirements of the residential community in the apartment complex. There have been a number of studies on recreation and landscape sectors to assess their impact on resident satisfaction (Mahdavinejad et al., 2012; Lai and Yik (2011). Landscape and recreation is one of the main areas of apartment operation management services. Lai (2012) identified a number of factors related to landscaping and recreation, including aesthetics and tidiness of crops, pest control, environmental protection measures, recreational facilities (e.g. play equipment), and recreational facilities.

Hypothesis H6: Landscape and entertainment have a positive impact on residents' satisfaction with apartment building operation management services.

Combining the independent and dependent variables, we have a research model as follows

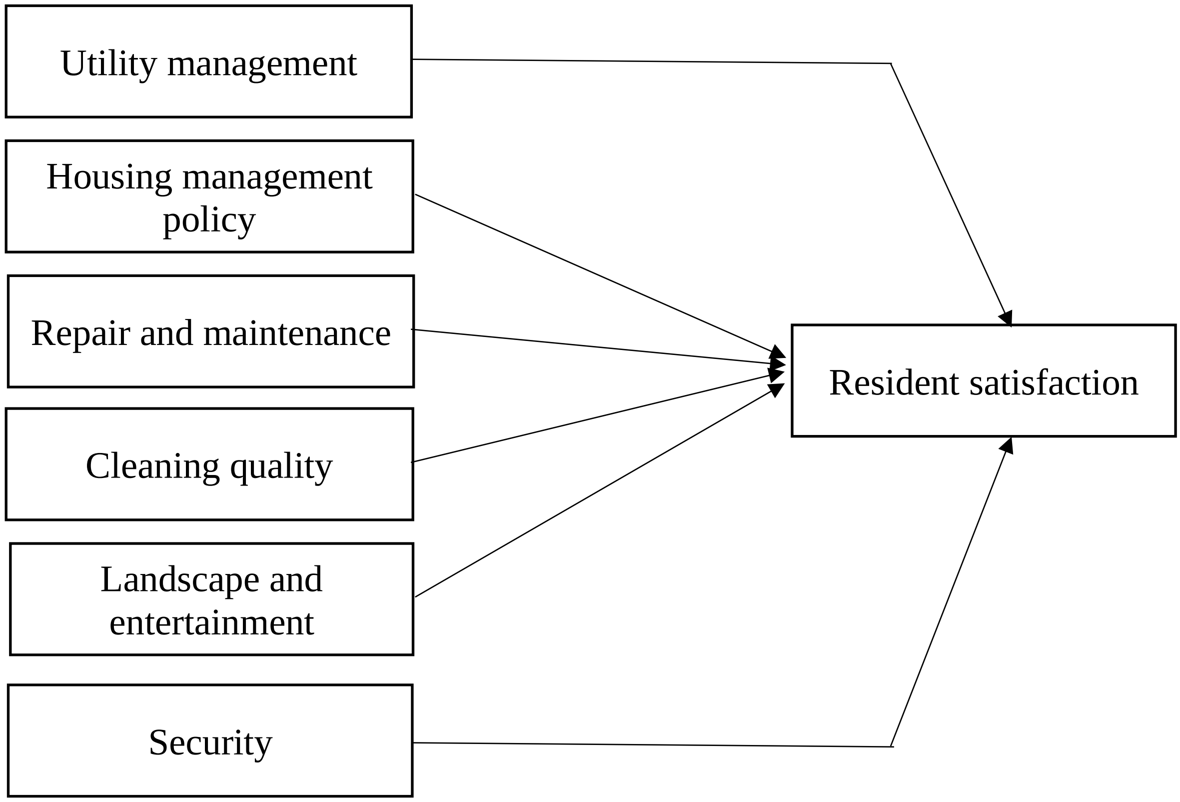

Figure 2.6: Research model of apartment building operation management service factors affecting the satisfaction of apartment residents

3. Method

In order to carry out the research objective of assessing the impact of apartment operation management service factors on the satisfaction of residents, the research process has been conducted through two phases, including qualitative and quantitative research. In phase 1, conducting qualitative research by directly interviewing a sample of 15 residents living in the apartment and 6 apartment managers to determine the components measuring 6 independent variables and dependent variable. The author used a semi-structured questionnaire to collect information for the identification of observed variables measuring factors in the research model to design the questionnaire. The Likert scale from 1 to 5 points (1: strongly disagree – 5: strongly agree) was also applied to measure observed variables.

Table 1: Observed variables measuring the independent variable

Independent variable	Observed variable	Code
Utility management	Clean and odorless drinking water	TI1
	Fresh air and proper airflow	TI2

Independent variable	Observed variable	Code
	Elevator and clear instructions system	TI3
	Good soundproofing system, no noise	TI4
	I can easily use gadgets when I need it	TI5
	Diverse utilities are provided 24/24 and are fixed immediately when there is a problem	TI6
Management policy	Building service charges are completely reasonable	CS1
	The notices of the building management are always transparent, clear and easy to understand	CS2
	The process of handling dispute and resolving complaints is specific, scientific, and fast	CS3
	The building management board always resolves disputes and complaints in a fair, civilized and reasonable manner	CS4
	Knowledgeable, courteous and attentive building management employees	CS5
Repair and maintenance	I see the building is under regular maintenance	SC1
	I found the maintenance and repair process to be very quick	SC2
	After maintenance and repair, the utilities work very well again	SC3
	I find the repair and maintenance employees friendly and polite	SC4
	I found the building maintenance employees to have good skills	SC5
Cleaning	I found the common areas to be very clean	VS1
	The cleaning employees completes the entire job	VS2

Independent variable	Observed variable	Code
	The cleaning employees is polite, considerate and attentive.	VS3
Landscape and entertainment	Green space is suitable	CQ1
	Fresh and pleasant air	CQ2
	I find it easy to move to different locations or move around in the apartment complex	CQ3
	The entertainment areas in the apartment are very diverse	CQ4
	The entertainment areas have modern facilities and serve my needs well	CQ5
Security	All areas in the apartment such as elevators, foyers, basements for parking, etc., all have strict security systems and surveillance cameras	AN1
	Polite and friendly security employees	AN2
	Security employees are well trained	AN3

Source: Collected by Author

Table 2: Observable variables measuring the dependent variable

Dependent variable	*Code*
Based on my apartment experience, I'm very satisfied	HL1
The apartment provides operational management services beyond my expectations	HL2
I am very happy to live in this apartment	HL3
I feel the decision to live in this apartment is very right	HL4

Source: Collected by Author

In phase 2, direct quantitative survey of residents living in apartment buildings. The survey sample size is 255 residents living in some typical apartment buildings in two cities, Hanoi and Hai Phong such as Time City, HH Linh Dam, Golden Tower in Hanoi and SHP Plaza, Bac Son, Vincity in Hai Phong. Data were analyzed by SPSS software including descriptive statistics and multiple regression equations to test the research hypotheses.

Table 3: Demographic characteristics of the study sample

Personal characteristics	Respondents	Quantity	Rate (%)
Time living in apartment	Less than 1 year	64	25.1
	1-2 years	99	38.8
	3-5 years	55	21.6
	6-8 years	24	9.4
	9-10 years	7	2.7
	From 11 years or more	6	2.4
Academic level	Below high school	4	1.6
	High school	11	4.3
	College	34	13.3
	University	182	71.4
	Postgraduate	16	6.3
	Doctor	8	3.1
Income	Under 5 million	41	16.1
	6-10 million	34	13.3
	11-15 million	39	15.3
	16-20 million	57	22.4
	21-30 million	23	9.0
	Over 30 million	61	23.9

Source: Collected by Author

4. Results

4.1. Testing model and research hypotheses

Analysis of the reliability of the scales

The scales are evaluated through reliability testing using Cronbach's Alpha coefficient and calculating the total variable correlation coefficient. Then the retained variables will continue to be analyzed using the exploratory factor analysis (EFA) tool. Use Cronbach's Alpha reliability coefficient method before analyzing EFA factors to eliminate nonconforming criteria because these nonconforming criteria (junk) can create spurious factors (Nguyen Dinh Tho, Nguyen). Thi Mai Trang, 2009). The Cronbach Alpha reliability coefficient only indicates whether the criteria are related or not, but does not indicate which criteria should be removed and which observed variables should be kept. Then, the calculation of the correlation coefficient between the total variable will help to exclude those criteria that do not contribute much to the description of the concept to be measured (Hoang Trong, Chu Nguyen Mong Ngoc, 2008).

The minimum condition to test the reliability of the scale using Cronbach's Alpha coefficient is that each factor in the research model must have at least 2 observed variables. All 9 variables in my research model meet this requirement.

Table 4: Cronbach's Alpha coefficient of each variable

Variable	**No. of observed variables**	**Cronbach's Alpha coefficient**
Complaint	7	0,924
Time for problem solving	3	0,781
Utility management	6	0,825
Management policy	5	0,852
Repair and maintenance	5	0,880
Cleaning	3	0,901
Landscape	5	0,866
Security	3	0,889
Overall satisfaction	4	0,912

Source: Collected by Author

According to (Nunnally, J., 1978), all the observed variables have the total correlation coefficient (Corrected Item - Total Correlation) >= 0.3, then the variable meets the requirements. In addition, the value of Cronbach's Alpha coefficient ensures the standard from 0.6 or more (Hoang Trong, Chu Nguyen Mong Ngoc, 2008). In addition, for the highest reliability, the value of Cronbach's Alpha coefficient when removing the variable needs to be smaller than the total Cronbach's Alpha coefficient. The results show that all 9 factors give Cronbach's Alpha coefficient > 0.6. At the same time, the observed variables of each scale have a total correlation coefficient >= 0.3, showing that all observed variables meet the standards (Nunnally, J., 1978).

Table 5: Cronbach's Alpha coefficient of each variable after adjustment

Variable	No. of observed variables	Cronbach's Alpha coefficient
Complaint	7	0,924
Time for problem solving	2	0,852
Utility management	6	0,825
Management policy	5	0,852
Repair and maintenance	5	0,880
Cleaning	3	0,901
Landscape	5	0,866
Security	3	0,889
Overall satisfaction	3	0,914

Source: Collected by Author

Factor analysis

Exploratory factor analysis (EFA) for independent variables

After verifying the reliability of the scale, the factors affecting the satisfaction of residents in the operation and management services of the apartment building are considered factors of utility quality, management policy, repair and maintenance, landscaping and recreation, cleaning, security as original. The author continues to perform exploratory factor analysis with the remaining 27 variables on SPSS software.

According to (Kaiser, H.F., 1974), to meet the requirement that EFA can be performed, the KMO > 0.5. The KMO value in this case is 0.861 > 0.5, which shows that the data is suitable for factor analysis, and Sig. Bartlett's Test = 0.000 < 0.05, which states that the observed variables are correlated in the population. In addition, According to Hair et al. (1998, 111), factor loading is an indicator to ensure the practical significance of EFA.

With a sample number of 255, the load factor is greater than 0.35, the EFA is sufficiently meaningful. So with the above variables I am qualified to do EFA.

After conducting EFA analysis with the above 36 observed variables, I found that the observed variables all belong to the groups suitable for the Rotated Component Matrix as follows:

Table 6: Rotated Component Matrix of Independent Variables

	Component							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
SC4	0,792							
VS2	0,775							
VS3	0,765							
SC3	0,730							
VS1	0,713							
SC5	0,694							
SC1	0,650							
SC2	0,591							
TI3	0,531							
CS5	0,497							
KN2		0,840						
KN4		0,829						
KN1		0,825						
KN6		0,819						
KN3		0,808						
KN7		0,799						
KN5		0,760						
CQ4			0,831					
CQ5			0,740					
CQ1			0,568					
CQ2			0,556					
CS1				0,691				
CS4				0,585				

CS3				0,582				
CQ3				0,492				
TI6					0,794			
TI5					0,557			
TI4					0,477			
AN3						0,682		
AN2						0,640		
AN1						0,553		
CS2						0,533		
TG2							0,887	
TG1							0,825	
TI1								0,749
TI2								0,700

Source: Collected by Author

According to (Hair, 1998) factor loading >= 0.35 to ensure the practicality of EFA. I found that all 36 observed variables satisfy this condition. Finally, the author obtained the extracted variance = 75,560% and the Eigenvalues index is 1,115, ensuring that the results of the analysis of exploratory factors are only accepted when the extracted variance is > 50% and Eigenvalues > 1. Thus, the independent variable including observed variables belonging to 6 groups of factors explains 75.560% of the dependent variable.

Exploratory factor analysis EFA for the dependent variable

Based on theories and related models in the above chapter, the dependent variable in the topic is defined as "Resident satisfaction" which is evaluated based on 4 observed variables. I conducted exploratory factor analysis EFA for the dependent variable on SPSS software. The results of the KMO and Barlett's test for the dependent variable show that the KMO value in this case reaches 0.746 > 0.5, which shows that the data is suitable for factor analysis and the Barlett's Sig = 0.000 < 0.05 says that the observed variables are correlated with each other. So I am qualified to do EFA for the dependent variable. The results of performing EFA show that all observed variables converge at 1 factor. At the same time, the extracted variance = 85.651% > 50% and the Eigenvalues index = 2,570 >1 ensure that the factor analysis results are accepted. Thus, the dependent variable consists of 3 observed variables belonging to 1 factor, which explains 85,651% of the variables.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.570	85.651	85.651	2.570	85.651	85.651
2	268	8.934	94.585			
3	162	5.415	100.000			

4.2. Regression model and conclusions about research hypotheses

The model's adjusted R2 squared value of 0.657 shows that 65.7% of the variation in the variable "Resident satisfaction" is explained by the variation of 6 independent variables ("Repair and maintenance", "Security", "Utility management quality", "Landscape and entertainment", "Cleaning", "Building management policy"). Durbin – Watson value = 1,845 ≈ 2 shows that there is no first order series correlation in the model and the collected data is good.

Next, testing the hypothesis about the overall fit of the model shows that the F-test value in the ANOVA table is equal to 82,162 and the Sig value of the test F = 0.000 < 0.05, shows that the R squared of the population is not 0. That means that the linear regression model built is suitable for the population.

Table 11: Regression analysis

Model		Unstandardized coefficient		Standardized coefficient	t	Sig.
		B	Standard Deviation	Beta		
1	(Constant)	-0.362	0.199		-1.818	0.070
	Utility management quality (QLTI)	0.098	0.045	0.105	2.199	0.029
	Repair and maintenance (SCBT)	0.176	0.076	0.149	2.324	0.021
	Management policy (CSQL)	0.168	0.068	0.142	2.481	0.014
	Security (AN)	0.181	0.062	0.179	2.926	0.004
	Landscape and entertainment (CQGT)	0.352	0.055	0.354	6.346	0.000
	Cleaning (VS)	0.084	0.040	0.087	2.087	0.038

Source: Collected by Author

The result shows the Sig value of all factors are less than 0.05, so the control variables are significant for the dependent variable and no variable is removed.

We have the regression equation:

*HL = 0.105*CLTI + 0,149*VSSC + 0,142*CSQL + 0,179*AN + 0,354*CQGT + 0,087*VS*

The equation helps to determine the degree of influence of the factors, thereby assessing the influence of each factor in the model on the dependent variable, which is the level of satisfaction of residents with apartment operation management services.

The results of assessing the influence of factors on the dependent variable are as follows: "Landscape and entertainment" has the greatest impact with an impact level of 0.354; followed by the factor "Security" with an impact level of 0.179; "Repair and maintenance" with an impact level of 0.149; "Management policy" with an impact level of 0.142. The two factors with the least impact are "Utility management quality" and "Cleaning" with levels of 0.105 and 0.087, respectively.

Table 12: Conclusions about research hypotheses

Hypothesis	Content	Conclusion
GT1	Good quality of utility management increases resident satisfaction	Approved
GT2	Good management policy increases resident satisfaction	Approved
GT3	Good maintenance and repair increases resident satisfaction	Approved
GT4	Good cleaning increases residents' satisfaction about apartment management and operation services	Approved
GT5	The more the entertainment and landscape ensures, the more satisfied residents will be	Approved
GT6	Good security increases residents' satisfaction about apartment operation and management services	Approved

5. Discussion and Conclusion

5.1 Policy implications for Apartment Management Board

Based on the research results, the author proposes a number of solutions for organizations providing apartment building operation management services, as well as for other stakeholders such as local authorities and apartment maintenance contractor.

Firstly, there should be a quick, reasonable, convenient and timely complaint handling process for residents. Based on the actual situation, the management of many apartments does not have a transparent and clear handling process for residents, causing frustration and reducing the satisfaction of residents living in the apartment. The time to handle urgent issues needs to be shortened by having a timely support unit right at the apartment building or members of the Management Board need to have high expertise and quick judgment to respond and handle any situations. In addition, taking advantage of technology, the Apartment Management Board should invest in equipment to monitor, anticipate and promptly support residents via hotline, website, fanpage, .. Based on these technological platforms, residents can directly contact the building managers when there is a problem and get immediate answers.

Second, the construction of a safe and healthy living space should be promoted for all residents living in the apartment. A safe, healthy living space includes quality entertainment landscape, cleaning service and a strict level of security. The management unit needs to actively renew entertainment facilities, aiming for diversity and high quality services to satisfy the needs of residents. In addition, the trend of green living is increasingly popular. The management needs to actively create a living space around the apartment building with a green park for residents to relax on holidays or in their free time. For security, improve the professionalism of the security system, assign guarding areas, reasonably protect, and ensure the security of residents' assets. For example, access to buildings requires resident cards (the number of cards is issued per household), the parking basement needs to be zoned for different vehicles, and staffs need to be on duty 24/24. In terms of hygiene, quality of cleaning services should be improved to ensure ventilation and proper airflow; common spaces and sewers should always be clean.

Third, focus on providing and optimizing utilities at the apartment, focusing on personalization and ease of use. The quality of essential utilities is one of the influential factors for residents' satisfaction with apartment management and operation services. With a diverse system of utilities, in order to maximize customer experience and increase satisfaction, the Management Board needs to regularly add, renew, repair and maintain them to ensure facilities quality. The facilities here include elevators, soundproofing systems, fire extinguishers, and etc. Residents need to be trained in the safe and proper use of utilities to be able to access and use them promptly when needed.

Fourth, regular monitoring and inspection should be focused. Inspection stage includes during, before and after service provision. This helps the management board to monitor and timely calculate possible problems, thereby having a timely plan to support residents, reducing complaints and unwanted dissatisfaction from residents. The inspection unit can carry out inspections in irregular or periodic occasions and with a person in charge, drawing repair experience after the inspection.

Fifth, human resources should be improved. The unit can implement human resource development activities by recruiting, training, and motivating employees. Businesses should establish a process and plan for employee management. Employees here include maintenance and repair staffs, cleaning staff, security staff, resident support staff such as the front desk department, etc. When employees are well trained and a comfortable working conditions, they will have a better working spirit and complete the assigned tasks with higher quality. In addition, it is necessary to consider correcting the current staff in terms of attitudes and ways of working with residents to increase professionalism and courtesy. Recruiting a new human resource team needs to be evaluated based on educational qualifications and practical experience as well as soft skills because apartment operation and management services require high customer contact.

5.1. Conclusion

This study examines the relationship between residents' satisfaction about the quality of apartment building operation management services with related factors including quality of utilities, security, cleaning, repair and maintenance, etc. The basic research hypotheses are given at the beginning with a positive relationship between the factors and proven in the above research results.

Through the research process, there are 6 factors that explain up to 65.7% of residents' satisfaction about apartment operation and management services, including “Repair and maintenance”, “Security”, “Utility management quality”, “Landscape and entertainment”, ““ Cleaning”, “Building management policy”. All factors have a positive correlation with “Resident satisfaction”. In particular, the factor “Entertainment and landscape” has the greatest influence on people’s satisfaction about apartment operation and management services. Then followed by are “Security”, “Repair and maintenance”, Management policy”, “Quality of utility management” and finally “Cleaning”.

Good “repair and maintenance” can increase residents’ satisfaction with apartment operation management services. However, residents have not yet appreciated this factor because most of the apartments are newly built, so this problem is not serious but the building management does good repair and maintenance. This result is different from some studies in developing countries that show that this is the most important factor determining the life cycle of an apartment building.

The “landscape and entertainment” with the biggest influence can be understood that the living space in the apartment is highly valued by residents. The greener and more natural the living space around the apartment is, the more diverse the entertainment facilities are, the more it will satisfy the needs of residents. For some families with young children, such as green parks, swimming pools or children's play areas are absolutely necessary. In fact, in

Hanoi and Hai Phong due to limited land fund, there are too few apartment buildings with landscape and entertainments to meet the requirements of residents.

In fact, the response and handling of complaints from residents of the apartment building management board is still slow, there are more than four complaints about the same problem. This can come from a complex service delivery process. In fact, the complaint handling process has many steps, which wastes time and creates difficulties when residents do it.

Overall satisfaction in terms of trust, understanding and service support should also be improved and promoted. The negative feedbacks of residents may come from the attitude, working style and qualifications of the building management employees.

The quality of utility management of the apartments has not really satisfied residents with an average score of 3.52/5. The cause may come from the long time of using and putting the utility into operation, the apartment has not been replaced and repaired and maintained regularly; or there is maintenance but the results after maintenance are not good, making residents unhappy.

6. References

1. Adriaanse, C.C.M., 2007. Measuring Residential Satisfaction: A Residential Environmental Satisfaction Scale (RESS). Journal of Housing and the Built Environment, 22(3), pp.287– 304.

2. Ariff, N.R.M. & Davies, H., 2011. Multi-owner low-cost housing management in Malaysia. International Journal of Housing Markets and Analysis, 4(3), pp.268–289.

3. Antwi, S.K. & Hamza, K., 2015. Qualitative and Quantitative Research Paradigms in Business Research: A Philosophical Reflection. European Journal of Business and Management, 7(3), pp.217–225.

4. Creswell, J.W., 2014. Research Design Qualitative, Quantitative and Mixed Methods Approaches 4th ed., California: Sage Publications, USA.

5. Dekker, K., de Vos, S., Musterd, S., & van Kempen, R., 2011. Residential Satisfaction in Housing Estates in European Cities: A Multi-level Research Approach. Housing Studies, 26 (4), pp.479–499.

6. Elsinga, M. & Hoekstra, J., 2005. Homeownership and Housing Satisfaction. Journal of Housing and the Built Environment, 20(4), pp.401–424.

7. Fatoye, E.O. & Odusami, K.T., 2009. Occupants' Satisfaction Approach to Housing Performance Evaluation: The Case of Nigeria. In RICS COBRA research conference held at the University of Cape Town.

8. Fong, K.L., 2010. A study of the causes of conflicts in the tenants purchase scheme in Hong Kong. University of Hong Kong.

9. Koebel, C.T. and Etuk, E., 1998. Improving Management of Assisted Housing Through Tenant Feedback. Virginia Center for Housing Research.

10. Lai, A.W.Y. & Lai, W.M., 2013. Users' Satisfaction Survey on Building Maintenance in Public Housing. Engineering, Construction and Architectural Management, 20(4), pp.420–440.

11. Lai, J.H.K., 2011. Comparative Evaluation of Facility Management Services for Housing Estates. Habitat International, 35(2), pp.391–397.

12. Lai, J.H.K., 2013. Gap theory based analysis of user expectation and satisfaction : The case of a hostel building. Building and Environment, 69, pp.183–193.

13. Lai, J.H.K., 2010. Investigating the Quality of FM Services in Residential Buildings. In Proceedings of W070- Special Track,18th CIB World Building Congress, Salford, UK. pp. 13–25.

14. Lai, J.H.K. & Man, C.S., 2017. Developing a Performance Evaluation Scheme for Engineering Facilities in Commercial Buildings: State-of-the-Art Review. International Journal of Strategic Property Management, 21(1), pp.41–57.

15. Báo cáo thị trường nhà chung cư của Bộ xây dựng, 2019.

16. Trương Tuấn Anh, Trần Hoài Nam và Phạm Hương Giang (2014). Ảnh hưởng của chất lượng dịch vụ quản lý chung cư tới sự hài lòng của người dân sống trong chung cư: Nghiên cứu thực nghiệm trên địa bàn Hà Nội. *Tạp chí Kinh tế & Phát triển.* số 205 (II), tr. 97-107.

17. Hoàng Trọng, Chu Nguyễn Mộng Ngọc. (2008). Phân tích dữ liệu nghiên cứu với SPSS.

FAITH IN THE ECONOMIC SECTOR IN CENTRAL VIETNAM - SITUATION AND SOME SOLUTIONS FOR MANAGERS

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Abstract

Human history in the development of nations has shown that, when the ruler understands the people's hearts and is trusted by the people, that country will mobilize the people's strength and all resources in the society. On the other hand, when people do not have faith in the government, in the law enforcement apparatus, then the society is always at risk of instability and conflict. Thus, trust plays a very important role, not only in politics but also in the economic field. The article focuses on analyzing and clarifying the current state of trust in the economic field in the Central region. From there, point out the opportunities and challenges for management as well as propose some solutions to strengthen and increase the trust of the people in this area.

Keywords: *Central, Economy, Management, Trust.*

1. Introduction

In recent years, research on beliefs in general and research on beliefs in the fields of social life in particular has been receiving research attention from domestic and foreign scholars with different aspects of approach. The results from the research process of scientists have shown the urgency of clarifying the role, position and impact of beliefs on people's lives. Therefore, the article will focus on analyzing and evaluating the reality of trust in the economic field in the Central region; points out opportunities and challenges as well as proposes some solutions to help managers consolidate and increase confidence in this field.

2. Method

The two main methods used in this study are qualitative (focus group, interview, observation...) and quantitative (investigation, processing of collected data). Besides, the article also uses other complementary research methods such as analysis, comparison, contrast..., in order to properly assess the current state of trust in the economic field in the Central region, as well as Identify opportunities and challenges for management.

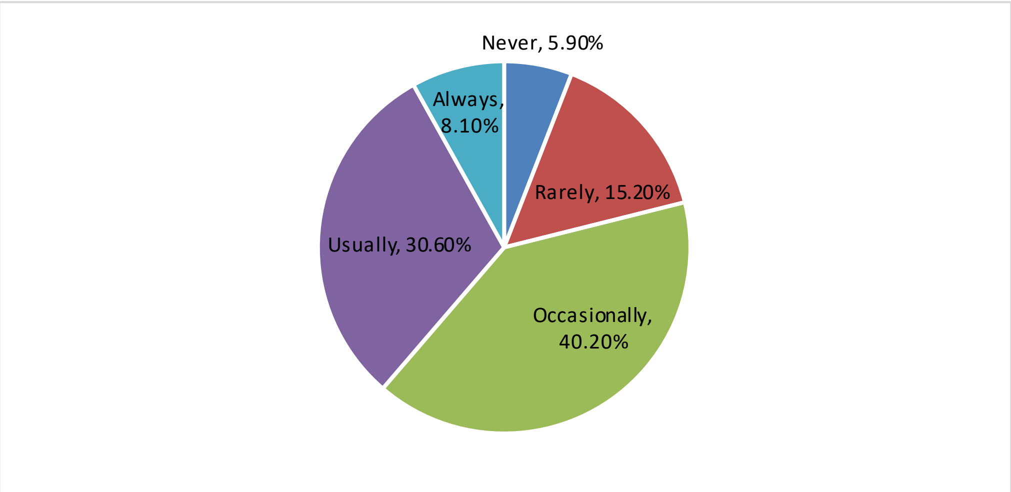
3. Results

3.1. The current state of confidence in the economic field in the Central region

Researching the level of impact of the "economic" factor on social trust according to the rural/urban slice in the Central region shows that, between the city group and the rural group, there is a difference in mean scores. each other is 0.113 (3.981 - 3.868 = 0.113). Visually, this difference is not large. However, through the T-Test correlation between this mean score, it shows that there is a correlation (F = 3.412, Sig = 0.015) [5, p.181-182]. Thus, the "economic" factor has a fairly large impact on the social beliefs of people in the Central region (M= 3.91), and this factor's impact in urban areas is more pronounced [5, dependent Appendix 13]. The survey results show that the majority of respondents at the level of "*yes*" are interested in the economic field, specifically economic activities in their locality at different levels (*alway*, *usually*, *occasionally*, *rarely*). Only 5.9% of respondents answered "*never*" interested in the economic field.

Chart 1: Interest in the economic sector

Unit: %



Source: Processing from the results of the sample survey of the topic "Social trust in the face of challenges of development and integration in the Central region"; Code: KX.01.42/16-20

By gender, at each level, there was not much difference in the rate of recognition between the male and female groups (31.1% and 30.0%, 5.8% and 6.0%), respectively. By occupation (occupational group) also gave similar results: the difference was not large enough to conclude the correlation between occupation variable and the level of economic interest (p=0.155) [5, p.183].

The current biggest pressures and worries for people in the region are issues related to income, spending, their children's future and rising prices. Quang Ngai is a locality with up to 78.3% of people sharing their pressure, their biggest worry now is the future of their children, followed by Thanh Hoa (77.6%), the third is Thua Thien Hue province (76.3%). The second worry is related to income and expenditure: Up to 78.0% of respondents in Binh Thuan expressed this concern, followed by Khanh Hoa with 71.7%, Thanh Hoa with 71.6%. Khanh Hoa is the place with the highest rate of people's anxiety about rising prices up to 61.7% [5, p.184]. Regarding the factors and issues that people think can hinder the development of the country today, the survey results show that the highest problem is corruption (72.2%), social evils (39.8%), unsatisfactory staff qualifications (37.4%), degraded social morality (25%), unstable world and regional situation (20.6%) , ... (these are the 5 problems with the highest selection rate). Those are also the main reasons for the decline in social trust [5, p.184].

In the limited scope of research, we only choose to analyze some social beliefs before the challenge of developing marine economy in the Central region. That is the people's trust in the Party and State's leadership on the marine economy and maritime sovereignty. Regarding the belief of people in the Central region in the ability to solve the limitations that the country is facing: 18.1% of the respondents said that they strongly believe, 59.2% believe, 19.8% feel trust at a normal level, the rate of distrust and very distrust is only 2.8% [5, p.186]. It can be seen that, although the majority of people have confidence in solving the problems that the country in general and the Central region in particular are facing, there is still a part of people whose faith has decreased. Some phenomena of confidence decline in the process of implementing development and integration policies related to sea and islands, through marine economic sectors, such as fishing industry, aquaculture industry, seafood processing industry, sea tourism, coastal economic zones.

In the fishing industry

Determining marine economic development as a priority area, over the past time, the Government has issued many Decrees and Decisions to greatly support fishermen in sticking to the sea [7]. These policies and decrees have created a great motivation for fishermen to feel secure and continue to stick to the sea in Vietnam's fishing grounds. According to the results of the group discussion and in-depth interviews, many fishermen affirmed: “We are really happy and grateful for the policy of the Party and the State in the face of the current difficult fishing situation. With this support, we have an additional cost to go to sea to offset the current decreasing reserves” [5, p.185].

The investment in equipment such as communication equipment, marine safety equipment, and fishing support techniques has not been paid attention by fishermen, so the fishing efficiency is not high. Therefore, the state also issued Decree 26/ND-CP on regulations on the installation of cruise monitoring equipment for fishing vessels. Accordingly, some localities have installed GPS-enabled devices for free for all fishermen in the area (such as Da Nang city), thereby helping fishermen to sail safely and more efficiently. Obviously, the Government has issued policies and decrees that are very practical to the lives of fishermen, completely satisfying the people. However, according to the results of in-depth interviews at some research sites, fishermen have reflected that policies and guidelines are good, but the implementation process is sometimes negative and limited: “We do So we know that, there are people who come back, don't know the sea profession, but still receive funding to build ships according to the policy of the State. And they can add up the cost of building the ship, but in reality, that money is enough to build more nest houses. Boats sometimes don't go for a few years, sometimes they leave" [5, p.185]. Thus, in addition to the confidence and enthusiasm in implementing the State's development policy in fisheries, there is still a phenomenon of decreased confidence, when people see that in the implementation of the development policy, there is a Wrong person, wrong job.

Currently, in some sea areas, there is still a situation of using explosives, sweeping nets, flying rake nets, which have seriously destroyed the ecological environment of coastal areas. In addition to the fishermen who catch fish according to the requirements of sustainable development, there are still fishermen and workers in the fishing industry who have not been trained but mainly catch traditional fish. Many captains and chief engineers only receive accelerated training to obtain a practicing certificate. If fishermen continue to fish in this way, one day not far away, there will be no more seafood sources to exploit. This situation requires the state to quickly come up with solutions to protect aquatic resources at sea and strengthen people's confidence. According to the survey results, the belief of some fishermen in the implementation of the State's current policies to protect the environment and the ecosystem is not good. Since then, the implementation of coordination between fishermen and the State in ecological protection of the marine environment has not been effective. “*The state calls for fishing far from the shore to protect fish resources, but in fact, the big fish, the mother fish is often far away. After catching the mother, how can the fry come closer to the shore? Ninh Thuan waters are often the place where fish come to spawn, but there are shallow water, many reefs, ships cannot enter, and on the other hand, they use mines to catch fish, which is the reason why seafood is increasingly rare. The State needs to have appropriate sanctions*” [5, p.185].

The process of economic development in general and the development of the fishing industry in particular create many opportunities and challenges for the fishing community and businesses in the Central region. There are some fishermen who seize the opportunity to build new ships with large capacity, they have the conditions to reach out to sea and get rich from the sea; But besides that, there are also many fishermen who abandon ships, abandon the sea, and do not want themselves or their children to follow this profession anymore. These changes are due to social beliefs that have adapted to the new context in the process of development and integration. There can be a number of reasons that cause fishermen to lose confidence in the fishing industry and not continue to stick with the profession, including:

First, production costs increase, profits decrease. Fishery resources are increasingly depleted, so fishermen have to regularly go out to catch long-term fishing at sea, increasing the cost of each time they go out to sea to exploit. Fuel prices are high while seafood prices are unstable, affecting the income and life of fishermen. Most of the seafood caught after each fishing trip must be brought to the mainland for sale, so there is an additional cost of each time going to the mainland, an additional cost of about 10-15 million VND.

Second, the consequences of climate change increase storms and tropical depressions, increasing the risk of accidents at sea, causing loss of life and property of fishermen.

Third, the security situation and sovereignty over the sea and islands. In recent years, in the East Sea area, especially in the Hoang Sa and Truong Sa archipelagoes, the political situation has always been very complicated. Sovereignty disputes between countries are the risk of conflicts, especially China's groundless claim of sovereignty over the Paracel Islands, and increased military activities to tense situation in this area. In fact, there have been some cases of fishermen operating normally in Vietnamese waters but being chased away by boats of other countries, even Vietnamese fishermen were arrested and confiscated property, boats and fined and imprisoned fishermen. Besides, the strict implementation of regulations on the extent of territorial waters, so the fishing ground of fishermen going far away also decreased.

Fourthly, due to the policy of developing other marine economic sectors such as marine tourism, coastal economic zones have changed, the range of coastal fishing of fishermen has been narrowed, and at the same time, the policy of relocating some communities has changed. The fishing community is far from the water, so it is difficult for them to follow the sea profession.

Fifth, the change of a part of fishermen due to subjective reasons of individuals, such as health situation, job opportunities, do not want to live away from their wives and children for a long time, so they changed jobs.

These reasons have partly affected the decline in confidence of some fishermen today, so it is necessary to have solutions and policies to further strengthen the social trust of the fishing community.

Aquaculture industry

Over the years, the aquaculture industry has made great strides. In the three provinces of Binh Dinh, Phu Yen and Khanh Hoa alone, the aquaculture area has reached more than 9,500 hectares...; Quang Nam has 7000 hectares of water surface area for aquaculture, the largest in the South Central Coast region; Thanh Hoa is 19,500 hectares... Song Cau is known as the "lobster metropolis" of the country. After more than 10 years of implementing the aquaculture planning, the whole town now has about 600 hectares of ponds and lagoons; aquaculture production reaches more than 2,300 tons, and lobster is still one of the main livestock, with an output of 1,200 tons/year. Khanh Hoa province is the place to produce many types of aquatic products such as tiger shrimp, white leg shrimp, sea fish; molluscs, sea crabs... so the ability to supply aquatic breeds is very good. The development of mariculture on seas and islands helps organizations and people have the opportunity to invest in development, contribute to adjusting coastal fishing by manual means to marine aquaculture, protect and develop aquatic resources. Marine aquaculture also helps people to increase their income, eliminate hunger and reduce poverty, and change the economic structure; contribute to the protection of security of seas and islands. According to the results of group discussions and in-depth interviews, many fishermen confirmed: "*Thanks to the supportive policies of the local government and dedicated technical guidance in aquaculture, the fishermen believe that the their lives will be better in the future, their children will have more opportunities to learn than themselves*" [5, p.185]. Besides, a large part of fishermen still complain, they really want the government to control the price and quality of food, because the price is too high now. In addition, the water environment is seriously polluted, plus the seed has too weak resistance and many diseases cannot be cured, such as white spot syndrome in black tiger shrimp (WSSV) yellow head syndrome or Taura syndrome in white leg shrimp, neurovirus... and even the consumer market is facing great difficulties. This causes the income of fishermen to decrease, even losing all their properties if the disease occurs in about 2 cases. "*We really hope the government has a solution to solve the difficulties for our fishermen, so that we can continue farming. If we lose a few more crops, our family will have to sell our house to pay the debt"* [5 , p.187]. This is also a difficulty that many shrimp farming households face and earnestly wishes to have the State's support and assistance to solve it.

Seafood processing industry

Export processing is a fast-growing sector and can be considered as a driving force for growth and structural transformation in fishing and aquaculture. The quality and competitiveness of seafood products in Vietnam in general and the Central Coast in particular have been continuously improved, creating a great reputation in the world market. It can be said that seafood processing enterprises and establishments are mainly concentrated in the Central region, a few in the Southeast and the Mekong River Delta. Up to now, out of a total of more than 570 seafood processing enterprises, 248 enterprises (accounting for nearly 53%) have been recognized by the European Union to be eligible to ensure food safety and hygiene. exported to the EU market - the most demanding market today. In addition, there are more than 300 business establishments that have been recognized by Korea for quality standards... This shows that our seafood products have been raised to the level and have the ability to compete in the international market. Since then, people's confidence in the "Vietnam" brand is present all over the world and competitiveness in the international market has increased. The results of in-depth interviews with seafood processing enterprises and people said, "Vietnamese seafood products are competitive in the world and Vietnam's seafood products will grow strongly in the coming time. , on all continents" [5, p.187]. This has proved the people's great belief in Vietnamese products, as well as Vietnam's mechanisms and policies in cooperation to bring Vietnamese products to the international market. That belief gradually turned into actions for the seafood processing industry to develop more and more.

Sea tourism industry

Central region is the region with the largest potential for sea tourism in Vietnam. The provinces and cities in the region are bordered by the sea and have many cultural heritages and famous scenic spots. A number of heritages are recognized by the United Nations Educational for Science and Culture Organization (UNESCO) in the Central region, such as: Phong Nha - Ke Bang National Park - a world natural heritage (Quang Binh); Hue Royal Court Music - Intangible Cultural Heritage (Thua Thien Hue); Hoi An Ancient Town - World Cultural Heritage, My Son Sanctuary - World Cultural Heritage, World Biosphere Reserve Cu Lao Cham (Quang Nam)... Besides, Thua Thien Hue has Bay Lang Co is the "*world's most beautiful bay*" voted by the World's Most Beautiful Bays Club (Worldbays). Da Nang has My Khe Beach which is one of the 7 most beautiful beaches in the world voted by Forbes... In front of the rich, diverse and attractive tourism and beach tourism potential, many localities in the region are typical such as: Khanh Hoa, Da Nang have chosen tourism as a key economic sector, in order to increase income sources and create jobs. This is also the driving force promoting the development of economic, investment, trade, cultural and social sectors. The development orientation of the marine tourism industry has contributed to strengthening confidence in economic development, improving people's living standards, and also creating new challenges for social trust in the Central region.

Developing marine tourism increases cultural exchanges and acculturation, strongly influencing the social beliefs of local residents in the Central region. The marine tourism industry is increasingly diversified, not only limited to the type of resort, but also expanding to tourism combining traditional historical culture, sports, conferences, seminars, and events. more tissue. The source of international arrivals by sea is increasing. In the near future, there will be more international cruise lines coming to our country, of which Saigontourist has signed an agreement with a large cruise line in the United States to open sea tours following the North - South route. This is the success of expanding international cooperation in many aspects, in addition to domestic tourists, the number of international visitors to the Central region is increasing, helping the tourism industry to grow strongly, affecting confidence in international integration and cooperation. The development of tourism has created conditions and opportunities to develop the urban economy, improve living standards and have a great impact on the way people think and act. A part of urban residents who previously only worked in agriculture or fishing, now boldly invests in business services to serve the tourism industry, tourists such as: Hotel business, restaurant, food service; products and services for tourism, entertainment and recreational activities. In addition, with the development of tourism, the ongoing integration, and the strong impact on industries, people also have to adapt to that demand and have grown taller and more professional, such as developing Homestay tourism model. They know how to combine tourism through tourism to restore and develop traditional occupations that were almost lost in the past, such as Tra Que vegetable village tourism - Hoi An city, pottery village... Small business activities have gradually been replaced by larger and more professional services to better meet the needs of tourists, such as the formation of restaurant chains, hotel chains, and restaurant chains. coffee, beverage, transport enterprises. Therefore, it can be said that tourism development has made people bolder, more confident and brave, more dynamic and creative. Lifestyle, communication, and daily behavior have changed a lot. People are more polite and civilized in communication and behavior, thinking more quickly, with a more attentive and professional service attitude.

Besides the positive impacts, tourism also has some negative impacts on the local urban culture. Through tourism activities, tourists, cultural flows, dress styles, behaviors, and lifestyles that are not suitable from the outside have the opportunity to enter, partly affecting the lifestyle of residents. people, changing the traditional cultural identity, customs and habits of the city. Some evils also arise from tourism activities, such as begging, stalking tourists, street vendors, drugs, prostitution, etc., which affect people's perception. Since then, a small part of the population said, "*Due to the development of tourism, it has a negative impact on their lives, they even think that their children are demanding and damaged because tourism develops, due to the influence of Western culture, due to integration*" [5, p.188]. The negative side of tourism development also has a negative impact on the lives of local residents, negatively impacting and reducing trust. Stemming from the above fact, we need to take note in the implementation and implementation of policies so that people's confidence does not decline in a negative direction, but on the contrary, trust must be increasingly strengthened.

Coastal Economic Zone Development

In order to strengthen the potential for marine economic development, the State has invested in developing industrial parks and coastal economic zones in recent years. Chu Lai economic and commercial zone was first established in 2003, so far the Central region has had many more coastal economic zones: Nghi Son (Thanh Hoa), Southeast Nghe An (Nghe An), Vung Ang (Thanh Hoa). Ha Tinh), Hon La (Quang Binh), Southeast (Quang Tri), Chan May - Lang Co (Thua Thien Hue), Chu Lai (Quang Nam), Dung Quat (Quang Ngai), Nhon

Hoi (Binh Dinh), Van Phong (Khanh Hoa) and Nam Phu Yen (Phu Yen). The total area of the economic zone in the whole region is 317,761 ha, of which, Van Phong economic zone is the largest, with a total area of 150,000 ha. Regarding projects, economic zones in the region attract about 743 domestic and foreign investment projects with a total registered capital of more than 70 billion USD, production and business projects in the economic zone have filled 40%. total land area for agricultural production, industry, tourism and services in the coastal economic zone [2]. In which, there are a number of large and important projects in economic zones such as: Oil refineries in Nghi Son and Dung Quat economic zones; shipyards in Nghi Son and Dung Quat economic zones; Quang Lien steel factory, Son Duong iron and steel complex and deep-water port, Doosan heavy mechanical factory, thermal power plants in Nghi Son, Vung Ang, Dung Quat and Dinh An economic zones. These projects contribute to local economic growth in the region, create jobs for people, improve people's living standards, thereby increasing people's confidence and peace of mind in the economic development policies and guidelines of each locality, each region and the State..

However, there are also some problems that cause people's loss of confidence. The implementation of resettlement migration to build economic zones has caused some communities to change their livelihoods, change culture, disturb traditional space... That challenge increases the distance gap between the rich and the poor, reducing the relative stability of coastal village communities. The environmental problem is being seriously polluted from economic zones, making many people unhappy with this place and ready to go to another place if the working environment is better and less polluted. In fact, there has been a serious environmental pollution incident. Notably, the discharge of waste by Formosa company caused mass fish deaths in 4 provinces from Ha Tinh to Thua Thien Hue in 2016. The above environmental incident has greatly affected the social trust of the community and the regional ecosystem sea of 4 provinces in particular, of the Central region and Vietnam in general. After the above event, the State quickly made adjustments to the problem of environmental pollution in the operation of economic zone projects more efficiently and safely. Because if this problem is not solved thoroughly, at some point people's confidence in the policy will be reduced.

3.2. Some solutions to strengthen and increase confidence in the economic field for managers

Firstly, it is necessary to take care of the economic life of the residents in the Central region in a timely manner. This is shown first in the role of the Party, State and authorities at all levels. That is the construction and completion of mechanisms and policies to promote comprehensive economic development in the Central region. This is the key to building and developing economic confidence today. In recent years, the Central region's economy has had remarkable growth, but the growth rate is still not high and not really stable. Therefore, in order to promote the Central region's economy in the coming periods, it is necessary to maintain the stability of the macro-economy, renew the growth model, and restructure economic sectors. Improve the efficiency and management capacity of the State and authorities at all levels. This is the most important and basic measure and requires the Party, State as well as authorities at all levels to always implement it continuously and effectively. Stable and sustainable economic development is the basis for enhancing the potential of the region, thereby building a cultural life, developing trust for people, and effectively protecting territorial integrity. . In addition, the development and completion of mechanisms and policies to improve the economic life of the people is also the best solution to affirm the capacity and effectiveness of managers. This will strengthen the public's confidence in the Party and State as well as in the renovation and development of the country in the coming periods.

Along with the general development strategies, the Party and State also need to have specific strategies for the Central region such as: continue to research and perfect policies and laws on investment, to serve as a basis for accelerating the progress of projects and encouraging the mobilization of capital for socialization in investment in transport infrastructure; propose a plan to improve the coordination mechanism for key economic regions to promote the initiative and creativity of localities in the region, in which clearly defines responsibilities and strengthens coordination among ministries, branches and localities in the region. Completing regulations on methods of exploiting infrastructure assets; lease the right to exploit the property, transfer for a definite time the right to exploit the property; Fees for using infrastructure, post-investment fees, are regulated by the State in compliance with market principles, ensuring publicity and transparency. At the same time, research and develop policies for mountainous people, especially ethnic minorities in extremely difficult areas in order to gradually stabilize production and people's lives. Implement synchronously, comprehensively and effectively programs and projects on hunger eradication and poverty reduction; creating opportunities for poor households to access support policies on land, credit and vocational training; support and create conditions for poor households to develop production, increase income to escape poverty sustainably; effectively implement policies to attract enterprises to invest in agriculture and rural areas, agricultural insurance policies, agricultural extension policies.

Attention should be paid to speeding up the formulation of national and regional plans, taking the sea and coastal areas as the center for development; To build modern coastal urban areas, construction planning must go first, identifying the sea as the center to calculate the coastal urban construction planning. Continue to improve the investment environment, creating conditions to attract more domestic and foreign resources. Diversify investment types, promote investment in the form of public-private partnership (PPP) to focus on developing the socio-economic infrastructure system. There are policies to support capital for the key development of economic zones. Make the most of ODA and FDI capital and effectively use ODA capital to invest in the development of key large-scale technical infrastructure projects. It is necessary to pay attention to policies for the development of works for prevention, control and mitigation of harms of natural disasters. Complete the North-South transport system and the East-West cross-road system connecting seaports and coastal provinces with the Central Highlands. Strengthen linkages between regions and central provinces with the Central Highlands, cooperate for mutual development.

Second, promote the economic strengths of the region, and at the same time, maintain a stable level of traditional occupations of the Central Coast resident community. The strength of the Central region is in the marine economy and tourism. Therefore, promoting the strengths of these fields will help people be more confident in local economic sectors. Since then, people quickly stabilized their lives and limited migration to big cities. In order to promote the advantages of the marine economy in the Central region in the coming years, the Party and State as well as the Party committees and authorities of the provinces and cities need to perfect the system of policies and laws on the sea towards sustainable development. , ensuring feasibility, synchronism, uniformity and conformity with legal standards and international treaties to which Vietnam is a signatory. Create a favorable legal corridor to mobilize domestic and foreign resources for investment in infrastructure construction, development of science, technology, human resources and transfer of marine knowledge. Actively participate in and actively promote the formation of global and regional mechanisms related to seas and oceans. Consolidate the system of state management agencies in charge of the sea from the central to local levels, ensuring it is modern and synchronous; build a contingent of highly qualified and professional staff. Improve the efficiency of coordination between agencies and between the central and local authorities on sea and island affairs. Strengthen the inter-sectoral coordinating agency to direct and unify the implementation of the strategy for sustainable development of the marine economy. Consolidate the organizational model, improve the management capacity of islands, archipelagoes and coastal areas. Implement the population arrangement on the islands in association with transforming the production organization model towards being friendly with the sea and marine environment. Reviewing, supplementing and developing synchronously new strategies, master plans and plans related to sea and islands in the direction of integrated management, suitable to the marine ecosystem, ensuring the harmonious coherence and harmony between the conservation and development of land areas, coastal zones, exclusive economic zones and continental shelves. Expeditiously develop marine spatial planning, master plan on exploitation and sustainable use of coastal resources. To step up the attraction of resources from all economic sectors, especially the private sector and foreign-invested economy. Actively attract large investors with source technology and advanced management level from developed countries. Prioritize state budget investment for the development of island districts and communes of Tien Tien and offshore islands; to socialize investment in marine and island infrastructure, economic zones and coastal industrial zones. To encourage the development of enterprises of all economic sectors, marine economic groups boldly engage in production and business activities at sea, especially in offshore waters. Continue to restructure state-owned enterprises in marine economic sectors, ensuring to improve governance capacity, production and business efficiency and competitiveness.

The marine economic development in the Central region must focus on 5 pillars: Fisheries must focus on farming, catching and processing seafood, this is a strength not all regions have; Tourism should focus on developing sea and island tourism and exploiting the strengths of tourism in the central provinces; developing seaports associated with logistics services; develop manufacturing and processing industries associated with seaport advantages; develop renewable energy such as wind power, solar power and research other forms of energy.

In addition to promoting the advantages, ensuring a stable economic environment is also necessary to maintain the stability of people's lives. For the Central region, the main economic sector is still agriculture. However, the weather conditions of the region are very harsh. In addition to drought, this area also suffers from many different storms every year, not to mention salinization, water pollution is taking place very seriously in many localities. Therefore, one of the positive directions in building people's confidence to live by agriculture is the problem of overcoming the consequences of natural disasters and ensuring the infrastructure, especially irrigation. Governments of provinces and cities need to pay attention to building development visions and scenarios on the basis of considering impacts from climate change, impacts from development activities, and dealing with extreme impacts such as drought and drought. drought, water shortage, saltwater intrusion, pollution, water degradation. Agricultural planning closely follows the transformation requirements of economic restructuring; solutions for planning irrigation associated with irrigation, saving water, reusing water, creating water sources, storing, regulating, transferring and connecting water sources by pipes, bringing water to coastal areas; research on irrigation solutions to supply water to areas where droughts, water shortages and saltwater intrusion are frequent. Develop investment plans to develop agricultural infrastructure with focus and focus in the direction of synchronization, modernity, application of new technologies. In which, continuing to invest in the new rural program, ensuring to meet the needs of socio-economic development, combating natural disasters and stabilizing people's lives. Investing in construction of irrigation works to supply water for irrigation and daily life in ethnic minority areas, mountainous areas, areas with extremely difficult socio-economic conditions, areas affected by climate change climate, drought, saltwater intrusion...

Third, strengthen linkages between the Central region and other regions in the country and expand international cooperation. To promote the ability to integrate into the market economy of the Central region, thereby mobilizing capital as well as the investment process of domestic and foreign companies and enterprises. Governments of the central provinces need to promote economic restructuring according to regional advantages, in association with the implementation of the *Strategy for sustainable development of Vietnam's marine economy to 2030, with a vision to 204*5. Brand building and national products by industry and region's advantages, new products, high added value. To soon build, complete and share a common database system on localities in the Central region, economic sectors, social fields, progress of key projects deployed in the area, serving construction develop and coordinate regional linkage activities. Accordingly, prioritizing the State's resources for investment and development of inter-regional transport infrastructure. Along with that, the provinces and cities in the region need to actively mobilize a variety of resources, combine capital sources between the central and local governments, and take advantage of ODA, private capital and other lawful capital sources to develop the project. implementing key projects, of a breakthrough nature, creating regional linkages. Consider mobilizing the business community, entrepreneurs and all economic sectors to participate in activities to carry out the task of coordinating socio-economic development of the region. The Ministry of Planning and Investment also proposed to assign the Ministry of Finance to develop mechanisms and policies to create a source of income for a number of large provinces and cities, playing the role of a locomotive of economic growth of the country. Focus on building a complete infrastructure system in the region, with a focus on the Central Key Economic Zone. Speeding up the completion of projects, especially the system of connecting framework infrastructure connecting the Central provinces with the Central Highlands provinces, with Laos, Cambodia and Northeast Thailand; system of coastal roads, highways, airports; renovate and upgrade existing railway lines to ensure normal traffic during the rainy season, etc. to connect with neighboring areas.

4. Conclusion

It can be seen that confidence in the economic field in the Central region is going along two main trends: development and decline. The positive development trend of trust comes from the effectiveness of economic-related mechanisms and policies issued by managers as well as the growth of economic sectors in the region during the period. past time. The trend of declining confidence stems from the negative effects of the market mechanism, the instability of weather conditions, climate and even unhealthy business psychology of some businesses and individuals.. Trust in the economic field plays a very important role, not only regulating the development ability of the country's economy or the region, but it also affects many different areas of social life. Therefore, it is necessary to pay special attention to the issue of consolidating and increasing confidence in the economic field in order to create for the region and the country a stable development.

5. References

1. Central Population and Housing Census Steering Committee (2019), *Population and Housing Census Results (April 2019)*, Statistical Publishing House, Hanoi.

2. Ministry of Planning and Investment (2017), "*Report on establishment and development of industrial parks and economic zones in the first quarter of 2017*", Source: http://www.mpi.gov.vn/.

3. Ministry of Planning and Investment (2017), "*Report on establishment and development of industrial parks and economic zones in the first quarter of 2017*", Source: http://www.mpi.gov.vn/.

4. Communist Party of Vietnam (2021), *Documents of the 13th National Congress of Deputies*, Volumes 1, 2, National Political Publishing House, Hanoi.

5. Doan Trieu Long (2021), "*Social trust in the face of challenges of development and integration in the Central region"*, State-level Science Project, Code: KX.01.42/16-20, Hanoi.

6. Reporters group (2016), "*Formosa committed to compensate 500 million USD after the incident of mass fish deaths*", Source: https://vnexpress.net.

7. *Decision 48/QD-TTg dated July 13, 2010 of the Prime Minister, Decision 1787/QD-TTg dated November 29, 2012 of the Prime Minister on pilot policies to support fishermen in shipbuilding steel shell for offshore fishing*, Decree 67/2014/ND-CP dated 7/7/2014 of the Government...

SESSION 6:

LAWS AND INSTITUTIONS

COMPLETING THE LEGAL FRAMEWORK FOR SOCIAL ENTERPRISES IN VIETNAM

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Abstract

Social enterprises are a new trend emerging in Vietnam. Social enterprises is formed to address social issues or specific environments through models of business truly sustainable, not just to maximize profits for owners or investors invest. The provisions of the law on social enterprises are an important legal framework in encouraging social enterprises to develop. For the first time in the history of Vietnamese business law, social enterprises were recognized as a new business model in the Law on Enterprise 2014. After that, the Government introduced This form of social enterprises is in Decree No. 96/2015/ND-CP of October 19, 2015. Currently, the law on social enterprises in Vietnam is relatively new both in terms of theory and practice. law enforcement. The paper examines the laws and practices that apply the laws governing social enterprises, proposes solutions to improve the law and improve the performance of the social enterprise model in Vietnam today. The author tries to clarify some theoretical issues about social enterprises, analyze legal provisions on models, assess the situation and propose solutions to improve the law on social enterprises in Vietnam.

Keywords: *Social enterprises; Law on Enterprise; Enterprise.*

1. Introduction

Social enterprise is a new legal term appearing in Vietnam and recently, social enterprises are receiving the attention of policy makers, as well as French scientific researchers. physical. Currently, the legal status of social enterprises is prescribed in Article 10 of the Law on Enterprise 2014 and Decree No. 96/2015/ND-CP , generally the legal corridor on social enterprises in Vietnam is still very primitive and needs to be further improved. The article provides some theoretical issues about social enterprises under Vietnamese law to contribute to a clear description of the nature of social enterprises in order to develop appropriate adjustment policies and raise common awareness. about social enterprise.

2. Research method

Specific methods used to study this topic "Improving the law on social enterprises in Vietnam" are as follows:

- *Method of interpretation*

This method is applied to study the basic theoretical issues that govern the social enterprise legislation in Vietnam.

- *Methods of analysis, comment*

This method is applied to present the specific provisions of the Vietnamese international legal system of social enterprises in Vietnam.

- *Systematization and synthesis method*

This is the research method used to generalize and draw conclusions and basic proposals about the author's new contributions to the completion of Vietnamese law on social enterprises.

3. Research questions and research results

3.1. Research question

Research questions 1. What is the legal nature of social enterprises in Vietnam?

Research questions 2. What is the solution to perfect the provisions of the law on social enterprises in Vietnam?

3.2. Research results

3.2.1. Social enterprises are enterprises registered under the Law on Enterprise 2014

The Law on Enterprise 2014 does not provide a definition of social enterprises but there are criteria for identifying social enterprises in Article 10. From this provision, we can understand that a social enterprise is an enterprise. established under the Enterprise Law, with the purpose of operating to solve social and environmental issues for the benefit of the community, which uses at least 51% of the total annual profit to reinvest in order to achieve the goal. society and environment.

According to Point a, Clause 1, Article 10 of the Law on Enterprise 2014, a social enterprise whose first criteria is an enterprise registered to establish under the provisions of this Law. Thus, the Law on Enterprise 2014 does not consider social enterprises a particular type of enterprise, but like ordinary businesses, social enterprises still organize and operate under one of the business types: Joint-stock companies, limited liability companies, partnerships and private enterprises [1].

Because it is also an enterprise, in order to establish a social enterprise or a social entrepreneur (the person who invests capital to establish a social enterprise, the author uses the term "social entrepreneur") to carry out the procedures. The common legal framework for establishing a business is one of the types of businesses designed by the Law on

Enterprise 2014. This criterion shows one of the basic characteristics of social enterprises, similar to ordinary businesses, that is having business activities. Accordingly, business is the continuous implementation of one, some or all stages of the investment process, from production to sale of products or provision of services on the market for profit-making purposes. From the definition of enterprise, business law of enterprise and according to the traditional conception in legal science in Vietnam, it is the factor "aiming at profitability" which is the basic and decisive factor to the birth. and business activity, "an inseparable attribute of the enterprise" [2] and "the ultimate destination of business" [3]. From that, it can be understood that the main purpose of starting a business is to create profits for investors in the business, while solving social issues for the benefit of the community is not the main goal. of business. Therefore, there is a view that the business definition in Vietnam is too emphasizing the idealism, the legislators have not generalized businesses not for profit-seeking purposes [4].

On the other hand, also taking into account the definition of "enterprise", the purpose of establishing a business is to carry out its business function, the main objective is to make a profit for investors in the enterprise, provided in Article 75. The Civil Code 2015 was classified as a commercial legal entity. Meanwhile, according to Article 76 of the 2015 Civil Code, a social enterprise is a non-commercial legal entity, "it is possible to seek profits but it is not the main goal and it is important if it is beneficial. Profits are not distributed to members "[5]. According to the Law on Enterprise 2014, social enterprises fall under the category of "enterprises", according to that logic, social enterprises must be a commercial legal entity, but the Civil Code did not follow that direction. It seems that in the spirit of the 2015 Civil Code, social enterprise is a category outside the business concept, which created a contradiction with the Law on Enterprise 2014.

Currently, the procedures for establishing a social enterprise are stipulated in the Law on Enterprise 2014 and the Government's Decree No. 96/2015/ND-CP dated October 19, 2015 detailing a number of articles of the Law on Enterprises. (Decree No. 96/2015/ ND-CP). Like every other business, social entrepreneur also has its own name. Based on the standards of enterprise name prescribed by law, social entrepreneurs will actively decide on naming for social enterprises. According to regulations from Article 38 to Article 42 of the Law on Enterprises 2014, there is no specific regulation on naming of social enterprises. Under Clause 2, Article 4 of Decree No. 96/2015/ND-CP , the phrase "social" may be added to the proper names of social enterprises. Regulations can add the phrase "society" to the private name of a social enterprise is an arbitrary norm, decided by the founder of social enterprise. However, both the Law on Enterprise 2014 and its implementing regulations do not provide for the prohibition or restriction of investors from using the phrase "social enterprise" or the abbreviation "Social Enterprises" in the name of the enterprise. ordinary karma. Consequently, investors may take advantage of these terms in naming their businesses so that the State, the public and partners may confuse the entity for unhealthy business. Therefore, the law of Vietnam needs to prohibit the use of the words "social enterprises" or the abbreviation "Social Enterprises" in the names of ordinary businesses, this is also consistent with the provisions of the law. United Kingdom and South Korea.

3.2.2. Social enterprises have operation objectives aimed at solving social and environmental issues for the benefit of the community

According to Point b, Clause 1, Article 10 of the Law on Enterprises 2014, social enterprises have an operational objective to solve social and environmental issues for the benefit of the community. Social, environmental and community issues such as protecting the environment, protecting and responding to basic human rights through job creation activities for those who are difficult to integrate and vulnerable trade, provision of health services, education, clean water supply, waste treatment, pollution... These social goals have become the motivation for social entrepreneurs to establish social enterprises. and using business options to solve social problems. Legally, Clause 1, Article 5 of Decree No. 96/2015/ND-CP stipulates that social enterprises must notify their commitment to social and environmental objectives to business registration agencies, to be public. on the National Business Registration Portal when establishing a business or in the course of its operation. Through this legal act, an ordinary enterprise will wear a social enterprise shirt, from which the State and society can recognize the legal status of social enterprises, accompanied by rights and obligations of social enterprises. This criterion contributes to give us a basis to distinguish social enterprises from ordinary businesses. Specifically, in conventional businesses, investors rely on the market to find out the needs of customers, thereby planning, investing strategies, producing and trading in goods, providing services and through a series of business activities regulated by the rules of the market economy to achieve the ultimate goal of profitability. In other words, it is profit that becomes the motivation for investors to decide to find business solutions, best meet the needs of customers and maximize their profits, get profits, or investors. was successful.

Meanwhile, for social enterprises, the factor "profitability" is not a decisive factor to the birth of enterprises, but from the existing problems in society. Social issues become the motivation for social entrepreneurs to find and decide the appropriate business model, after all, social entrepreneurs use business methods to solve the social problems that they have. discovered. When the social problem is solved, the purpose of social enterprise is achieved, although it may not be profitable, even at a loss.

Thus, ordinary businesses are social enterprises that operate under the market mechanism, that is, must have revenue and profit, but they are different in nature and destination, so there is a view. argued that: "social enterprises can be profitable, even need profits to serve social objectives but not" for profit "but" for society "[6].

In fact, social enterprises are often confused with corporate social responsibility (Corporate Social Responsibilities) [7]. Business is a commitment to improve the quality of life of the community through the business process and voluntary contributions of businesses [8]. The nature of social enterprises is to recognize the voluntary commitment of enterprises to implement ethical and social standards for human goals and sustainable development, which is an additional activity of enterprises, corporate social responsibility is still the ordinary business with the purpose and nature of seeking profit. Meanwhile, the principle, purpose and the whole operation of social enterprises are to solve social or environmental issues identified right from the inception and maintained throughout the operation process, which can If the social enterprise has changed or terminated its social objectives, then the social enterprise must notify the state agency of the current status. authorization.

3.2.3. Social enterprises use most of their profits to reinvest in order to realize social and environmental objectives

A social enterprise, when its profit generating business is not distributed like normal businesses. Profits that enterprises gain from production and business activities are used to reinvest in enterprises with the aim of solving the social issues that social enterprises are pursuing. The criterion of using profits to reinvest in serving social objectives is the distinction between social enterprises and ordinary enterprises, clearly showing the criterion "for society". According to Point c, Clause 1, Article 10 of the Law on Enterprises 2014, social enterprises must use at least 51% of the total annual profit to reinvest in order to achieve the registered social and environmental objectives. The 51% figure is intended to create favorable conditions and opportunities for social enterprises to mobilize business capital from other investors, members and shareholders by ensuring a certain dividend for investors. This circular, thereby contributing to the sustainable development of social enterprises [9]. This criterion contributes to a clear and specific quantification of social goals of social enterprises and social enterprises.

The goal of solving social and environmental issues and bringing benefits to the community is the noble mission of social enterprises, which makes social enterprises different from ordinary businesses and is not the same. with charities. Social enterprises have the characteristics of "hybrid" between ordinary businesses and charities [10]. On the one side are enterprises operating for the purpose of maximizing financial profits, and on the other side are non-governmental organizations established to pursue purely social benefits. Therefore, social enterprises are a model that harmoniously combines both form and content of these two entities to take business as the main field of activity, but not for profit but to solve problems. specific society, so most of the profits are used to serve the society and the environment.

In addition, social enterprises also have some similarities with public enterprises, both of which are aimed at serving the needs of society, may both provide products that are nature-based services. serving the common interests of the society such as providing clean water, cleaning up waste, protecting the environment ... [11] To a certain extent, these enterprises may be grouped into groups of enterprises with the same purpose. main activities [12]. However, the nature of social enterprises is established voluntarily by social entrepreneurs, social enterprises are stable and consistent, determined by social goals, regardless of the nature of the social enterprises. products and services that businesses provide. Meanwhile, public utility enterprises are established by the State to produce and provide public products and services according to the mode of task assignment and enjoy special privileges [13].

3.2.4. Rights and obligations of social enterprises

Social enterprises differ from ordinary businesses in the purpose of distributing and using profits. Therefore, in addition to the rights and obligations of enterprises in general, social enterprises also have specific rights and obligations corresponding to the objective of solving social problems under Clause 2, Article 10 of the Law on Enterprise 2014. Important rights and obligations of social enterprises include:

Firstly, social enterprises must maintain the objectives and conditions for profit distribution throughout the operation process. As analyzed above, the legal characteristic to distinguish social enterprises from ordinary businesses is in the profit distribution conditions and conditions, so social enterprises must maintain these criteria throughout. submit your activities. Enterprise law prescribes mechanisms to ensure the compliance with social and environmental objectives of social enterprises.

Secondly, social enterprises are allowed to mobilize and receive funding. According to the research and assessment of the Central Institute for Economic Management, social enterprises in Vietnam are still quite young, established primarily from individual ideas, with initial investment. most of it is capital contributed by founding members on a small scale. Social enterprises are typically not for profit, doing business in markets with high risks, low financial yields, which are not attractive to commercial investors, along with investment costs. privately owned, the management of social enterprises is larger than average [14]. Therefore, social enterprises are facing many difficulties in financial matters, so the contributions and grants from other organizations and individuals to partially offset the management and operating costs of is very necessary.

Thirdly, social enterprises must not use the mobilized grants for purposes other than to offset management and operating expenses to solve social and environmental issues that they have registered. Based on the objective of addressing social and environmental issues for the benefit of the community, social enterprises can mobilize funding sources, and the donors when sponsoring into commune enterprises. The Association wants the grant to be used for the right purpose and effectiveness. In essence, the funding raised by a social enterprise is not an asset owned by the social enterprise, so the decision to use it is limited. Therefore, Point d, Clause 2, Article 10 of the Law on Enterprise 2014 stipulates that social enterprises can only use grants to cover management and operating expenses to solve social and environmental issues. that the business has registered. Social enterprises that violate this obligation will be sanctioned for administrative violations according to the Government's Decree No. 50/2016/ND-CP of June 1, 2016, on sanctioning of administrative violations. field of planning and investment.

Fourthly, the State has policies to encourage, support and promote the development of social enterprises. With the ability to detect and solve problems of social security needs, to serve the needs of the poor, the weakest and the largest in society. This is a group of people who have long been sponsored by the state policies, in other words, this is the "burden" of the state budget [15]. Social enterprises share responsibility with the State, greatly contributing to creating jobs, incomes and opportunities for this group of people to be confident and integrated, thereby helping them to have a more stable life. . Social enterprises are trying to solve problems in society that the State does not bring about, the value that social enterprises bring to society is great. Therefore, the State needs to consider social enterprises as their companions in resolving social issues and formulating policies to enable social enterprises to develop.

In general, although the Law on Enterprise 2014 is specifically stipulated by the Government in Article 10 of the Law on Enterprise 2014, including incentives and support policies for social enterprises, Decree No. 96/2015/ND-CP has no specific regulations on this issue. This can be explained by the fact that Decree No. 96/2015/ND-CP is a guiding document of the Law on Enterprise 2014, so that incentives for social enterprises need to be regulated in France. Specialized laws (such as laws on investment, taxes, education, health ...), thereby contributing to the unity in the legal system.

Social enterprises under Vietnamese law are a special subject, an enterprise that operates but is not for the purpose of maximizing profits for investors but most of the profits of social enterprises are served for community. Therefore, the adjustment of laws for social enterprises needs to take into account the specific factors of this model, in order to contribute to creating a good ecosystem and create conditions for social enterprises to develop as many countries. in the world.

3.2.5. Improve the law on social enterprises in Vietnam today

3.2.5.1. Limited law enforcement

Many businesses do not know the concept of "social enterprises" is included in the law, and the law does not have specific policies for social enterprises agreed in specific documents. Social enterprises in Vietnam are still quite young, established mainly from individual ideas, so the initial investment capital is mostly self-contributed capital, ability to raise capital, access to commercial investment. usually very limited. As a business, the social enterprise model guarantees profitability and lofty community obligations that challenge social entrepreneurs. There are businesses that operate rightly for social and environmental purposes, but there are still many cases of taking advantage of the disadvantaged and disabled to call for funding. Currently, the contribution of social enterprises to the country is low because the products or services of social enterprises are still simple, do not use much technology, and the price of products made by businesses. The society produces is much higher than the price level of ordinary products. The social entrepreneurs who wish to set up social enterprises are rooted in social and environmental goals, so many social business owners are not well-trained, lack of business thinking and management skills. treatment. From the side of consumers when using products with the psychology of giving, accepting poor quality products, this reduces the motivation for the development of social enterprises.

3.2.5.2. Limitations in the management and supervision of corporate social opportunity

In order to strengthen the management of business registration, in Vietnam, it is now implemented under the policy of strengthening post-inspection. However, when implementing this policy, many localities have not really done well, so the situation of law violations in business registration takes place every year. Many local officials at the place where the enterprise is headquartered do not know the provisions of the law on the social enterprise model, causing difficulties in business registration as well as administrative management in the process of operation. activities. The control of competent State agencies still faces many difficulties, the authorities are still passive only when there are requests from related individuals and organizations when exercising their rights. I am new to the investigation and supervision. The research, understanding and application of regulations in the legal documents of the National Assembly, the Government, ministries and central branches in some localities are still weak.

3.2.5.3. The need to improve the system of social legislation on legal letter Vietnam Nam

The law is an effective tool to implement the government's policies and protect consumers, but the incomplete system of legal documents will not effectively implement the social enterprise model. Therefore, it is necessary to ensure the legal system so that social entrepreneurs can trust the State, need timely sanctions and management tools to master the state management function. Perfecting the comprehensive and sustainable legal system in various fields of law from the central to local levels to ensure stability and economic development. We need to clearly define the business model that is distinct from corporate social responsibility. Perfecting the legal system to ensure citizens' freedom, democracy and equality.

3.2.5.4. Solutions to perfect the law on social enterprises and improve the efficiency of law enforcement on social enterprises in Vietnam today

Regarding the solution to complete the law, the most important thing is to specify the provisions of the legal documents, simplify the registration procedure, specify the cases where the commitment to social objectives must be reported., environment. Next is to change the way of monitoring; identify commercial or non-commercial legal entities for social enterprises; uniform regulations on incentive regime for social enterprises. And finally, it is strict and strict in using the sanctions applied to the violations of social enterprise law.

3.2.5.5. Solutions to improve the efficiency of law enforcement

In order to effectively apply the provisions of the law on social enterprises, there should be specific solutions to guide the development of social enterprises, that is, effective coordination between competent agencies; raise awareness about social enterprises; incorporate a social enterprise model into the higher education system ; improve the quality of products and services; improve the efficiency of financial funds; have a long-term strategy in formulating and implementing social and environmental goals of social enterprises ; incentive model, effectively bringing thoughts communal households.

4. Discussion and Conclusion

In order for social enterprises to have an effective legal and business environment, appropriate legal frameworks are needed to overcome the difficulties of social enterprises today. Demand for tissue formation of social enterprises bring huge benefits to society, thus encouraging the development of social enterprises, overcoming weaknesses and outstanding for corporate social associations have a role very important.

Currently, Vietnam has hundreds of social enterprises officially registered and thousands of other enterprises intend to become social enterprises. Implementing the work of perfecting the legal system of social enterprises helps the State reduce social burdens when implemented by social enterprises and bring significant impacts. Therefore, focusing on completing the provisions of the law plays a huge role.

5. References

1. Standing Committee of the National Assembly (2014), *"Report No. 798 / BC-UBTVQH13 dated November 24,* 2014 *on the acquisition, revision and explanation of the Enterprise Law project (amended)"*, accessed at the address : http://duthaoonline.quochoi.vn/DuThao/Lists/ DT_DUTHAO_LUAT / View_Detail.aspx? ItemID = 753 & TabIndex = 2, 2014.

2. Ho Chi Minh City University of Law (2016), *Curriculum "Law on business subjects"*, Bui Xuan Hai (editor), Publishing House. Hong Duc, 2016, p. 26.

3. Hanoi Law University (2016), *Textbook "Commercial Law"*, volume 1, edited by Nguyen Viet Ty, Publisher. People's Public Security, 2016, p. 29.

4. Pham Duy Nghia (2010), *Textbook "Economic Law"*, Publisher. People's Public Security, 2010, p. 29.

5. Do Van Dai (2016), *"Scientific commentary on new points of the Civil Code 2015*, Publishing House. Hong Duc, 2016, p. 101.

6. Vo Sy Manh (2015), *"Social enterprises in accordance with the Law on Enterprise 2014 from the perspective of business freedom"*, Proceedings of Scientific Conference " *Enterprise Law and Investment Law 2014: These innovations to realize business freedom"*, Ho Chi Minh City University of Law, 2015, p. 50.

7. Phan Thi Thanh Thuy, *"Social Enterprises under Law on Enterprise 2014"*, Journal of Democracy and Law, No. 6 (279), 2015, p. 26.

8. Philip Kotler and Nancy Lee (2005), *"Corporate Social Responsibility Doing the Most Good for Your Company and Your Cause"*, 2005.

9. Standing Committee of National Assembly (2014), *"Report No. 761 / BC-UBTVQH13 dated October 28,* 2014 *on the acquisition, revision and explanation of the Enterprise Law Project (amended)"*, source: http://duthaoonline.quochoi.vn/DuThao/Lists/DT_DUTHAO_LUAT/ View_Detail.aspx?ItemID=753&TabIndex=2.

10. Nguyen Dinh Cung, Luu Minh Duc, Pham Kieu Oanh and Tran Thi Hong Gam (2015), *"Social Enterprises in Vietnam - Concepts, context and policies"*, Hanoi, 2012, p. ten.

11. Phan Thi Thanh Thuy, "Social enterprises according to Law on Enterprise 2014", Journal of Democracy and Law, No. 6 (279), 2015, p. 25-26.

12. Ho Chi Minh City University of Law, *Textbook "Law on business* subjects", edited by Bui Xuan Hai, Publisher. Hong Duc, 2016, p. 31.

13. Phan Thi Thanh Thuy (2015), *"Social enterprises according to Law on Enterprise 2014"*, Journal of Democracy and Law, No. 6 (279), p. 25-26.

14. Nguyen Dinh Cung, Luu Minh Duc, Pham Kieu Oanh and Tran Thi Hong Gam, *"Social Enterprises in Vietnam - Concept, context and policy"*, Hanoi, 2012, p. 53-60.

15. Nguyen Thi Yen, *"Social enterprises and solutions for developing social enterprises in Vietnam"*, Journal of Law, No. 11, 2015, p. 73.

CURRENT SITUATION AND DIRECTION TO COMPLETE LEGAL REGULATIONS ON STATE MANAGEMENT FOR FOREIGN NON-GOVERNMENT ORGANIZATIONS IN VIETNAM

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Abstract

In recent years, the charity, humanitarian aid, and development assistance activities of foreign non-governmental organizations have become quite important factors contributing to the stability and socio-economic development of Vietnam. Although legal regulations governing these organizations have created the necessary legal framework for management, there are still several shortcomings that need to be carefully studied and evaluated. In this article, the author presents the practical situation, urgent problems and proposes solutions to improve the law in service of state management towards non-governmental organizations in Vietnam.

Keywords: *Legal regulation, State management, non-governmental organization, Vietnam.*

1. Introduction

- Rationale of the study

"Non-governmental organization" is a term used to refer to an organization, association, socio-cultural committee, charity commission, non-profit corporation or other legal entity that does not belong to the State sector and does not operate for profit.

According to Decree No. 12/2012/NĐ-CP dated March 1, 2012, of the Government on registration and management of activities of non governmental organizations in Vietnam, organizations under the governing of the Decree include non-governmental organizations, non-profit organizations, social funds, private funds or other social or non-profit organizations, which are established under foreign laws and carry out development assistance and humanitarian aid activities not for profit or other purposes in Vietnam [1].

NGOs in Vietnam have been implementing diverse programs and projects related to the fields of culture, health, education, environment, conservation, charity, relief, rehabilitation and reconciliation, etc. In particular, many programs, projects and aid of NGOs in Vietnam focus on operating in poor, remote and isolated areas and increasingly emphasized fields in accordance with priorities and directions of sustainable development of Vietnam. Therefore, in order for the activities of NGOs in Vietnam to be conducted under the provisions of Vietnamese law, the State must perform well the role of state management over this type of organization, especially in the issue of building and promulgating legal regulations on state management for NGOs to ensure synchronization, consistency, and efficiency.

- In terms of theory: At present, domestic and foreign works have not mentioned the theory of perfecting the law on state management for NGOs in a systematic way; if so, it is only an introduction to aspects without a specific approach. The theoretical contents on state management for NGOs have not been mentioned or mentioned but have not been clarified. Theoretical issues of state management for NGOs in Vietnam have not been compared deeply with reality, and have not mentioned new-formed theoretical issues that need to be added in the current period.

- Literature reviews: Through statistical reports on Foreign Non-Governmental Aid in Vietnam (2011-2019), the author has analyzed and evaluated the achieved results limitations of state management for NGOs in Vietnam, as well as gave directions and solutions to improve the legal regulations on state management for NGOs in the future.

- Research objective: The goal of the article is to propose basic solutions to improve legal regulations on state management for NGOs in Vietnam.

2. Method

The article uses the methodology of Marxist - Leninist philosophy to study specific contents. The author exploits the positive values of historical materialism and dialectical materialism. Besides, methods of analysis, synthesis, statistics, and comparison are also used thoroughly. The above methods are applied synchronously with relative independence and combination. The methods are used suitably with each part of the research to ensure scientific and logical character.

The document research method is used thoroughly in the survey of relevant legal documents and Party documents.

Analytical and synthesis methods are exployed throughout the article to synthesize data and knowledge for the purpose of assessing the current situation, giving explanations, comments and proposing solutions to complete legal regulations on state management for NGOs in Vietnam.

The author uses statistical and comparative methods in the part of actual situation to clarify data on the activities of NGOs and the state management of NGOs in Vietnam over the past years (data on organizational structure, staff, results of work handling, operating rules, rules on the management and use of NGOs’ aid...).

3. Results

3.1. Current situation of legal regulations on state management for foreign non-governmental organizations in Vietnam

Implementing guidelines and policies of the Party and the State of Vietnam on expanding foreign relations in the direction of diversification and multilateralization, facilitating for NGOs to operate effectively and bring practical benefits. The State has issued legal documents to create a legal basis for individuals and organizations to participate in NGO's activities, as well as promulgated numerous policies to facilitate NGO's operation. Thereby, contribute to maintaining political stability and socio-economic development of the country. Specifically:

- *Organizational apparatus*

Decision No. 765/QĐ-TTg, dated May 22, 2013 of the Prime Minister on consolidating the Working Committee on NGOs (replacing Decision No. 59/2001/QĐ-TTg) has adjusted and added member of the Working Committee on NGOs. [2] The Ministry of Home Affairs appoints the Deputy Minister as a member; added the Vice President of the State Bank of Vietnam as a member.

Working Committee on NGOs has the task of cooperating with the Ministry of Foreign Affairs in building and submitting to competent agencies for the promulgation of legal documents on the operation of NGOs in Vietnam. Besides, there are still some limitations such as:

+ The cooperation among central ministries when introducing NGOs or implementing projects in localities is still loose. In many cases, ministries implement projects in the localities but do not communicate and coordinate with local authorities which cause difficulties for state management.

+ Lack of synchronization in the local management apparatus. Applying different models by localities is to suit the actual conditions in different localities, but in general, the inconsistency also leads to many difficulties for both manager and managed objects. For example, the same NGO operates in different provinces and cities, but they have to work with different agencies in terms of level, authority, and function. This will inevitably lead to complications in cooperation between the two sides. A document issued by the superiors covers the same management issue, but each locality does it differently, leading to warping in its application and implementation.

+ The specialized agencies of the localities are organized according to the inconsistent model, so the work of consulting and handling issues related to NGOs is still embarrassing. Leaders of provinces and cities have not been informed in time, leading to inadequacies in direction and administration. Some localities have not fully exploited the potential of NGOs to serve the local socio-economic development. Many localities have only one or two officials in charge of NGO work. These people have to take responsibility for advisory and management duties towards NGOs, which causes obstacles for both state management and the operation of NGOs in the locality. In many localities, leaders of specialized units concurrently carry out the task of professional leadership and management of NGOs' operations. For example, in Dak Nong province, the specialized agency is the Department of Foreign Affairs, led by 01 Deputy Chief of the Office of the People's Committee and 03 assistants. In Ha Giang, this task is assigned to the Department of Planning and Investment, and is concurrently held by the Director and Deputy Director of the Department. In Ho Chi Minh City, the Union of Friendship Organizations was assigned this task [3].

- *Operating rules*

+ Decree No. 12/2012/NĐ-CP dated March 1, 2012, of the Government on Registration and Management of Activities of Non Governmental Organizations in Vietnam (annulling Decision No. 340/TTg).

+ Circular No. 05/2012/TT-BNG dated November 12, 2012, of the Ministry of Foreign Affairs, guiding the implementation of Decree No. 12/2012/NĐ-CP dated March 1, 2012, of the Government on registration and management of activities of non governmental organizations in Vietnam. After more than 9 years of implementation, Decree No. 12/2012/NĐ-CP has revealed certain limitations and is no longer appropriate, requiring timely amendments to catch up with actual requirements, and new guidelines or policies of the Party and State.

For example, the licensing procedures and processes for NGOs still have several unpractical regulations, the implementation process often takes more time than the rule, and the application of information technology in work handling is not much. Decree 12 and Circular 05 remain some overlap in functions, tasks, which increasing the intermediary stage and prolonging the time of receiving, appraising and approving applications for registration certificates to NGOs. The time of issuing registration certificates does not meet the regulations due to the time required for checking and processing at other relevant agencies and localities, which wasting time and causing troubles for organizations. The mechanism is not tight enough to monitor the implementation of NGOs' projects after being licensed. Inspection and supervision are not really close and intensive. Monitoring activities have not been carried out regularly and fully on all contents. Sanctions for violations are not actually strict, leading to the lack of serious implementation by legal entities.

Several ministries and localities have not strictly grasped and complied with legal documents on managing the operation of NGOs. Although operating regulations of NGOs have been built, some localities still welcome some organizations operate without license.

In some provinces, the People's Committee and their local specialized agencies are not even aware of the existence of Decree No. 12/2012/NĐ-CP and Circular No. 05/2012/TT-BNG. Therefore, they still accept projects from organizations that have not been licensed or have not been allowed to operate in the locality. Those local authorities have not yet instructed NGOs to carry out the procedures for receiving permit or have not checked the permits of NGOs when coming to operate in their localities.

- Regulations on management and use of aid from NGOs

+ Decision No. 1225/QĐ-TTg, dated September 17, 2019, of the Prime Minister on “promulgating the national program on strengthening cooperation and mobilizing aid from FNGOs in the period of 2019 - 2025”.

+ Decree No. 80/2020/NĐ-CP dated July 8, 2020, of the Government on management and use of grant aid not in the form of official development assistance of foreign agencies, organizations, and individuals for Vietnam. The Decree clearly states the principles of aid management and use; prohibited acts in using aid; approval procedures and authority for grant aid of different nature. Provisions of this Decree have overcome the shortcomings of Decree No. 93/2009/NĐ-CP and are more suitable to the actual requirements in managing and using grant aid today.

The new Decree has helped to closely and comprehensively manage, and effectively implement programs, projects from grant aid not in the form of official development assistance of foreign agencies, organizations, and individuals for Vietnam. At the same time, these projects contribute to conduct well purposes of economic, social development, non-profit and commercial humanitarian assistance.

Besides the achieved results, the practice still shows some limitations such as:

+ Firstly, we have not fully exploited the potential in attracting aid capital from NGOs. Although it has taken advantage of a large amount of aid from NGOs, compared to the total value of aid funds from NGOs in the world, aid to Vietnam is still low. For example, in 2011, the total value of non-governmental aid in the world was estimated at USD 32 billion (according to OECD statistics); however, the aid of NGOs in Vietnam was equivalent to 0.95%. In 2019, the aid of NGOs in Vietnam was nearly USD 400 million, accounting for 0.55% of the total aid of NGOs (including ODA disbursed through NGOs) [4]. In addition, if calculating the value of aid from NGO per capita, this value in Vietnam is only equivalent to 25% compared to Laos and 20% compared to Cambodia. Thus, the environment to attract and take advantage of NGOs’ aid to support the socio-economic development of Vietnam is very large.

+ *Secondly*, contrary to the trend of previous years, aid from NGOs to Vietnam in the last 2 years has decreased slightly. In 2016, the value of aid disbursement by NGOs reached USD 297 million (down over 2% compared to 2015). In 2019, the value of aid disbursement by NGOs was nearly USD 280 million (decreased over 5.7% compared to 2015, reduced 8.2% compared to 2011 and 2014 - the years with the highest aid value [5].

+ *Thirdly,* in some cases, the effectiveness of NGOs' aid is not truly high. Sources of aid from numerous NGOs (especially organizations with small budgets) are still spreading in many localities with large administrative costs. For example, some NGOs have aid budgets in Vietnam of less than USD 100,000, but have financed projects in dozens of provinces and centrally controlled cities of Vietnam. Aid budgets for each project and each locality are therefore very small, while the staff of these organizations has to travel many times to survey, test and evaluate, resulting in high rates of loss. This leads to a very high ratio of administrative expenditure to aid value.

+ *Fourthly,* the inspection and supervision of NGOs' aid budgets by functional agencies, ministries, localities and organizations of Vietnam are still limited and have not been able to make effective use of the aids. According to current regulations of Vietnam, functional agencies, ministries, localities and organizations of Vietnam that cooperate with or receive funding from NGOs must regularly inspect, monitor and evaluate aid budgets and use of NGOs' aids. However, the failure to inspect, monitor and evaluate NGOs' aid sources and the use of aid, along with the lack of a supporting system of monitoring and evaluation, makes it difficult to accurately and reliably determine the effectiveness of aids from NGOs.

+ *Fifthly,* the aid budgets of NGOs have not been properly coordinated. Some regions and localities are poor and troublesome but receive little aid from NGOs. For example, from 2001 to 2019, the aid of NGOs disbursed to the South Central provinces accounted for less than 10%, the Southwest region received over 7%, and the Central Highlands only constituted 3%. Meanwhile, the Red River Delta provinces accounted for nearly 18%, and the Southeast shared for nearly 13%. [6]

3.2. Direction to Complete Legal Regulations on State Management for Foreign Non-Government Organizations in Vietnam

The 12th Party Congress continued to affirm the motto and great orientation of foreign activities as "Diversification and multilateralization in foreign relations; proactively and actively integrate into the world; to be a friend, a reliable partner and a responsible member of the international community"[7]. Promote and deepen relations with partners, especially strategic partners and major countries that play an important role in the development and welfare of the country, and put the established relationship framework into practice. Actively participate in and promote the role in multilateral mechanisms, especially ASEAN and the United Nations. Actively participate in multilateral mechanisms of national defense and security, etc. Implement synchronously foreign affairs, including politics, security, national defense, economy, culture and society. Improve the quality of consulting work on foreign affairs and international integration. Enhance the quality of consulting work on foreign affairs and international integration. Strengthen information work on foreign affairs, international integration, create domestic consensus and enlist the support of international friends to meet the requirements of national construction and defense.

On the basis of the guidelines and policies of the Party, the State has institutionalized them into legal regulations and gradually innovated and improved the effectiveness of state management of NGOs to bring about certain results. The objective of the state management of NGOs is to create a legal corridor to support and promote NGOs in making positive and effective contributions for the development of society and economy, as well as limit the negative matters in the operation of NGOs in Vietnam. From those goals, the basic perspective for the State to strengthen the state management of FNGOs is:

- *Firstly,* identify the important position of NGOs in the revolution led by the Party, the role of NGOs has been confirmed in practice; on the other hand, the Party and State also require NGOs to organize and operate within the legal framework.

- *Second,* the recruitment of participants in NGOs must be voluntary. Activities of individuals and NGOs must comply with laws and rules approved by competent state agencies and on the principle of self-management and self-responsibility before the law.

- *Thirdly,* the State also clearly defines the responsibility of the whole political system in creating all conditions for NGOs to operate within the legal framework.

The practice of management activities in recent years shows that the legal regulations on state management of NGOs in Vietnam have been paid attention in building, supplementing and amending, but still reveals many shortcomings and has not kept up with the current situation. Many new-formed complicated issues in the operation of NGOs have not yet been regulated. The functions and tasks of the management agencies have not been clearly defined. Sanctions for handling violations are not enough and lack of rigor. In the current situation, these shortcomings need to be promptly overcome to meet the increasing requirements of management.

In the coming time, relevant ministries should actively advise the Government and coordinate with competent agencies in building and completing institutions and laws on state management of NGOs in Vietnam. The improvement should adhere to the following orientations:

- *Firstly, completing relevant current legal documents, creating a favorable legal framework for the operation of NGOs.*

+ Supplement and amend regulations on registration and management of NGOs' operation:

Currently, Vietnam has a legal corridor for the registration and management of humanitarian and development assistance of NGOs. This legal corridor has basically created favorable conditions for NGOs to conduct humanitarian and development assistance, contributing to ensuring the effectiveness of aid. However, in order to encourage NGOs to expand humanitarian and development assistance, Vietnam needs to pay attention to addressing issues such as:

Simplify requirements for registration file, renewal, addition and amendment of all types of registration papers (including Operational Registration Certificate, Project Office Registration Certificate and Representative Office Registration Certificate). The new legal document should clearly state the required documents and provide the form (such as application form, application for renewal, supplementation, amendment of the registration certificate, and the sample of the designed operation plan in Vietnam, etc).

Simplify the way in which NGOs submit applications for grant, renewal, supplement and amendment of registration papers such as directly at the receiving agency, electronic registration, by post, or by an authorized person.

Stipulate procedures for dossier appraisal and responsibilities of ministries, localities in providing comments with specific and shorter time limits. At the same time, it is necessary to add the circumstance that within the stated time limit, if the ministries and localities do not have any reply shall be deemed to agree with the request for appraisal and comment. As this circumstance is supplemented, it can completely overcome the situation that some ministries and People's Committees of provinces and centrally run cities reply late or do not reply to the agency in charge of appraising application dossiers of registration, extension, supplementation and modification.

The State should stipulate a unique specialized agency to manage NGOs' operations and aid in each ministry and locality. This is especially necessary for provinces and centrally run cities. NGOs and Vietnamese agencies and organizations that cooperate with and receive aid from NGOs only need to contact a specialized agency to handle administrative procedures. This will be more convenient, clear and transparent. Similarly, each ministry and people's organization at the central level needs to identify especial agency to act as a clue in cooperation and receive aid from NGOs, as well as facilitate NGOs to contact for work, settle administrative procedures and seek cooperation opportunities.

+ Develop and promulgate a national program to promote aid mobilization from NGOs

The National Program to promote aid mobilization from NGOs for the period 2017-2019 has ended. Therefore, it is necessary to develop a new program for the next period to 2025 to match the time with the socio-economic development strategies and plans of Vietnam. In the current context, the program to promote aid mobilization from NGOs to 2025 should be developed and promulgated in the following direction:

The program must be associated with the contents and orientations of the national socio-economic development goals such as the Socio-Economic Development Strategy 2020-2025, Socio-Economic Development Plan 2020 -2025, Sustainable development strategy, etc. It is necessary to refer to the country's socio-economic development strategies and plans to encourage NGOs to contribute.

Consistent with the policies and priorities of NGOs in term of field (such as health, education, settlement of war consequences, environmental protection and climate change response, etc.), in term of locality (especially in mountainous, remote and ethnic minority areas, etc.), or beneficiaries (especially disadvantaged groups). Many NGOs are currently giving high attention and priority to environmental protection, natural resources, climate change response and sustainable development.

- *Secondly, solutions to improve the initiative and capacity of ministries, localities, agencies and organizations of Vietnam in relation to NGOs*

Enhancing the initiative and capacity of ministries, localities, agencies and organizations of Vietnam in cooperation with NGOs is decisive because these ministries, localities, agencies and organizations understand their advantages and disadvantages in cooperating with NGOs.

Accordingly, it is important to focus on the following key issues:

+ *Firstly*, proactively orienting priorities on fields, areas and contents of cooperation with FNGOs through building program to promote aid mobilization from NGOs based on the State's orientation. Such formal prioritization also helps NGOs to proactively plan funding and respond well to actual needs. Besides, it also helps to avoid duplication with the use of other resources, creates conditions to promote the efficiency of different resources in performing tasks.

+ *Secondly*, ministries, localities, agencies and organizations of Vietnam must strengthen to provide and share information on the needs and priorities of the ministries and localities with NGOs. Information sharing can be done through direct activities such as at working sessions with NGOs, conferences, or meetings; through the release of publications and documents. In particular, information can be posted on the internet for NGOs and individuals to search and study more. This measure will help NGOs grasp priorities, proactively plan cooperation and implement appropriate projects.

+ *Thirdly,* ministries and localities should pay attention to building capacity for specialized agencies and their subordinates about the work with NGOs. Training contents for officials include relevant State policies and laws; method to approach and mobilize funding from NGOs; monitor, supervise and evaluate projects funded by NGOs, etc.

+ *Fourthly*, ministries, localities, agencies and organizations of Vietnam must actively search for NGOs that have appropriate fields, locations and priorities for activities, establish relationships and propose specific cooperation programs and projects. Normally, NGOs welcome and appreciate the initiative of Vietnamese agencies and organizations.

- Thirdly, solutions to improve the operational efficiency of the national specialized agencies in working with NGOs

Specialized agency is the agency assigned by the Minister and the President of the People's Committee of provinces or centrally controlled cities to receive, consider, publish and manage information on the operational capacity of the organizations and individuals (hereinafter called specialized agency), including:

According to current regulations, the specialized agency for non-government aid relations and mobilization at the central level is the Vietnam Union of Friendship Organizations. Over the years, the Vietnam Union of Friendship Organizations has well performed its assigned tasks. However, in order to continue promoting the aid from NGOs for socio-economic development, the Vietnam Union of Friendship Organizations needs to emphasize the implementation of several core solutions:

+ Strengthening to disseminate information and guide ministries, people's organizations and localities on NGOs, priority fields for aid and the ability to establish cooperative relations, so that they can actively research, approach and establish relationships with potential NGOs. Specific measures include organizing conferences and seminars, publishing and disseminating guidance documents, providing information on official websites, etc. Authorities need to focus on providing information on websites because of its efficiency, quick, economical, and ability to approach the masses.

+ Promote dissemination and guidance to NGOs on legal regulations of Vietnam, including provisions on registration and operation management of NGOs, regulations on management and use of NGOs' aid, and other relevant rules. This activity is extremely significant in helping NGOs to operate smoothly and obey Vietnamese law. Forms of dissemination and guidance include directly instructing by officials; through conferences and seminars; publishing guidance documents, manuals, or handbooks; disseminating guiding documents on the internet (through the official website of the national specialized agency, website of ministries and localities' specialized agency).

+ Stepping up the mobilization of NGOs' aid sources in diverse forms such as providing information, organizing conferences and seminars, working directly, or even with their headquarters. Expanding the work of mobilizing enterprises, private funds, or government agencies of other countries to strengthen financial support for NGOs that are operating in Vietnam.

+ Organizing regular, periodical and irregular meetings with NGOs to listen to their opinions and recommendations. At the same time, guiding and providing them the necessary information on the priorities and proposals of ministries, people's organizations and localities of Vietnam.

+ Researching and proposing suitable policies to stimulate NGOs to come and implement aid projects in Vietnam. These incentives may include tax concessionary (personal income tax for foreigners working for NGOs, value-added tax, the import tax on goods equipment under FNGO funded projects, exempt from import tax on equipment of representative offices).

+ Researching and suggesting the State in amending and supplementing legal documents related to FNGOs and aid from FNGOs to ensure transparency in procedures, promote aid effectiveness in socio-economic development, but also strictly manage the activities and aid of FNGOs.

+ Selecting and arranging qualified and capable staff to perform the tasks of the national specialized agency in working with NGOs. Vietnam should train and foster staff to improve working capacity so that they can mobilize and guide NGOs when implementing aid activities in Vietnam, as well as guide competent agencies and organizations of Vietnam to build and maintain relationships with NGOs.

+ Planing programs and organizing to train and improve the capacity of officials working with NGOs of ministries, localities, agencies and organizations of Vietnam. Training content may include the situation of NGOs in general; methods and priorities in the operation of NGOs; skills in negotiating, signing, designing, implementing, monitoring and evaluating projects from aid sources of NGOs.

4. Conclusion

Mobilizing aid from non-governmental organizations and managing their activities play an important role in solving socio-economic problems and promoting the sustainable development of the country. The article is a systematic study on the actual situation of state management for NGOs in Vietnam. It can be known that, in the current context of extensive international integration, the article will contribute to clarifying the situation of legal regulations on state management for NGOs in Vietnam. Furthermore, the author recommends key directions and solutions to improve the legal system in order to improve the effectiveness of state management for NGOs in Vietnam in the future.

5. References

1. Article 1 of Decree No. 12/2012/NĐ-CP dated March 1, 2012 of the Government on registration and management of activities of non governmental organizations;

2. Decision No. 765/QĐ-TTg, dated May 22, 2013 of the Prime Minister on consolidating the Working Committee on NGOs;

3. People's Aid Coordination Committee, Statistical Report on Foreign Non-Governmental Aid in Vietnam (2011-2019), Hanoi, 2019;

4. Communist Party of Vietnam, *Documents of the 12th* Party Congress, Office of the Party Central Committee, Hanoi, 2016.

APPLYING ECONOMIC DEVELOPMENT THEORY OF HO CHI MINH TO MANAGE THE ECONOMY OF VIETNAM TODAY

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Abstract

During the time when the industrial revolutions 2.0 and 3.0 were taking place in the world, President Ho Chi Minh led the revolution to fight for national liberation from "poverty", bringing Vietnam to unification, step by step building the socialism. Up to now, Vietnam is gradually undergoing comprehensive renovation, especially the economy development in the direction of modernity which is a proof of the correct inheritance and application of Ho Chi Minh's economic development theory and economic management experience and achievements of the science and industry in the world. Ho Chi Minh's theory of economic development needs to be continued to be fully aware, thoroughly grasped, comprehensively and systematically researched, creatively applied and developed theoretical and practical values to suit the economic management line of the Party, the policies and laws of the State and the current context of the industrial revolution 4.0.

Keywords: *Development theory, Ho Chi Minh, economy, Vietnam*

1. Introduction

Ho Chi Minh's theory of economic development is a system of viewpoints aimed at orienting and solving basic economic problems of the development process from a semi-feudal colonial society with backward agriculture to gradually progress to a socialist regime with a modern industrial-agricultural structure and advanced science and technology which is capable of continuously improving and enhancing the people's material and spiritual life. His ideology on economic development is evident in the stages of leadership, direction and administration of the revolutionary cause from the New Democracy and the Transition to Socialism, especially the construction of socialism in the North, containing new, modern, very scientific and revolutionary ideas. His views on increasing production, practicing thrift, improving people's living standards, building and developing production, economic characteristics, purposes and structure; efficiency and principles of economic management, integrated economic development, etc. have topical significance and profound directional value in the process of economic construction and development in Vietnam today.

2. Method

The study is based on the methodology of dialectical materialism and historical materialism. The study uses a combination of specific methods, namely historical method, logical method, analytical method, synthetic method, comparative method, generalization - abstraction method, expert method, survey and statistical methods, etc., to carry out study tasks.

3. Results

3.1. Ho Chi Minh's theory of economic development

Firstly, on economic development goals. In theory and practice, He affirmed that the role of the country's economic development has a close, intimate, harmonious combination and mutual impact of political, cultural and social aspects. When outlining the task of construction and developing of each aspect of social life, according to Him, the construction of each aspect of life cannot be separated, individual, simply, which is closely linked to the construction of other aspects and is a totality of all other aspects. In which, economy is always a fundamental field, playing a decisive role that deeply governs the fields of psychology, morality, society and politics. Stemming from our country's reality, He specifically directed: “Our most important task is to build the material and technical foundation of the Socialism so that the North can gradually progress to socialism with modern industry and agriculture and advanced culture and science. In the process of socialism revolution, we must reform our old economy and build a new one, in which construction is the key and long-term task”[20]. All of His concerns about the economy is to ensure practical benefits for the people, so that the people can have enough conditions to eat, wear, stay, study, travel, treat, etc. “He requested to act immediately: 1. Ensuring food to the people. 2. Ensuring clothes to the people. 3. Ensuring shelter to the people. 4. Ensuring education to the people”[21]. These are the goals and meaningful measures in each of our economic policies and measures. He said: “The policy of the Party and Government is to take great care of the people's lives. If the people are hungry, it is the Party and Government's fault; if the people are cold, it is the Party and Government's fault; if the people are ignorant, it is the Party and Government's fault; If the people are sick, it is the Party and the Government's fault, etc. If the people are hungry, cold, sick, our policies, no matter how good they are, can't be implemented”[22].

According to Ho Chi Minh, the goal of socialist economic development is to improve and enhance people's living standards. He affirmed: “The most important thing in our economic plan today is *to gradually improve people's lives*”[23]. In 1961, he asked and answered himself “What is the purpose of socialism? To put it simply and easily is *Constantly improving the material and spiritual life of the people,* first of all, the working

[20] Ho Chi Minh (2011), *Complete Volume,* National Political Publishing House, Hanoi, vol. 12, p. 412.
[21] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol. 4, p. 175.
[22] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol. 9, p. 518.
[23] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol. 10, p. 314.

people"[24]. The purpose of improving the people's living standards governs the relations of ownership, independence and freedom and is the basis for formulating guidelines, plans and ways of organizing production and developing the socialist economy.

Secondly, making use of all resources to develop production and practice thrift - Methods of sustainable economic development. The basic problem of socialist economic development is how to increase labor productivity, which Marxist-Leninist theory considers a measure of the victory of socialism over capitalism. According to Ho Chi Minh, only the goal of industrialization can be achieved to sustainably develop a socialist society. Industrialization is an inevitable trend for sustainable economic development, contributing to promoting the development of social production, liberating labor force, mobilizing large capital sources and modern technology, creating high productivity. Right after the founding of the country, He advocated extensive integration for economic development: "Vietnam gives a favorable reception to investment from foreign capitalists and technicians in all industries, etc. Vietnam accepts to join all international economic cooperation organizations under the leadership of the United Nations"[25]. Opening up for cooperation creates great opportunities for nation-building and improving people's lives. He said: "People's lives can only be very abundant when we use machines for production widely: using machines both in industry and in agriculture. The machine will support the human, increase human strength hundreds, thousands of times and help people do extraordinary things. If want to have many machines, it is necessary to expand the industries of making machines, producing iron, steel, coal, oil, etc. That is the way we must go: *The way to industrialization in our country*"[26]. Industrialization puts new requirements on economic organization and management. Associated with human resources, in economic leadership and management, units need to focus on the key stage "promoting enterprise management, and that staff and workers must be technically proficient; leading agencies must follow closely and serve production"[27].

Ho Chi Minh affirmed the strategic point of view: Increasing production goes hand in hand with thrift practice. Thrift is the rational and efficient use of resources to increase the comprehensive strength of the country. If not saving, wealth produced as the situation that "A fool and his money are soon parted", so we must "save, be not luxury, not wasteful, not indiscriminate"[28]. Thrift in production is a mandatory requirement in planning and implementing economic development strategies. He advised people to actively produce, work diligently in association with thrift practice; Not only saving in wealth, money, time, energy (people's energy), but also saving in the consumption of wealth. "Thrift means: spending 1 hour doing the 2-3-hour work. 1 person works equal to 2, 3 people. 1 dong used

[24] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol. 13, p. 30.
[25] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol.4, p. 523.
[26] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol.12, p. 445.
[27] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol.13, p. 376.
[28] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol.6, p. 122.

is equal to 2, 3 dongs"[29]. He did not consider thrifty to be stingy, miserly, and that money is everything; He said: "Thrift is not being stingy. When it should not be spent, shouldn't. When there is a job worth doing, a benefit for the compatriots and the Country, no matter how much effort, no matter how much it costs, we will be happy"[30]. He pointed out the purpose of thrift: "We must be more strict in the use of our savings, in order to quickly progress to a full and prosperous life for everyone"[31]. He even proposed the motto "sparing of words" for economic development as "Talk the talk walk the walk", "Actions speak louder than words"[32]. With mass organizations, He advised not to have many meetings, to do their best to avoid "meeting without discussion, discussion without dicision, dicision without action"[33]. If we consider actions an expression of morality, we can consider the sparing of words (saying only the most practical things) as an expression of human prudence and faithfulness.

He asked everyone to save their own time, energy and money. The need to save comes not only from personal ethical requirements, but also from the requirements of the apparatus and production lines. In economic activities, as long as a loophole exists, money will follow it out and forcefully break into the entire system, making the loophole bigger and bigger. Therefore, in order to "seal the loopholes, and not let our savings be lost or dispersed"[34], everyone must work together, practice thrift, and fight waste. He asserted: "Waste, though not taking public money, its results are also harmful to the people, to the Government. Sometimes it is more harmful than embezzlement"[35]. It is more harmful because only powerful officials can embezzle, but regardless of person, in any position, it is easy to waste money, time, energy of the themselves, the agency and the society.

Thirdly, managing the economy according to the principles and ensuring economic efficiency. The socialist revolutionary process is a long, difficult and arduous historical process with the ultimate aim of ensuring the success of the cause of socialist construction. In that process, it is inevitable that economic, political, socio-cultural issues need to be solved in a scientific, comprehensive and effective manner. Ho Chi Minh was clearly aware of the value of economic development in order to achieve revolutionary goals, and He sought every way to carry out economic development activities. He has set out general and specific goals of economic development in each different revolutionary period, but they all demonstrate the principles of economic management: appropriateness - fairness - benefit - thrift - efficiency.

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[29] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol.. 6, p. 124.
[30] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol.6, p. 123.
[31] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol.12, p. 467.
[32] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol. 3, p. 457.
[33] Ho Chi Minh National Academy of Politics (1996), *Ho Chi Minh - Biography Chronicle,* vol.10, National Political Publishing House, Hanoi. p.139.
[34] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol. 12, p. 467.
[35] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol. 7, p. 357.

In economic management, He emphasized the role of the government as a regulator of the entire economy and as a subject of an economic sector. The Government develops mechanisms and policies, establishes and maintains a system of economic management principles and creates levers to stimulate economic development in the main fields; ensures the centralized management of the state and at the same time ensures the autonomy of the governing agencies and economic units. He advocated: “Management of a country is like managing an enterprise: it must be profitable. What is output, what is input, what to do immediately, what to wait, postpone, or discard, what is worth spending, who is worth using, everything must be carefully calculated”[36]. In the principle of economic accounting, economic efficiency must be taken as a measure, so economic managers must know how to use economic levers to achieve high efficiency. He raised the issues of price, salary, money, tax, contract, bonus and penalty as levers in different economic sectors that will stimulate labor, abundant, fast, good and cheap production, creating products that benefit the family and state.

He emphasized not to be equalized in the economy, in the distribution according to the quantity and quality of labor, so as not to destroy the momentum of development. “In the work of circulation and distribution, there are two important points that must always be reminded: Not afraid of lack, just afraid of unfairness and not afraid of poverty, just afraid of people's restless hearts”[37]. He asserted: “The distribution must be according to the level of labor. The more labor, the more it is distributed, the less labor, the less it is distributed, etc. The good people and bad people with difficult things and easy things should not be given the same points. That is egalitarianism. *Egalitarianism must be avoided*”[38]. In management, it is necessary to pay attention to the implementation: “Helping the poor have enough food, those who have enough food will be quite rich, those who are quite rich will get richer, etc. Making use of the people's wealth, the people's power, the people's property to benefit the people”[39]. Regarding the principle of distribution according to labor, He also mentioned the way and efficiency of lump work in production. “The lump work system is a condition of socialism, it encourages workers to always make progress so that the factory can progress. The lump work brings mutual and private benefits; Good lump work is appropriate and fair under our current regime. The lump work must increase the quantity, but always maintain the quality”[40].

For organizations and managers of economic development, it is required “to find a way to organize and arrange reasonable arrangements, so that one person can work like two

[36] Ho Chi Minh (1990), *On Economy and Economic management,* Theoretical Information Publishing House, H, p. 82-83.
[37] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol. 15, p. 224.
[38] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol. 13, p. 216.
[39] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol. 5, p. 81.
[40] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol. 10, p. 537-538.

people, working for one day equals for two days"[41]. He asked economic managers to uphold the gradual, from small to large, from low to high, voluntary, mutually beneficial principle, avoiding subjectivity, coercion and ostentatiousness. He advised "*don't be greedy to do things quickly and massively*"[42], need to closely follow the characteristics, situation as well as experience in economic management. "Production plan *is not determined in a bureaucratic way*, it must be closely related to the economic situation, to the source of wealth and a clear calculation of our support. The plan should not *fall behind*, but also should not *run ahead of* the development of technology, should not be separated from agriculture, should not forget about our thrift"[43]. The biggest feature of economic managers is related to a lot of materials and money, who are easy to be tempted, corrupted and perverted, if they are not clever, they will cause losses and bad consequences for the economic establishments. Therefore, He demanded that in the economy, "management must be democratic, fair and transparent"[44], the economic managers must have professional qualities, qualifications and standards to meet the requirements set forth.

Fourthly, expanding models and ways of economic development. During the transition to socialism, He advocated an economy with many forms of ownership and many economic sectors. He affirmed: In the transitional period, our country's economy still exists four main forms of ownership: "Ownership by the State means that of the whole people. The ownership of the cooperative means the collective ownership of the working people and the ownership of the individual workers. A few means of production are owned by the capitalist"[45]. Regarding economic components, according to Ho Chi Minh, in the new democracy, there are five different types of economy: "A- State-owned economy (belonging to socialism because it belongs to the people). B- Cooperatives (it is semi-socialism, and will move towards socialism). C- Economy of individuals, farmers and artisans (possibly gradually moving into cooperatives, i.e. semi-socialism). D- Private capital. E- Capital of the State (such as the State joining forces with private capital to do business)"[46].

The normal economic structure is considered from three angles, namely the sectoral structure, the component structure, and the territorial structure, in which the sectoral structure is the most important. According to Him, because our country is an agricultural country, in the structure of the economic sector, we must attach importance to agriculture, but first of all, food production. He pointed out that three economic sectors have an organic relationship with each other: agriculture, industry, and commerce (Historically: without agriculture, there would be no stability, without industry, there would be no wealth, without

[41] Hồ Chí Minh (1990), *On Economy and Economic management,* Ibid, p. 82.
[42] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol. 9, p. 466.
[43] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol. 7, p. 365-366.
[44] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol. 13, p. 200.
[45] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol. 12, p. 372.
[46] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol. 8, p. 293-294.

commerce, there would be no activeness, without wisdom, there would be not flourish). In particular, commerce is the link between agriculture and industry. If the commerce link is broken, it will not be possible to link agriculture with industry, and the union of workers and farmers will not be consolidated. Talking about the role of agriculture, He pointed out that agriculture not only solves food problems but also provides raw materials to restore small industry and industry, and at the same time provides forest products to expand trade with foreign countries. It is necessary to develop comprehensive agriculture, while attaching importance to forestry, fishery, and salt production.

President Ho Chi Minh raised the issue that economic managers need to orient to build an independent and self-reliant economy in combination with expanding international economic cooperation in order to promote internal resources, potentials and strengths of the country and take advantage of international opportunities and favorable conditions for economic development. Economic development must be associated with the implementation of political tasks, with social progress and human morality, thereby strengthening the socialist political system. Therefore, He is particularly interested in promoting the spirit of socialism and collectivism, fighting individualism, and creating the necessary motivation for development.

When Ho Chi Minh lived in an era when socio-economic development did not set urgent requirements on environmental protection, but with a strategic vision, He had profound valuable thoughts on this issue. In His expression, although He does not directly refer to the term “sustainable development” as at present, the contents, goals, principles, and relationships among factors in sustainable development have all been mentioned by Him from very soon, there were even very accurate, comprehensive and systematic forecasts on the contents related to sustainable development, in which: social welfare must pay attention to the families of war invalids and martyrs who have contributed to the revolution; ethnic minority, etc.

3.2. Solution orientation to apply Ho Chi Minh's economic development theory to manage Vietnam's economy today

On the basis of the orientation to apply Ho Chi Minh's economic development theory and actively seize the opportunities of the industrial revolution 4.0 to develop our country's economy, it is necessary to synchronously implement the following important solutions:

Firstly, building a long-term strategy and vision, developing a smart nation.

Ho Chi Minh's theory of economic development and technological revolution are an important theoretical and practical basis to apply creatively to establish a strategy for Vietnam's economic development in a practical and effective way in the reform period. The Government and state management agencies need to renovate the thinking, apparatus and methods of management, administration, planning mechanisms and policies in accordance with revolutionary changes in technology.

Implementing well Directive No. 16/CT-TTg, dated May 4, 2017 of the Prime Minister on strengthening capacity to approach the fourth industrial revolution. Deploying the development of e-Government for administrative management and effective use in the direction and administration of the Government and in dealing with the affairs of people and enterprises; promoting the development of online public services and having solutions to encourage people and enterprises to use them; timely adjusting economic policies to suit the economic situation in the country, the region and the world. Enhancing the leading effective position and role of the state economic management. Effectively promoting the Project on Supporting the National Innovative Start-up Ecosystem to 2025 approved by the Prime Minister in Decision No. 844/QD-TTg dated May 18, 2016; Project "Digital Vietnamese Knowledge System". Continuing to promote the implementation of Resolutions No. 19-2017/NQ-CP dated February 6, 2017, No. 35/NQ-CP dated May 16, 2016 and No. 36a/NQ-CP dated October 14, 2015 by the Government to improve the business competitive environment to promote the development of enterprises, create conditions for enterprises to quickly absorb and develop new production technologies.

Raising awareness of leaders at all levels, sectors, localities, enterprises and the whole society about the Industrial Revolution 4.0. Strengthening international integration and information and communication to improve correct understanding and awareness of the nature, characteristics, opportunities and challenges of the Industrial Revolution 4.0 to have appropriate and effective approaches and solutions.

Secondly, delving into improving the quality of human resources to meet the requirements of economic development. Ho Chi Minh once said: "To build socialism, first of all, there must be socialist people"; "Must consider the human factor as the number one issue"[47]. In economic construction and development, in order to increase productivity, quality and efficiency, must create and regularly adjust mechanisms, policies, methods of organization and management, etc., to actively improve human resources for intelligent, qualified, healthy, creative and dynamic human resources for high production and economic development.

Well implementing the Party's policy on education is "Innovating educational programs and contents in the direction of streamlining, modernity, practicality, suitable for ages, qualifications and professions. Diversifying the learning content and materials to meet the requirements of all levels of education, education and training programs and the lifelong learning needs of everyone". Innovating education and training, building smart schools, increasing the application of science and technology in training, renovating curricula and

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[47] *People's newspaper,* issued on April 7, 1965.

restructuring training professions to suit the requirements of the 4.0 revolution. Encouraging teachers to teach interactively (Interactive teaching) with smart devices, manage the learning (Class management) combined with team-based learning method (Team-based learning). Focusing on training students adaptability and creative working spirit. It is necessary to have a policy to attract high-quality human resources from the outside in order to create innovation motivation and opportunities to learn and develop on the basis of buying skills and knowledge from outside, building a learning society with the transfer and sharing of common knowledge of mankind.

Thirdly, clearly defining the content, nature and sequential steps in the development of economic sectors and fields. Focusing on developing industries to serve the development of agriculture and light industry. Our country's starting point is an agricultural country, and the potential for agricultural and rural economic development is high. Our Party affirms that "Promoting the development of a number of key economic sectors and fields, which have potentials and advantages to serve as a driving force for growth in the spirit of catching up, advancing with and surpassing in some areas compared to the region and the world"[48] is the creative application of economic development theory of Ho Chi Minh.

Fourthly, focusing on promoting development, creating a real breakthrough in infrastructure and technical applications. Developing digital connection infrastructure and ensuring network safety and security to create conditions for people and enterprises to easily and equally access digital content development opportunities. Building a digital transformation strategy, smart governance, prioritizing the development of the digital technology industry, smart agriculture, smart tourism, and smart cities. Reviewing and selecting to develop key products, strategic competitive products of the country, closely following new production technologies, integrating new technologies to focus on development investment.

Economic management needs to adhere to the combination of building the new and improving and upgrading modern technology in the process of industrialization and modernization. Ho Chi Minh once affirmed: "If technology is separated from the entire national economy, losing contact with it, technology cannot lead the national economy"[49]. In the economic development of the country, it is necessary to pay attention to the combination of rudimentary to medium technologies, and at the same time to boldly apply modern technology in each item (from single to synchronous) to create products of high quality, according to standards, with high competitiveness. This is considered a breakthrough and "leapfrog" to catch up with the world's development speed of Vietnam.

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[48] Communist Party of Vietnam (2021): *Document of the 13th National Congress of Deputies,* National Political Publishing House, Hanoi, vol. 1, p. 235.
[49] Ho Chi Minh (2011), *Complete Volume,* Ibid, vol. 6, p. 499.

Promoting economic restructuring in association with growth model innovation, improving productivity, efficiency and competitiveness of the economy, in which focusing on 3 focuses: Investment restructuring with the focus on public investment; enterprise restructuring with the focus on economic groups and state-owned corporations; financial market restructuring with the focus on commercial banks and credit institutions.

Stepping up research and effective application of important scientific and technological achievements for socio-economic development, national defense and security assurance. Building socialism and defending the socialist Fatherland is an organic, dialectical relationship, forming a unified whole, "two are like one, one is like two". Our Party puts "stability and sustainable development in all aspects of socio-economic life as a solid foundation for national defense and security" as the top priority, but determines "to maintain a peaceful environment with political stability, national security, and human security"[50]. This view should be understood that economic development is the root of national defense - security; Socio-economic construction is an effective method to protect the Fatherland. If this root is solid, then national defense - security will be strong. The expression of solidity is stability and development.

4. Discussion and Conclusion

Vietnam is in the process of industrialization, modernization of the country and international integration, the industrial revolution 4.0 is opening up many opportunities, advantages and challenges and difficulties for economic development, requiring the participation of all actors in the economy on the basis of applying topical values of Ho Chi Minh's economic development theory and the country's reality in the current situation. The mastery, research, application and creative development in the current economic management, construction and development in Vietnam in the context of the industrial revolution 4.0 for the core goal of national economy development is to serve the cause of rich people, strong country, democracy, justice and civilization.

Ho Chi Minh's theory of economic development is part of a precious heritage containing profound values of Economic development goals; making use of all resources to develop production and practice thrift; managing the economy in accordance with the principles and ensuring economic efficiency; expanding models and ways of economic development. Along with that, researching on the characteristics, impacts and requirements of the 4.0 industrial revolution on Vietnam's economic development has practical significance today. The process of building and developing Vietnam's economy needs to be oriented to apply the following point of view: Recognizing the trend of economic development in the direction of industry and modernity is an inevitable development trend in promoting Vietnam's economic development; equal opportunities for Vietnam and other

[50] Communist Party of Vietnam (2021), *Document of the 13th National Congress of Deputies*, Ibid, vol.1, p.156.

countries; science and technology must be considered as an important foundation for the country's breakthrough and sustainable development in the future. Proposing synchronous solutions for economic development, including: Building a long-term strategy and vision, developing a smart nation; deepening the improvement of the quality of human resources to meet the requirements of economic development; clearly defining the content, nature and sequential steps in the development of economic sectors and fields; focusing on promoting development, creating a real breakthrough in infrastructure and technical applications.

In order to properly understand and effectively apply Ho Chi Minh's economic development theory and the achievements of the industrial revolution 4.0, it is necessary to avoid stereotypes and dogma, but to be flexible with methodologically oriented viewpoints and principles. In the current economic construction and development, it is necessary to derive from reality, the situation and characteristics of the world economy and Vietnam's economy to apply Ho Chi Minh's ideoloy practically and appropriately; apply Ho Chi Minh's economic development perspectives in managing and regulating specific, comprehensive and scientific economic issues, ensuring focus, innovation, integration and sustainable development.

5. References

1. Central Economic Commission and the United States Agency for International Development (USAID) (2017), Report on "Diagnosing Vietnam's economic growth", Information and Communication Publishing House, Hanoi.

2. People's Newspaper, Issued on April 7, 1965.

3. Government of the Socialist Republic of Vietnam (5/2017), Directive No. 16/CT-TTg, dated 4/5/2017 of the Prime Minister on strengthening access to the 4th Industrial Revolution.

4. World Economic Forum (2017), Report on Global Human Capital in 2017.

5. Ho Chi Minh (2011), *Complete volume*, National Political Publishing House, Hanoi, 15 volumes.

6. Ho Chi Minh (1990), *On Economy and Economic management*, Theoretical Information Publishing House, Hanoi.

7. Communist Party of Vietnam (2021), *Document of the 13th National Congress of Deputies, Publishing House,* National Political Publishing House, Hanoi.

8. Assoc. Prof. Dr. Tran Thi Van Hoa (Editor) (2018), *Industrial Revolution 4.0 - Issues for Vietnam's socio-economic development and international integration,* National Political Publishing House, Hanoi.

9. Ho Chi Minh National Academy of Politics and Public Administration, Ho Chi Minh Institute (2007), *Ho Chi Minh - Biographical Chronicle,* National Political Publishing House, Hanoi.

10. Dang Xuan Ky (2004), *Ho Chi Minh Method and Style*, Political Theory Publishing House, Hanoi.

11. Prof. Dr. Le Huu Nghia - Dr. Le Van Chien (Co-editors) (2014), *Impact of foreign direct investment on labor productivity and technology level of Vietnam,* Political Theory Publishing House, Hanoi.

12. Assoc. Dr. Vu Van Phuc (2017), *Developing a socialist-oriented market economy in our country - Theory and practice,* Political Theory Publishing House, Hanoi.

13. Prof. Dr. Luong Xuan Quy (Editor) (2015), *New thinking on socio-economic development of Vietnam in the new context,* Political Theory Publishing House, Hanoi.

14. Investor Magazine: https://vietnamfinance.vn/nhin-lai-nhung-quan-diem-vuot-thoi-dai-ve-kinh-te-cua-chu-tich-ho-chi-minh-20180504224223677.htm

15. Communist magazine: http://www.tapchicongsan.org.vn/Home/Van-hoa-xa-hoi/2018/52849/Viet-Nam-voi-Cuoc-cach-mang-cong-nghiep-40.aspx

16. German Trade and Invest (2014), *Industrie 4.0 - Smart manufacturing for the future*, Berlin.

IMPACT OF FISCAL POLICY ON VIETNAM'S ECONOMIC GROWTH

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Abstract

Fiscal policy plays a very important role in Vietnamese economy. In recent years, Vietnam's fiscal policy is gradually adjusted to the changes of the economy. By combining qualitative and quantitative methods to evaluate the impact of government spending on Vietnam's economic growth, this study finds that before 2011, Vietnam's fiscal policy was quite ineffectiveness and had negative effect on Vietnam's economic growth. Whereas, after 2011, those policies have been adjusted toward increasing effectiveness and contributing significantly to the country's economic growth.

Keywords: *Fiscal policy, growth, quantitative, Vietnam*

1. Introduction

Economic growth is one of the top priorities for many countries, especially those countries in transition like Vietnam. To achieve the expected growth target, governments can use many macro tools and policies to promote growth, including fiscal policies. By implementing fiscal policies, government can create impact on the economy in order to achieve the macroeconomic goals such as economic growth, job creation or inflation stabilization. Fiscal policy has a large impact on management and plays an important role in regulating the macro economy through mobilizing and using state financial resources.

In recent years, fiscal policy has contributed significantly to the economic growth of Vietnam. In the financial crisis in 2008- 2009, Vietnam implemented expansionary fiscal policy. Although this policy kept the economy not to decline sharply in the later period, it also led to budget deficit and increased the burden of repayment for the budget. Large budget deficit, high public debt, decreased budget revenue/GDP ratio and ineffective public spending, especially public investment, were all hindering sustainable growth. Since 2012, especially in recent years, in the context of pandemic Covid-19 has affected significantly to the entire socio-economic life of Vietnam, the Government of Vietnam is implementing policies towards strictly implementing revenue, saving, reducing the State budget deficit, supporting reasonable growth. To clarify the impact of fiscal policy on growth, this study uses a number of quantitative tools such as correlation analysis and econometric modeling to examine the impact of Vietnam's fiscal policy in various periods.

2. Method

To analyze the effect of fiscal policy on Vietnam's economic growth, the following methods are used:

- ***Correlation coefficient analysis***

Correlation coefficient is a statistical indicator measuring the strength and weakness of the relationship between two variables. The correlation coefficient is valid from -1.0 to 1.0. Correlation coefficient with a positive value implies that two variables haves the same direction, in contrast, the negative value implies an inverse relationship, the correlation coefficient is 0 implying two independent variables.

There are many types of correlation coefficients, but the most common is the Pearson correlation. This index measures the strength and cannot distinguish dependent and independent variables.

Formula

$\rho_{xy} = Cov(xy) / \sigma_x * \sigma_y$

In which:

ρ_{xy} :	Pearson correlation coefficient
$Cov_{(x, y)}$:	Covariance of variables x and y
σ_x :	Standard deviation of x
σ_y :	Standard deviation of y

- ***Multi-variable regression economic model (Hadjimichael model, 1994)***

This model evaluates impacts of capital, monetary policy and fiscal policy on economic growth based on Hadjimichael model (1994), which is described as follows:

$Yit = \alpha_{it} + \Upsilon * FMVar\ (t-1) + \beta * Xi\ (t-1) + c + \varepsilon it$

In which:

- Yit:	Dependent variable
- FMVar:	Variable representing fiscal policy[51]
- Xi:	Control variables.
- c:	Intercept
- ε:	Residual

The delayed fiscal targets and control variables in the model are due to:

[51] in Hadjimichael's original model, FMVar is Divestment of the Economy

First: The fiscal policies implemented in this year will have impact on the economy in the coming years, i.e. have a delayed effect.

Second: technically avoid the endogenous problem between dependencies and control variables

The model is applied in this research by following steps:

Step 1: Develop an integrated fiscal indicator

To build integrated fiscal indicator, principal component analysis method (dimensionality reduction) – PCA is used.

Principal Component Analysis (PCA) is one of the simplest methods for multivariate data analysis. The idea of this approach is to extract the greatest amount of information from single variables and indexes when combining them in ways through the least number of principal components (PC). In other words, PCA method allows the transformation from a large set of variables and its observations into a smaller set of variables but having full information of the initial variables. Through PCA, principal components (PC) are created by modeling the resonance capacity of single variables in different spatial directions, by which guarantees the maximum information of single variables and indices is retained in the principal components (Stock and Watson, 2002).

Step 2: Use the above Hadjimichael model to estimate the impact

Step 3: Analyze the results

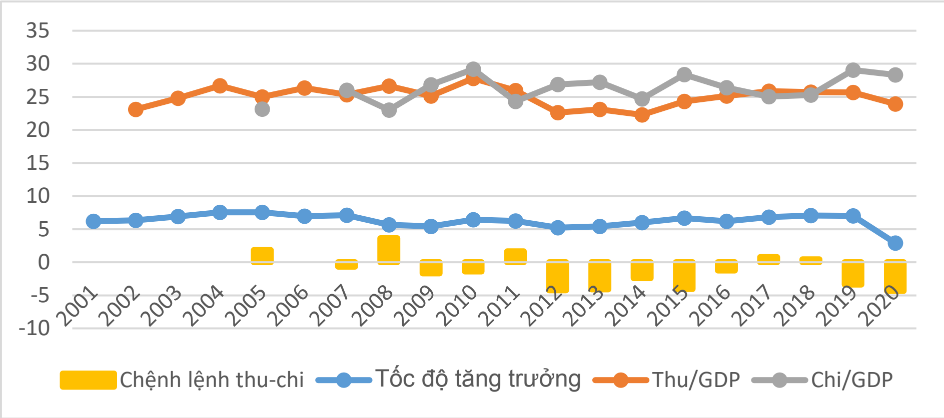
3. Results

Impact of fiscal policy on Vietnam's economic growth

In 2008-2011 when global economic crisis and recession appeared, Vietnam implemented expansionary fiscal policies to cope with. Although keeping the economy not to decline sharply during this period, those policies also led to a high level of overspending (about 6% in 2009), thereby increased the burden of repayment for the state budget. The large budget deficit, the declining budget revenue/GDP ratio and the ineffective public spending, especially public investment had certain effects on long-term sustainable growth.

Since 2012, Vietnam's economy started to recover and gained its growth momentum, in 2017 and 2018, the growth rate has reached 6.81% and 7.1% respectively; macro policies focus on macroeconomic stabilization and business support. Specifically, in term of fiscal policy, the Government is operating towards strictly implementing the items of revenue, saving, reducing the state budget deficit, and supporting reasonable growth.

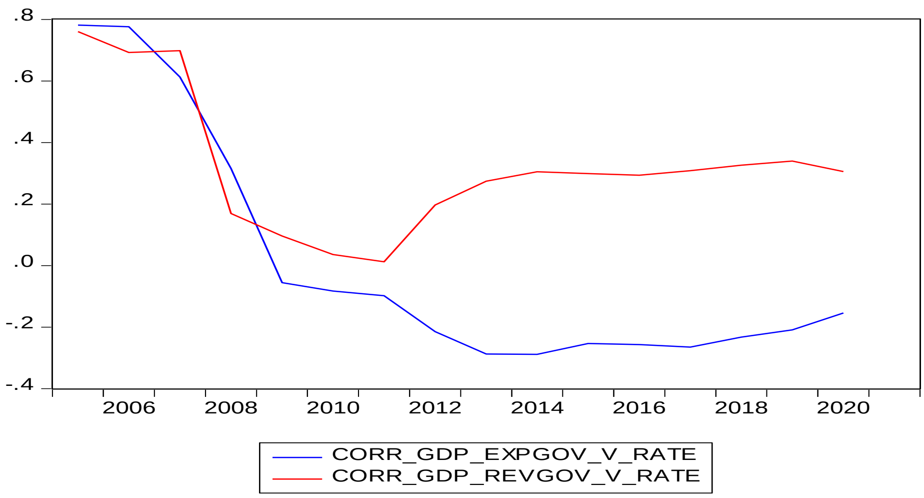
Figure 1: Budget revenue and expenditure and growth rate



Source: Author's calculations from GSO data

The relationship between specific fiscal policies and growth shows that before 2011, effectiveness of revenue-expenditure policy decreased quite rapidly, reflected in the correlation coefficient between revenues, spending and growth continued to decline from 0.8 to close to zero in 2011.

Figure 2: The correlation coefficient between revenue and expenditure - budget and growth rate[52]



Source: author's calculation from GSO data

However, since 2011, there has been a quite different effect between revenue and expenditure on growth.

After 2011, revenue policy has had increasing positive effects on growth, while expenditure policy has not had any significant changes, and somehow restricted economic growth (negative correlation coefficient).

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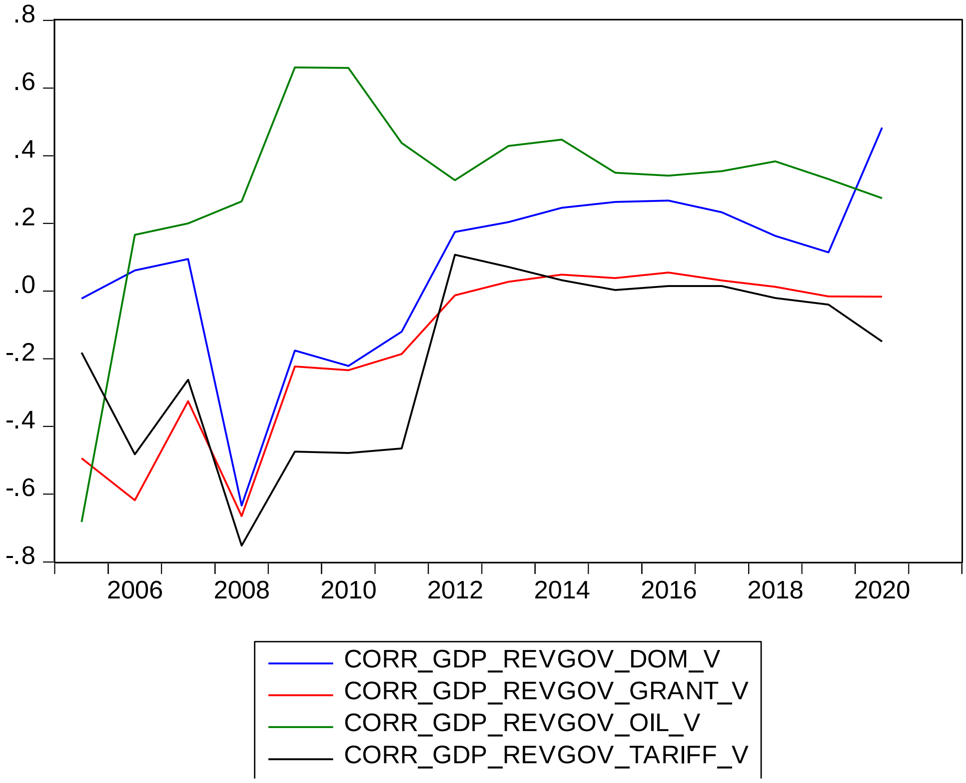
[52] CORR_GDP_REVGOV_V_RATE, CORR_GDP_EXPGOV_V_RATE: Correlation between revenue, spending/GDP and growth

Impact by composition of revenue and expenditure

Before 2011, the impact of revenue items on economic growth was instable, in which oil revenues have strong impact on economic growth of Vietnam, while revenues from tariffs have a minimal impact.

Figure 3: Correlation between revenues and GDP[53]



Source: Author's calculations from GSO data

After 2011, the impact of revenue sources on growth is relatively stable, which shows that the system of fiscal policies in Vietnam is gradually standardizing and stimulating growth. However, the order of effects of revenues on growth has not changed: the strongest effect was still revenue from crude oil and the lowest was revenue from import and export tariffs.

Impact by composition of expenditure

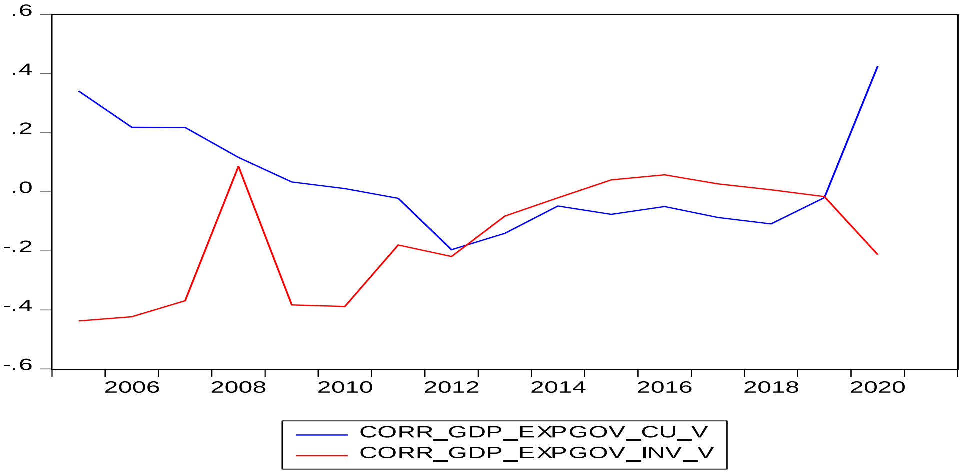
Before 2012, impact of recurrent expenditure on growth decreased gradually, especially in 2011 and 2012, recurrent expenditure not only did not have a positive impact, but also somewhat limited the growth rate. In term of spending for development, before 2012, there were large fluctuation in the impact of these expenditures on growth, but overall,

53 CORR_GDP_EXPGOV_DOM_V,CORR_GDP_EXPGOV_OIL_V, ORR_GDP_EXPGOV_ TARIFF_V, CORR_GDP_EXPGOV_ GRANT_V: Correlation between domestic revenue, oil revenue, custom revenue, ODA revenue and growth

development spending had many limitations, causing negative effects on Vietnam's economic growth.

The impact of recurrent expenditure is stronger than the impact of development spending. This shows that before 2012, Vietnam's economic growth was based on spending (rely on demand side to stimulate economic growth).

Figure 4: Correlation between recurrent expenditure, development expenditure and GDP



Source: Author's calculations from GSO data

After 2012, impact of development expenditure was greater than recurrent expenditure, which shows that the expenditure policy has gradually changed and has a greater impact on the economy. However, this impact is still relatively small, showing that Vietnam's spending on investment for development is still ineffective. On the other hand, the negative correlation between recurrent expenditure and growth implies the burden of recurrent expenditure on the economy, which is hindering economic growth.

In the past two years, the Covid-19 pandemic has had multidimensional impacts on state budget expenditure. On the one hand, the Covid-19 epidemic forced the government to reduce spending and improve its efficiency, and avoid wasting in recurrent expenditure due to difficulties in revenues, reflected in increasing impacts of recurrent expenditure on economic growth in 2019 and 2020. Whereas impact of development spending has decreased, due to the fact that Covid-19 pandemic has slowed down the production activities, and affected the investment in production.

Quantitative effects of fiscal policy on growth

Use impact assessment model

Using Hadjimichael model to assess impacts, we have the equation:

Log (gdp) = α_{it} + Υ * INDEX_GOV + β1 * LOG (FCF (-1)) + β2 * LOG (LF_AC (-1)) + β3 * LOG (OPEN (-1)) + β4 * (YEAR = 2008) + (YEAR = 2009) + β5 * (year = 2011) + Ɛ

In which:

✓GDP: Gross domestic product (constant 2010)

✓INDEX_GOV: Integrated fiscal policy variable

✓FCF: accumulation of fixed assets

✓LF_AC: economically active workforce

✓OPEN: the openness of the economy

✓(YEAR = 2008) + (YEAR = 2009): Dummy variable of year 2008, 2009 = 1

✓(YEAR = 2011): Dummy variable of year 2011 = 1

✓Ɛ: Residual

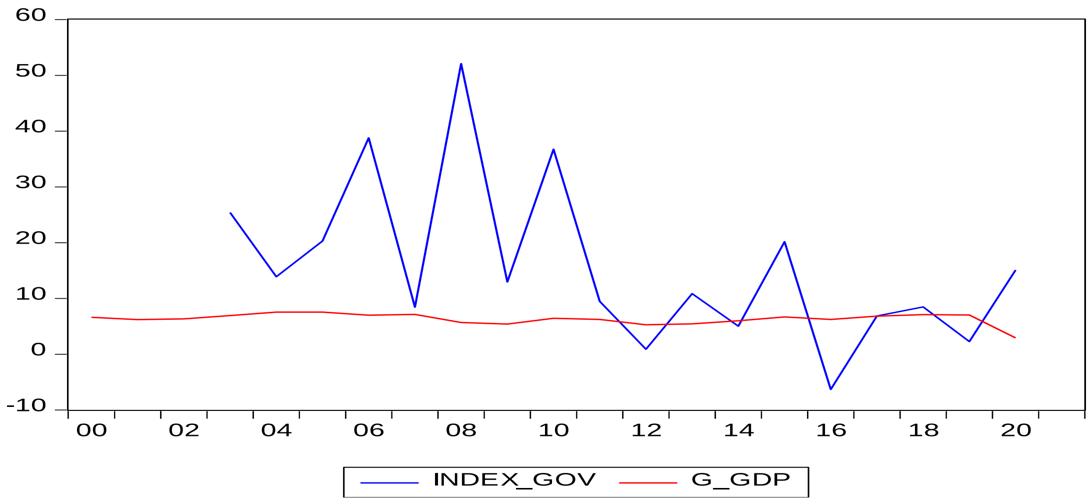
Data:

Data used in the analysis and estimation were collected from GSO from 2000 to 2020[54]

Develop integrated fiscal policy indicator

Using the dimensionality reduction method for fiscal and monetary indicators, we can get the integrated fiscal policy indicator (**Appendix 1**).

Figure 5: Integrated fiscal and monetary policy indicator[55]



Source: Author's calculations from GSO data

Estimated impact model

[54] Data for 2020 is estimated
[55] INDEX_GOV: integrated fiscal policy indicator, G_GDP: economic growth rate

When developing integrated fiscal policy indicator from component fiscal indicators[56] by applying PCA, the study finds that the coefficient of the integrated fiscal index is very small (-0.000977), which shows the inconsistent relationship between the integrated fiscal policy and growth.

Log(gdp) = - 0.000977*INDEX_GOV + 0.419992*LOG(FCF(-1)) + 0.8088760*LOG(LF_AC(-1)) + 0.002154*LOG(OPEN(-1)) - 0.036110*(YEAR=2008) + (YEAR=2009) - 0.087995*(year = 2011)

The coefficient - 0.000977 implies that Vietnam's fiscal policy still has problems that creating negative impact on growth, but the impact is quite small. This can be explained by the fact that the recurrent expenditure for the state apparatus of Vietnam is still very large while development spending is not effective.

Vietnam still grows in breadth, as the ratios for labor (0.8088760) and capital (0.419992) are very high. Whereas the coefficient of economic openness is small (0.002154) implying that Vietnam has not taken full advantage of economic integration.

4. Discussion and Conclusion

As Vietnam is a developing country with high openness, changes in the world economy would have great impact on Vietnam's economy. Both regional financial crisis 1997- 1998 started in Thailand, global financial crisis in 2017-2018, and Covid-19 pandemic have affected deeply to all socio-economic sectors of Vietnam. However, with the results achieved up to now, it can be affirmed that the Government's fiscal policies have been gradually adjusted to be effective and promptly support business and citizens.

However, in the current complicated and unpredictable context of Covid-19 pandemic, the fiscal policy needs towards cutting expenditure, increasing efficiency of spending especially development spending. In addition, the government needs to seek more sustainable revenue sources while strictly manage existing revenue by improving investigation in collecting fee and tax; carefully considering revenue from selling property, property right and increase in budget deficit and public debt in short-term.

5. References

1. General Statistics Office (2020). *Report on socio-economic situation of the years*. Statistics Publishing House.

2. General Statistics Office. *Annual monitoring statistics through the year*. Statistics Publishing House.

3. Nguyen Quang Dong, Nguyen Thi Minh, & Nguyen Manh The. (2012). *Econometrics.* National Economics University.

[56] Domestic revenue, oil revenue, custom revenue, ODA, recurrent expenditure and development spending

Appendix 1

Principal Components Analysis
Date: 04/05/21 Time: 01:45
Sample (adjusted): 2003 2020
Included observations: 18 after adjustments
Balanced sample (listwise missing value deletion)
Computed using: Ordinary correlations
Extracting 6 of 6 possible components

Eigenvalues: (Sum = 6, Average = 1)

Number	Value	Difference	Proportion	Cumulative Value	Cumulative Proportion
first	1.940335	0.620243	0.3234	1.940335	0.3234
2	1.320091	0.070412	0.2200	3.260426	0.5434
3	1.249680	0.511604	0.2083	4,510106	0.7517
4	0.738076	0.330370	0.1230	5.248181	0.8747
5	0.407705	0.063592	0.0680	5.655887	0.9426
6	0.344113	---	0.0574	6.000000	1.0000

Eigenvectors (loadings):

Variable	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6
G_REVGOV_DOM_V	0.512456	0.133577	0.407216	-0.330986	0.638948	-0.189511
G_REVGOV_OIL_V	0.395885	-0.330147	-0.445698	0.526550	0.400980	0.312396
G_REVGOV_TARIFF_V	0.152658	0.776296	-0.174588	-0.084210	-0.045562	0.578283
G_REVGOV_GRANT_V	0.564083	0.273672	0.009478	0.395216	-0.456826	-0.491871
G_EXPGOV_CU_V	0.480579	-0.441888	0.122113	-0.419211	-0.467834	0.405292
G_EXPGOV_INV_V	-0.090627	-0.019062	0.768144	0.523611	-0.036413	0.354801

Ordinary correlations:

	G_REVGOV_DOM_V	G_REVGOV_OIL_V	G_REVGOV_TARIFF_V	G_REVGOV_GRANT_V	G_EXPGOV_CU_V	G_EXPGOV_INV_V
G_REVGOV_DOM_V	1.000000					
G_REVGOV_OIL_V	0.064067	1.000000				
G_REVGOV_TARIFF_V	0.170826	-0.101832	1.000000			

G_REVGOV _GRANT_V	0.430494	0.334784	0.331515	1.000000		
G_EXPGOV _CU_V	0.416187	0.297894	-0.221733	0.264054	1.000000	
G_EXPGOV _INV_V	0.136889	-0.253467	-0.175236	0.002485	-0.061750	1.000000

Appendix 2

Estimated results of fiscal policy and economic growth

Dependent Variable: LOG (GDP)
Method: Least Squares
Date: March 5, 21 Time: 8:00 PM
Sample (adjusted): 2003 2017
Included observations: 15 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INDEX_GOV	-0.000977	0.000487	-2.005786	0.0758
LOG (FCF (-1))	0.419992	0.069552	6,038512	0.0002
LOG (LF_AC (-1))	0.808876	0.076107	10,62812	0.0000
OPEN	0.002154	0.000757	2.843986	0.0193
(YEAR = 2008) + (YEAR = 2009)	-0.036110	0.024763	-1.458199	0.1788
YEAR = 2011	-0.087995	0.027240	-3.230405	0.0103

R-squared	0.994876	Mean dependent var	14.57694
Adjusted R-squared	0.992030	SD dependent var	0.268639
SE of regression	0.023983	Akaike info criterion	-4.333757
Sum squared resid	0.005177	Schwarz criterion	-4.050537
Log likelihood	38.50318	Hannan-Quinn criter.	-4.336774
Durbin-Watson stat	2.193496		

THE ROLE OF THE STATE IN THE DEVELOPMENT OF A SOCIALIST-ORIENTED MARKET ECONOMY IN VIETNAM TODAY

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Abstract

The socialist-oriented market economy that we are building is an economy with specific characteristics, suitable to Vietnam's political, economic and cultural conditions and the values of society. for which we are striving. In the current doi moi process, besides the achievements, the socialist-oriented market economy in Vietnam also reveals its limitations. To address these limitations, state management plays a very important role. The article clarifies the concept of a socialist-oriented market economy, analyzes the status quo of the state's management role in the socialist-oriented market economy in Vietnam, and on that basis proposes some basic measures to promote the management role of the State in the socialist-oriented market economy in Vietnam today.

Keywords: *Management, state, socialist-oriented market economy.*

1. Introduction

The socialist-oriented market economy in Vietnam was formed and developed on the basis of promoting the people's role of social mastery, ensuring the State's role in economic management and regulation. socialist rule of law led by the Communist Party of Vietnam. The state is gradually increasing the role of the management subject and gradually narrowing the role of the economic actor. Accordingly, the State manages the economy, orients, regulates and promotes socio-economic development by means of laws, strategies, master plans, plans, policies and material forces ensure the development of the market, comply with the rules of the market economy, and be compatible with the practices of other countries; create the macro environment; building infrastructure and ensuring social security; promulgate mechanisms and policies on resource allocation, distribution and redistribution towards ensuring economic growth associated with social progress and justice; environmental Protection. At the same time, the State must ensure the leading role of the state economy, perfect the tools for macroeconomic management, strengthen discipline in the observance of policies and regimes, use the credit investment program to facilitate and guide the development of sectors, localities and economic sectors.

2. Method

On the basis of using methods of analysis, synthesis, systematization and generalization of relevant documents on the socialist-oriented market economy in Vietnam, the article clarifies the concept of economic socialist-oriented market, analyze the status of the state's management role in the socialist-oriented market economy in Vietnam, on that basis, propose a number of basic measures to promote management role of the State in the socialist-oriented market economy in Vietnam today.

3. Results

3.1. The socialist-oriented market economy

The socialist-oriented market economy (Vietnamese: *Kinh tế thị trường theo định hướng xã hội chủ nghĩa*) is the official title given to the current economic system in the Socialist Republic of Vietnam. It is described as a multi-sectoral market economy where the state sector plays the decisive role in directing economic development, with the eventual long-term goal of developing socialism.

The socialist-oriented market economy is a product of the Đổi Mới economic reforms which led to the replacement of the centrally planned economy with a market-based mixed economy based on the predominance of state-owned industry. These reforms were undertaken to allow Vietnam to integrate with the global market economy. The term "socialist-oriented" is used to highlight the fact that Vietnam has not yet achieved socialism and is in the process of building the basis for a future socialist system.

The Đổi Mới economic reforms were initiated by the Communist Party of Vietnam in 1986 during the party's 6th National Congress. These reforms introduced a greater role for market forces for the coordination of economic activity between enterprises and government agencies, and allowed for private ownership of small enterprises and the creation of a stock exchange for both state and non-state enterprises.

The economic reforms aimed to restructure the Vietnamese economy away from Soviet-type central planning and towards a market-based mixed economy intended to be a transitional phase in the development of a socialist economy.[4] The goal of this economic system is to improve the productive forces of the economy, developing a firm technical-material base for the foundation of socialism, and to enable Vietnam to better integrate with the world economy.

In the early 1990s, Vietnam accepted some World Bank reform advice for market liberalization, but rejected structural adjustment programs and conditional aid funding requiring privatization of state-owned enterprises.

The socialist-oriented market economy is a multi-sectoral commodity economy regulated by the market, consisting of a mixture of private, collective and state ownership of the means of production. However, the state sector and collectively owned enterprises form the backbone of the economy. It is similar to the Chinese socialist market economy in that many forms of ownership, including cooperative/collective enterprises, communal, private and state ownership models co-exist in the economy, but the state sector plays a decisive role.

The Communist Party of Vietnam maintains that the socialist-oriented market economy is consistent with the classical Marxist view of economic development and historical materialism, where socialism can only emerge once material conditions have been sufficiently developed to enable socialist relations. The socialist-oriented market model is seen as a key step for achieving the necessary economic growth and modernization while being able to co-exist in the contemporary global market economy and benefit from global trade. The Communist Party of Vietnam has re-affirmed its commitment to the development of a socialist economy with its Đổi Mới reforms.

This economic model is defended from a Marxist-Leninist perspective, which states that a planned socialist economy can only emerge after first developing the basis for socialism through the establishment of a market economy and commodity-exchange economy and that socialism will only emerge after this stage has exhausted its historical necessity and gradually transforms itself into socialism.

3.2. The current status of the state's management role in the socialist-oriented market economy in Vietnam today

The basic feature of Vietnam's socialist-oriented market economy is that the economy operates fully and synchronously according to the laws of the market economy, while ensuring a suitable socialist orientation. suitable for each stage of development of the country. It is a modern market economy and international integration; under the management of the socialist rule of law state, led by the Communist Party of Vietnam, with the aim of "rich people, strong country, democracy, justice and civilization".

Vietnam's socialist-oriented market economy has advanced production relations in line with the development level of the productive forces; there are many forms of ownership, many economic sectors, in which the state economy plays the leading role, the private economy is an important driving force of the economy; subjects of all economic sectors are equal, cooperate and compete according to the law; the market plays a key role in effectively mobilizing and allocating development resources, which is the main driving force to release productive power; State resources are allocated according to strategies, master plans and plans in line with the market mechanism. The State plays the role of orienting, building and perfecting economic institutions, creating an equal, transparent and healthy competitive environment; use State resources and tools and policies to orient and regulate the economy, promote production and business and protect the environment; implement social progress and justice in each step and each development policy. To promote the people's mastery role in socio-economic development.

After nearly 30 years of renovation, our country has gradually shifted from a centrally planned, bureaucratic economy to a socialist-oriented market economy. The management role of the state has made great changes in the conditions of the market economy, reflected in the following points:

First, the socialist rule of law governs the market economy.

The socialist rule of law state in Vietnam as an important strategic task in the period of comprehensive renovation of the country. The construction of the Vietnamese rule of law state comes from the socialist orientation with the goal of national independence associated with socialism, in order to build a society of rich people, a strong country, a public society equality, democracy, civilization. In order to build such a targeted social regime, the basic tools and means can only be a socialist-oriented market economy and a socialist rule of law state under the rule of law. leadership of the Communist Party of Vietnam on the basis of Marxist-Leninist theory and Ho Chi Minh's thought.

Besides, the need for international economic integration after our country becomes a member of the World Trade Organization (WTO) requires us to continue to promote State administrative reform, legal reform, ensure that the State is constantly strong and effective to effectively deal with the tasks of socio-economic development, practice democracy, maintain independence, self-reliance and firmly integrated into international life.

Second, resources managed by the State are allocated according to strategies, master plans and plans in line with the market mechanism.

The government can, through the legal system and through its own choice, influence production. At the same time, through taxes and transfers to influence the distribution, thereby affecting the allocation of resources of the economy. The experience of Vietnam in recent years shows that in order to allocate capital effectively, a breakthrough is to solve the relationship between the State and the market. Even though the allocation of resources belongs to the State, the principles of the market must be respected.

With the policy of synchronous and steady development of the financial market, the State has used many measures to strengthen the management of the capital market, ensuring that this market operates smoothly, openly and efficiently; improve liquidity and make fundamental changes in market structure and institutions to create a strong financial foundation, assume the role of effectively allocating social resources, while ensuring financial stability for sustainable development.

Third, the State plays the role of orienting, building and perfecting economic institutions, creating an equal and transparent competitive environment.

The economic role of the state is towards the common goal of making the people rich, the country strong, stable growth and social justice. The orientation of the state's economy is carried out through the State's formulation of socio-economic development plans, strategies and plans in the short, medium and long term. On the other hand, the state creates a favorable legal environment such as: a synchronous legal system, in line with international laws and practices; a system of guiding documents, institutions, economic development policies, etc., so that economic entities can reduce risks and disputes. The state has developed a legal system to combat fraud including: the system related to property rights, bankruptcy and solvency laws, the financial system with the central bank and commercial banks to keep the cash supply strictly enforced.

At the same time, the State uses strategic tools, plans, laws and policies as the basis for activities of inspection, control and assessment of the economy to regulate the behavior of owners in a socialist-oriented market economy.

Fourthly, the State uses the resources of the State and tools, mechanisms and policies to orient and regulate the economy, realize progress and social justice in each step and each development policy. .

In the socialist-oriented market economy in our country, besides the inevitable development of society, an increasing gap between rich and poor appears. Therefore, the state needs to take measures to redistribute social wealth in order to limit this division and make society healthy. The State distributes the national income fairly, realizes economic growth in association with the improvement of people's living standards, with social progress and justice. This most clearly shows the social orientation of the market economy in our country.

Regarding income, the State uses two measures: Regulating income increase through subsidies and incentives for people with meritorious services to the revolution; policies towards the elderly, helpless orphans and disabled people; income reduction regulation is done through tax instruments: such as personal income tax; Corporate income tax; The tax increase will contribute to the redistribution of a part of income in the society.

Regarding social security, the State has a decisive role in improving public welfare, eradicating hunger and reducing poverty. Issues such as employment, health, health insurance, pensions, hardship allowances, etc. are always issues that need the attention of the State.

Through research and research shows; In order to achieve the above achievements, there are still limitations in dealing with the relationship between the management role of the State and the market economy in our country in the past time in some of the following points:

Firstly, there is still an incorrect perception of the relationship between the State and the market economy, especially in the organization of mobilizing and allocating resources. From the reality of mobilizing and allocating resources of competent state agencies in our country today, it shows that, in terms of thinking and organizing the implementation of the economic management function of the State from the central to local levels, methods are slow to innovate according to the requirements of the market economy, heavy on local and sectoral interests, lack of unity and interconnection.

Second, there is the phenomenon of the State interfering too deeply in the market. Ministries, branches, and local governments have directly intervened in the operation of the market. The business environment and the right to self-determination of enterprises are still constrained by many administrative factors. When entering the market, businesses still face many barriers, even higher barriers than the world average, and there is still a big gap compared to reality.

To ensure the leading role of the State (Government) as the representative of the entire people's ownership of some important assets, it is necessary to clearly distinguish the domination and use of financial resources, land. This bottleneck is very evident in the field of solving the State - market relationship in the field of using the budget and land. The fact that the economy's unhealthy problems have arisen in our country over the past time has shown that the role of the Government and the State as representatives of total ownership has not been defined more clearly and focused. people for some important assets such as finance, land, public resources, state capital in enterprises.

Third, limitations on the management of state-owned enterprises as a tool to regulate the market, social labor productivity, and low growth quality compared to other countries in Southeast Asia. The State expects through state-owned enterprises to solve market problems in order to increase the efficiency of market operations.

3.3. Some basic measures to promote the management role of the State in the socialist-oriented market economy in Vietnam today

After more than 30 years of renovation, especially in the last 5 years, the socialist-oriented market economy in Vietnam has been gradually formed. Thereby, the state's management of the economy achieved many important achievements. However, this is all just the beginning, the state's management of the economy still has certain limitations. The legal system and policies are not synchronized and inconsistent. Finance, banking, pricing, planning, construction planning, land management... there are still many weaknesses and loopholes, administrative procedures are still cumbersome, administrative reform is still slow and undecided. Therefore, improving the effectiveness and efficiency of state management over the market economy in Vietnam is still an objective and urgent requirement. To fulfill this requirement, the following measures need to be taken:

Firstly, continue to improve the economic legal system

Building and perfecting the legal system on the economy to create a unified and synchronous legal framework for production and business activities in order to maximize the positive aspects and minimize the disadvantages of the market economy. This legal system is the main tool for the state to manage the economy.

In recent years, the Vietnamese state has issued many laws and ordinances to meet the requirements of economic renewal. However, up to now, Vietnam's economic legal system is still lacking and inconsistent, often having to be amended, supplemented and adjusted. Therefore, in the immediate future, we must continue to urgently improve the economic legal system according to the program, guidelines and policies of the Party. At the same time, amend and supplement existing laws and ordinances and implement new laws. consistent with the fast-moving practice of the national economy (such as competition law, antitrust law, securities and securities market law, natural property rights protection law...). It is necessary to improve law-making, strengthen the role of the National Assembly, its committees and full-time National Assembly deputies in the process of formulating, promulgating and approving bills.

Second, to form a synchronous mechanism to manage the socialist-oriented market economy

Continue to synchronously create elements constituting the common market including the market for goods and services, the labor market, the science and technology market, the capital market, the stock market, and the money market, real estate market..v...

The State creates an equal favorable management environment for enterprises to compete and cooperate for development. Through appropriate strategies, planning, plans and policies to effectively use the state's material force to orient socio-economic development, ensure proactive macro-economic balance, regulate distribution and income.

Strengthen the state's inspection and supervision in accordance with the law, resolutely fight against the evils of smuggling, counterfeiting, commercial fraud, corruption..., creating a healthy competitive environment strong, open, transparent, limited and controlled monopolies. Clearly define the state administrative management function With the function of production and business management; thereby, properly performing the function of state management of the economy and the function of ownership of public property of the state.

Third, continue to innovate the state's macroeconomic management tools for the economy

Innovating planning activities in the direction of starting and closely linking with the market. Improving the quality of the formulation of socio-economic development strategies, master plans and plans: Strengthening the work of economic information, accounting and statistics. Solve well the relationship between budget revenue and expenditure. Ensuring transparency and fairness in state budget spending. Continue to improve the tax system in line with the national situation and international commitments. Improve the efficiency of capital use and investment, and prevent waste and loss of capital. Connecting banking reform with SOE reform.

Fourth, promote administrative reform

Over the years, Vietnam has taken a step in administrative reform, but it must be admitted that, administrative reform is slow, indecisive, and has low efficiency. The organization of the state apparatus is cumbersome, with functions with many intermediate duplication layers and administrative procedures. In many cases above, it is difficult for the central and local governments to act in unison, causing difficulties. for socio-economic development and reduce the driving force for development.

Therefore, in the coming years, more efforts must be made according to the master program of state administrative reform for the period 2001-2010 approved by the government in order to improve the state's management capacity in the context of market economy development. socialist oriented school.

Reform the organizational apparatus at all levels from the central to local levels in the direction of streamlining, effectiveness and efficiency, clearly delineating functions, tasks, powers and responsibilities.

Reform tools and civil servant regimes, build a clean and elite contingent of cadres and civil servants.

Reform administrative procedures in the direction of unity, publicity, transparency, simplicity, and resolutely eliminate administrative procedures that cause troubles and problems for people and businesses.

All these efforts are aimed at building a clean, strong, effective and efficient state administration in the direction of building a socialist rule of law state of the people, by the people, for the people under the leadership of the Communist Party of Vietnam.

Developing a socialist-oriented market economy in Vietnam is a new, difficult and complicated job, because there is no precedent in history. Therefore, in this process, the Communist Party of Vietnam both works and learns, summarizes reality and consults the experiences of countries around the world, constantly renewing its thinking, improving its practical organization, determined to bring the cause of building socialism in Vietnam to success

4. Conclusion

The socialist-oriented market economy in Vietnam is currently operating, which is an inevitable trend in the development of the country, ensuring the objectivity of the laws of the market economy. The market economy in our country has its own characteristics suitable to the current production method, therefore, the State's management method in many respects also has its own characteristics, consistent with the current state of production. practical conditions, such as recognition of the independence of economic actors; building a market system with fair competition, prices are mainly determined by the market... The state plays a great role in ensuring macro stability for economic development and growth, shows the balance and harmonization of the relations of needs and interests, creating consensus in the society for the development goal of the country. The correctness, rationality and timeliness of the State's role in planning and organizing the implementation of macro-development policies is a prerequisite for forming that consensus. The strengthening of the state's macro-management role will improve the effectiveness of the State's impact on the development of a socialist-oriented market economy in our country in the period of accelerating industrialization. national modernization and international integration.

5. References

1. *Documents of the 10th National Congress of Deputies*, National political Publishing House, Hanoi, 2006.

2. *Document of the 11th National Congress of Deputies*, National political Publishing House, Hanoi, 2011.

3. Assoc. Prof., Dr. Vu Van Phuc: *Contributing to comprehensively and synchronously promoting the renewal of the country*, National political Publishing House, Hanoi, 2016.

4. Nguyen Dinh Cung, Nguyen Tu Anh, Dinh Tuan Minh, Le Huong Linh, *Building a state institution supported by the market,* National political Publishing House, Hanoi , 2015.

THE POLICY FRAMEWORK TO SUPPORT STARTUP DEVELOPMENT: THE CASE OF HA NOI, VIET NAM

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Abstract

Based on the startup policy framework developed by UNCTAD (2012) and the survey of Incubators, SME support center and start-ups in Hanoi, the paper analyzes the current situation of Hanoi's startup policy framework in order to point out gaps and limitations of the policies; and then propose recommendations to complete policy framework for the development of Hanoi startup in the coming time.

Keywords: *HaNoi, Policy, Startup, Startup Ecosystem*

1. Introduction

Government policy is the first component in a startup ecosystem and plays an important role in promoting the development of other components.

With the development of a startup and innovation ecosystem identified as one of the key tasks amid the strong boom of the Fourth Industrial Revolution, the Ha Noi has issued variety policies to support startup and innovation in the city in recent years, towards building Ha Noi into a major startup and innovation center of the country. However, the survey results of the Vietnam Chamber of Commerce and Industry (VCCI) in 2019 showed that less than 10% of startups were successful in Vietnam.[57] Also, according to the report of Hanoi's Incubator Hib-IT, only 6 out of 9 projects incubated at the Incubator succeeded in raising fund from 2017 to 2019. Among the causes of the failure, limitation in the mechanism and policies supporting startup is very important. Meanwhile, Hanoi has not had sufficient studies on the situation of the policy framework to support startup. The current reseach

[57] VCCI (2019) Workshop "*Improving the start-up support policy*"

mainly focus on startup operation as the studies by Doan Xuan Hau (2020) and Tran Van Trang (2020).

Based on the research gap as mentioned above and UNCTAD's policy framework to support startup. The paper exemines the current situation of policies to support startup in Hanoi, and then proposing some solutions to refine the policy framework to support startup in the coming time.

Theoratical basis

Startup

According to Startup Blink (2020) "*A startup is any new business that applies an innovative solution. The innovation can be either technological or a unique business model"*.

The Law on Supporting Small and Medium-sized Enterprises in Vietnam issued in Jun 12, 2017, defines "a *small and medium sized startup enterprise is a small and medium sized enterprises established in order to implement ideas on the basis of exploiting intellectual property, technology, new business model and rapid growth potential*." (Clause 2, Article 3).

Basically, Vietnam's approach is also close to the majority when pointing out the characteristics of startups including: (1) technology innovation, (2) rapid growth, and (3) new business model. In addition, startups also have some other characteristics such as age (within 3-5 years, depending on the field). When it enters the stage of stability and development, it is not considered a startup.

Startup ecosystem

Like "Startup", there is no single official definition for a startup ecosystem and the term is used in different ways. Mason and Brown (2014) define entrepreneurial ecosystems as follows: '*a set of interconnected entrepreneurial actors (both potential and existing), entrepreneurial organisations (e.g. firms, venture capitalists, business angels, banks), institutions (universities, public sector agencies, financial bodies) and entrepreneurial processes (e.g. the business birth rate, numbers of high growth firms, levels of 'blockbuster entrepreneurship', number of serial entrepreneurs, degree of sell-out mentality within firms and levels of entrepreneurial ambition) which formally and informally coalesce to connect, mediate and govern the performance within the local entrepreneurial environment*' (Mason & Brown 2014, 5).

According to Isenberg (2010), a startup ecosystem includes the following domains: (i) Policy; (ii Finance; (iii) Culture; (iv) Supports; (v) Human capital; (vi) Markets.

UNCTAD's Startup Policy Framework

United Nations Conference on Trade and Development (UNCTAD) presented Startup Policy Framework in 2012, aiming to assist policy makers in developing countries and economies in transition in designing initiatives, measures and institutions to promote entrepreneurial spirit. UNCTAD's Policy framework proposes six basic policy areas to be prioritized for investment.

(1) ***Formulating national entrepreneurship strategy***: Entrepreneurship is one of the most important drivers of job creation and economic growth, and crucial for the development of a vibrant formal small- and medium-sized (SME) enterprise sector. The key elements of a national entrepreneurship strategy are: to Identify country specific challenges; specify goals and set priorities; ensure coherence of entrepreneurship strategy with other national policies; strengthen the institutional framework; Measure results and ensure policy learning

(2) ***Optimizing the regulatory environment***: The regulatory environment should encourage people to set up their own business, to try new business ideas and to take on calculated risks, keeping administrative burdens to the minimum required to support public policy and sustainable development objectives. UNCTAD offers solutions to optimize legal environment about a nation's startup, specifically: examine regulatory requirements for start-ups (ii) Minimize regulatory hurdles for business startups; (iii) build entrepreneurs' confidence in the regulatory environment; and (iv) guide entrepreneurs through the start-up administrative process.

(3) ***Enhancing entrepreneurship education and skills***: Effective entrepreneurship education policies and programmes focus on developing these entrepreneurial competencies and skills (start-up knowledge, business planning, financial literacy and managerial skills.) which are transferable and beneficial in many work contexts. The aim is not only to strengthen the capacity and desire of more individuals to start their own enterprises, but also to develop an entrepreneurial culture in society. (i) Embed entrepreneurship in formal and informal, (ii) Develop effective entrepreneurship curricula education, (iii) Train teachers, (iv) Partner with the private sector

(4) ***Facilitating technology exchange and innovation:*** Entrepreneurship, technology and innovation are mutually supportive. Technology provides entrepreneurs with new tools to improve the efficiency and productivity of their business, or with new platforms on which to build their ventures. In turn, entrepreneurs fuel technological innovation by developing new or improving existing products, services or processes and ensuring commercialization. Nations can apply solutions including: (i) support greater diffusion of iCTs to the private sector; (ii) Promote inter-firm networks that help spread technology and innovation ; (iii) Build link between public bodies, research institutions, universities and the private sector; và (iv) Support high-tech start-ups.

(5) ***Improving access to finance***: Inadequate access to finance remains a major obstacle for many aspiring entrepreneurs, particularly in developing countries. Solutions to support startups approach funds include: (i) Improve access to relevant financial services on appropriate terms; (ii) Promote funding for innovation; (iii) Build the capacity of the financial sector to serve start-ups, (iv) Provide financial literacy training to entrepreneurs and encourage responsible borrowing and lending

(6) ***Promoting awareness and networking:*** Negative socio-cultural perceptions about entrepreneurship can act as significant barriers to enterprise creation and can undermine the impact of policy intervention in support of entrepreneurship. Nations can apply specific solutions, such as: (i) Highlight the value of entrepreneurship to society and address negative cultural biases , (ii) Raise awareness about entrepreneurship opportunities; và (iii) Stimulate private sector-led initiatives and strengthen networks among entrepreneurs.

2. Methods

In this research, a qualitative approach with two main methods is used: collecting secondary data and interviewing startups and experts.

- *Secondary data used include*: programs, decisions, reports, etc on the official website of the Ha Noi People's Committee, Department of Planning and Investment, Department of Information and Communication, Department of Science and Technology, Ha Noi Center for SME Support, HBI-IT Incubator.

- *Expert interview method*: 12 structured interviews (from 30 to 60 min for each, some by phone due to Covid-19) with 07 startups and 05 experts, reseachers and managers from Ha Noi's incubators and departments.

- *Data processing method*: Step 1, data collected from secondary data and interviews will be classified based on the six policy areas of UNCTAD's framework. Step 2, the authors will examine how the current startups policy framework in Ha Noi is, in compliance with UNCTAD framework.

3. Results

3.1. Developing a startup strategy

Decision No. 844/QD-TTg of 18 May 2016, on Approval for "Assistance Policies on National Innovative Start-up Ecosystem to 2025" is a policy that is the first document and the foundation for later policies at central and local level.

After Program 844 approved, Hanoi has been implementing many breakthrough solutions, contributing to improve the business environment and creating favorable conditions for innovative start-ups. In 2019, the Hanoi People's Committee approved and issued the project to support innovative startups in Hanoi for the period of 2019 - 2025 at Decision No. 4889/QD-UBND (Project 4889).

The support policies under the project are aimed at individuals and groups of individuals with startup projects; innovative small and medium-sized enterprises (SMEs); organizations supplying services, technical infrastructure, media and investment for innovative startups; and domestic and foreign investment funds.The approval of the project targets to improve and develop the startup ecosystem and complete the mechanisms and policies to support and develop startup activities across Ha Noi. At the same time, it aims towards supporting the formation of 2-3 business incubators and startup spaces, while encouraging the establishment of 3-5 private startup investment funds and the attraction of foreign investment funds. Accordingly, the project has set a goal of supporting the development of 500 innovative startup projects by 2025, 150 of which can commercialize their products, with at least 20% successfully calling for investment from venture capital funds and conducting mergers and acquisitions totally worth around VND500 billion (US$21.5 million).

In addition, Ha Noi also issued another decision and plan related to supporting startup, including:

- Decision 5742/QD-UBND issued on December 29, 2020 to support SMEs in Hanoi in the period of 2021-2025.

- Plan 49/KH- People's Committee issued on February 28, 2020 to support and develop science and technology enterprises in Hanoi city until 2025.

- At the beginning of 2021, the Hanoi Party Committee issued Program 07-CTr/TU on "*Promoting the development of science, technology and innovation in Hanoi city, period 2021 - 2025*"

3.2. Optimize the legal environment

Legal documents on supporting startups

-Law on Supporting Small and Medium sized Enterprises (SME Law) approved in Jun 2017, amended and supplemented in 2018.

-Law on Intellectual property

-Decree No. 38/2018/ND-CP dated 11 March 2018 on investments in small and medium-sized start-up enterprises.

- Decree 39/2018/ND-CP dated March 11, 2018 guiding the Law on supporting small and medium sized enterprises;

- Decree 34/2018/ND-CP dated March 8, 2018 on the establishment, organization and operation of the Credit Guarantee Fund for Small and Medium sized Enterprises;

In Ha Noi, many programs assisting SMEs have been issued in recent years: Plan No. 83/KH-UBND, dated April 22,2020, implementing Resolution No. 02/NQ-CP, dated January 1, 2020 of the Government, Ha Noi People's Committee has set a goal of striving to maintain the PCI index in 2020 in the group of 10 leading provinces, cities in the country; The working programs of Ha Noi Party Committee.

As a result, many solutions have been applied to reform administrative procedures to reduce time and costs for SMEs such as online business registration, tax payment, etc. The percentage of online public services at levels 3 and 4 has reached 74% (VietNam Government Portal, 2019). The PCI index increased continuously in 2020, with an increase of 1.13 points compared to 2019, maintain the No. 9 in the ranking, in the group of 10 provinces and cities with the best governance quality among 63 provinces and cities (VCCI, 2020).

However, according to the interviews, 71.9% of the startups said that "*administrative procedures are still cumbersome*", and even some said " *bribe to get quick response*". In fact, Hanoi's PAPI Index in 2020 was still in the group with low total score eventhough there was an increase compared with 2019. This index seems to confirm the startup's opinions to be true.

3.3. Strengthening entrepreneurship education and skills development

In recent years, Ha Noi has paid special attention to supporting human resource training for SMEs, with a variety of activities such as: fostering bussiness knowledge for SMEs; Entrepreneuship and management training; Training courses for CEO and startup mentors.... By 2020, 14 excellent start-up projects in Hanoi Hib-IT have been awarded. In 2019, SME Support Center organized 02 courses with 120 startups; 07 workshops and forums on innovative start-ups. In 2021, the Center also plans to organize many courses, seminars, and forums on innovative startups for startups if the Covid pandemic is controlled.

However, the interviews have shown that the current training policies are assessed not as effective as desired. Specifically, the startups interviewed said that they lack tax knowledge, intellectual property and financial management skills, so training programs need to focus on specific issues instead of the general ones. Meanwhile, Austrade Report 2019 showed that not many of Vietnamese enterprises are equipped with the necessary skills to develop a sustainable business model, or to pitch for projects. As a result, many local startups have limited opportunities to connect with the regional ecosystem.

In addition, according to the interviewed experts, the policy of entrepreneurship education at all levels (from primary school to high school, college, vocational school, higher education) are vitually lacking. The current curicula has not promoted entrepreneurial skills, such as creativity, risk-taking, and leadership, as well as knowledge about the entrepreneurial process. Additionally, the linkages between schools and enterprises in Ha Noi must be boosted in updating curicula in compliance with labour market requirements and help students to improve their skills by having internship programe.

3.4. Creating conditions for technology transfer and exchange

Over the years, The City commited to have special investment in science and technology. From 2016 up to now, 346 city-level science and technology tasks have been implemented, including 212 natural science and technology tasks, 50 trial production projects with a total cost of 633,092 billion VND; More than 85% of research results have been applied in practice. The city also focuses on developing science and technology infrastructure, especially high-tech parks, software parks, information technology parks, transaction centers, technology transfer... Despite only being formed in the past decade, Hanoi's Startup ecosystem is basically completed with important components. (Table 1). According to Startup Blink, Hanoi was in the top 200 startup centers globally in 2020 (ranked 196, increased by 33 places compared to 2019).

Table 1: Hanoi city's startup ecosystem

No.	Group	No
1	Incubators	21
2	Accelerator	7
3	Co-working space	22
4	Venture	22
5	Angel Investor	32
6	Mentor /Coach	307
7	Startups	NA

Source: summerized by authors

Also, Hanoi has supported the establishment of a number of high-tech zones with a certain level of inter-sectoral linkage. Lang Hoa Lac Hi-tech Park is developed to become a science city, a place that attracts investors in the research and development field; training and incubation; manufacturing hi-tech products in the fields: biotechnology, information - communication technology, new material technology and automation technology. Besides, a number of business incubators in the fields of food, IT, mechanical engineering has been established in the city. Hanoi Innovative Enterprise Incubator of Information Technology (HBI-IT) was opened and officially put into operation in 2017 as the first incubator in the field of IT under the management of Hanoi Department of Information and Communications. After nearly 5 years of operation, HBI-IT has attracted many startup projects to participate in the Incubator through many activities such as investment promotion conferences, seminars, networking. Many startup projects have been supported to raised fund from domestic and foreign investors as well as business development. In the summary report, from 2017 to 2019, Hib-IT has incubated 24 projects, of which 19 projects are still in operation (79.17%), 6 projects are in Series C funding rounds. Successfully, 19 projects are in the process of negotiating with investment funds. In addition, the Department of Science and Technology has also implemented many programs to support intellectual property; measurement and quality; technology transfer and exchange, etc.

However, according to the interviews, significant improvement is needed in the current science, technology and innovation capabilities of Ha Noi. The innovation system is in a nascent, fragmented state, and R&D is still a peripheral activity both in business and the public sector (Austrade,2019). Moreover, the procedures and requirements are cumbersome, for example they must meet a series of criteria such as "*invested, selected by agencies, organizations or incubators; won national and international awards for innovation; certificates and patents for inventions; certificate of science and technology enterprise, high-tech enterprise…*". Meanwhile, to get these certificates, the startups must meet a series of other criteria as well.

4.5. Supporting the access to finance

The Law on Supporting SMEs 2017 presented various support measures for SMEs including the form of loan provision, credit guarantee, preferential corporate income tax, land rental preferences. Accordingly, SMEs may gain easier access to credit and credit guarantee via SME Credit Guarantee Funds set up by provincial-level People's Committees and the SME Development Fund formed by the Prime Minister.

- *Access to bank credit*: According to current regulations, short-term loans in VND currently have a maximum interest rate of 4.5%/year for 5 priority areas (agriculture and rural development, export, small and medium enterprises, supporting industries, high-tech enterprises) (State Bank of Vietnam, 2021). However, credit access is still a major concern for startup. Banks providing commercial loans prefer to allocate their resources to larger firms rather than startup. According to the interview, higher default risks, lack of financial transparency, and lack of assets for a mortgage are the major factors for not providing loans to startup. The manager of an Ha Noi Incubator also said that "*the loan terms are too strict while most startups often lack collateral assets, lack many other factors to ensure their borrowing and debt repayment capacity".*

- *Credit guarantee activities*: In Hanoi, the Hanoi Investment and Development Fund has implemented guarantee activities for SMEs. However, this activity is not effective due to the limited lending subjects, strict loan terms and capital use. Therefore, the number of startups accessing support from the Fund is very low.

- *SME Credit Guarantee Funds*: By 2019, the Fund had supported only 14 SME loans for a total of VND 106.4 billion.2 Major issues have been low awareness of the Fund among SMEs and, as noted earlier, cumbersome approval procedures and strict eligibility requirements. According to the survey results, the current financial access support policies is assessed as "*very inefficient*" and the accessibility to the policies is said "*very difficult to access*". "*Unfeasible policy enforcement measures*", "*cumbersome administrative procedures, conditions for participating is too strict*" are the main causes preventing startups accessing financial support policies.

- *Sources of funding from the private sector* (angel investors, venture capital funds, crowdfunding): the weak legal and regulatory environment for private equity and venture capital investments in Viet Nam is a main reason why the activities of sources of funding from the private sector for startups are ineffective. According to the interviews, in the early stages of startups, there are almost no private investment. So, the legal and regulatory framework for venture capital investments should be refined and additional policy measures are often required to incentivise private investors to make investments in high-risk start-ups and early-stage ventures (OECD, 2021)

4.6. Raising awareness about start-ups and establishing linkages, industry clusters, and supporting associations

In term of raising awareness about startup, the City has launched many campaigns on the media, organized many forums, Hanoi Innovation Summit and Contest... In addition to the opening of the Hanoi Startup Ecosystem Portal - startupcity.vn with more than 800 enterprises, the City has also established a network of Accelerator to improve the effectiveness of supporting businesses in the city. However, the activities haven't yet make a big change in term of promoting the interest about startup and startup culture of Ha Noi people.

Morever, Hanoi City has not yet built a portal that provide and centralise information and databases of Ha Noi startup ecosystem. Also, there are insufficient policies to regulate or encourage the cooperation between components within and outside the ecosystem. Therefore, the startup ecosystem operate separatelly that is difficul to make a strong network to be able to promote the development of startups.

4. Discussion and Conclusion

*Firstly***,** Ha Noi startup support policy system basically has all 6 policy areas in accordiance with with UNCTAD's Framework. *However,* the component policies of each policy areas have been incomplete, for example, with Area (2) Strengthening entrepreneurship education and skills development, entrepreneurship education policies at the high school level has not yet been built. Or lack of legal and regulatory environment for private equity and venture capital investments in terms of the area (5) Supporting access to finance. (see Table 2.)

Table 2: Hanoi city's policy framework to support innovative startups

No.	**UNCTAD startup policy famework**	**Hanoi's innovative startup support policies**	
	Policy areas	Component policies	Gaps/ Limitations
1	Developing National/local startup strategy	844 Project Hanoi's Project 4889	Measure results and ensure policy learning
2	Optimizing legal environment	Law on Supporting SMEs in 2017, amended and supplemented in 2018. Intellectual property law Decree No. 38/2018/ND-CP detailing investment for innovative start-up SMEs. Decree 39/2018/ND-CP guiding the Law on supporting small and medium enterprises Decree 34/2018/ND-CP on the establishment, organization and operation of the Credit Guarantee Fund for SMEs; Working programs of the Hanoi Party Committee	Business Regulations Tax incentives for innovative startups Online public service application The Implimentation of Intellectual property law
3	Enhancing entrepreneurship education and skills development	Support policy on in-depth skill & knowlegdge training on innovative start-ups Training and capacity building for coaches, mentors and individuals supporting innovative startups Scientific research policy	Entrepreneuship Education at all level (from primary to high school, vocational school, university) Linkage between schools institutions and enterprises.

No.	UNCTAD startup policy famework	Hanoi's innovative startup support policies	
4	Creating conditions for technology transfer and exchange	Supporting the exploitation and development of intellectual property; the implementation of procedures on standards, technical regulations, measurement and quality; Application support, technology transfer;Funding for trial production, sample making, and technology completion for innovative start-ups; product commercialization - Support the formation of a number of innovative start-up incubators in universities, academies, educational and training institutions or private incubators; - Support incubating innovative projects/enterprises at technical institutions, incubators, public or private working areas; - Support in the use of equipment at incubators and technical support establishments;	Policies to support startups in digital transformation Policies to encourage the private sector to form service zones and business spaces to serve innovative startup activities (R&D center), technology transfer and business models
5	Provide financial assess support	- Provide financial support for innovative start-ups: tax incentives, financial obligations according to regulations; - Guide and support projects, and innovative SMEs to access and use the City's science and technology development fund	legal and regulatory environment for private equity and venture capital investments

No.	UNCTAD startup policy famework	**Hanoi's innovative startup support policies**	
		(the City Development Investment Fund) - Provide Credit guarantee; support access to capital from commercial banks, venture, etc	
6	Raise awareness about entrepreneurship and establish affiliate clusters, industry clusters, and supporting associations	- Support communication activities on innovative startup and build startup culture. Support funds for events to connect investment, ecosystem components, conferences, seminars on startups and innovative startups	- Databases of the startup ecosystem and services for startup. - cooperation among domains in the ecosystem

Secondly, the current policy making approach is not based on startup development process. At each stage, a startup face diffirent challenges and thus needs specific and appropriate assisstances instead of the "one fit all". Moreover, the current policies and programmes have a strong technology and product development orientation while most startup lack innovation capabilities and finance.

Thirdly, Although a startup by law is an SME, it has specific characteristics, so it is necessary to have separate policies compared to other SMEs. However, in some current policies in HaNoi, startups are treated like other SMEs for example the policy of accessing finance.

In addition, policy evaluation activities have not been paid adequate attention. Until now, there has no official and comprehensive policy evaluation of the startup policy framework conducted. Therefore, limitations and gaps in the current policy framework have not yet clarified and made adjusment timely.

In summary, the paper examines the policy framework to support startup in Hanoi in compliance with UNCTAD Framework (6 main policy areas). To achive the objectives of The Project 4889 to boost the development of startup and to be a national-creative hub, Ha Noi need more efforts in which refining the current policy to support startup must be a priority

The first, The City's program comprehensively evaluating the impact of the startup support policies should be conducted in order to identify shortcomings and then have appropriate adjustment and refine the policy framework. Policy making must be based on startup development process in order to create favorable incentives at all stages of startup process; and enabling policy experimentation (sandbox regulation) for new technology (blockchain, fintech), new business models (sharing economy), that may not easily fit into existing regulatory frameworks.

The second, to increase efficiency of ecosystem, there need to promote the more cooperation among different stakeholders (enterprises, institutes, investors, etc), broader institutional capacity building.

The third, the City's policies must focus on strengthening startup's capabilities, access to financial resources and simplifing administration. Stronger innovation capabilities are essential for enterprises to better position themselves, and the City needs to invest more and support the development of advanced technological capabilities, including R&D.

5. References

1. Austrade (2019) *VietNam's innovation ecosystem,* Report

2. Doan Xuan Hau (2020) "*The current situation and key solutions to improve the operational efficiency of innovative start-up businesses in Hanoi until 2025 with a vision to 2030*", Research report

3. Hanoi Innovative Business Incubator of Information Technology (2019) *Summary report for the period 2017-2019*

4. Hanoi People's Committee (2019) *Decision "Supporting innovative start-ups in Hanoi in the period of 2019-2025"*

5. Mason, C., & Brown, R. (2014). *Entrepreneurial Ecosystems and Growth Oriented*

6. *Entrepreneurship*. Background paper prepared for the workshop organised by the

7. OECD LEED Programme and the Dutch Ministry of Economic Affairs on Entrepreneurial

8. Ecosystems and Growth Oriented Entrepreneurship. OECD

9. OECD (2021) *SME and entrepreneurship support programmes in Viet Nam, accessed in 21 May 2021, h*ttps://www.oecd-ilibrary.org/sites/530a7e15-en/index.html?itemId=/content/component/530a7e15-en#snotes-d7e5602

10. Tran Van Trang (2020) *A study on entrepreneurial support activities in Vietnam*, Industry and Trade Magazin.

11. UNCTAD (2012) *Entrepreneurship policy framework and implementation guidance* https://unctad.org/system/files/official-document/diaeed2012d1_en.pdf

12. UNDP (2020) *The Viet Nam Provincial Governance and Public Administration Performance Index 2020 (Papi)*

13. VCCI (2020) *The provincial competitiveness index (PCI)*

14. Vietnam National Assembly (2017) *Law on Supporting Small and Medium Enterprises 2017*

15. Vietnamese Government (2016) *Decision 844/QĐ-TTg on National Program 844 (Initiative for Startup Ecosystem in Viet Nam - ISEV)*

16. Websites

1. HaNoi SME support portal https://hotrodoanhnghiep.hanoi.gov.vn/en

2. Department of Planning and Investment http://www.hapi.gov.vn/en-US/history--c11106

3. Department of Science and Technology https://dost.hanoi.gov.vn/

PRIMARY COOPERATION METHODS IN RESEARCH - DEVELOPMENT - TECHNOLOGY TRANSFER BETWEEN HIGHER EDUCATION INSTITUTION AND ENTERPRISE IN VIETNAM

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Abstract

In recent years, Vietnam university education has experienced significant developments in scale and diversity of major and mode of study. There is a swift from elite to mass education which is more practical in the training system. Since university autonomy has become popular, many big universities are currently striving to respond to industrial situations through modules connecting universities with industry, business and service sectors. In the context of cooperative research between universities and enterprises, researching results might be more committed with specific requirements and development of the enterprises. On the one hand, enterprises would bridge the gap by sending signals of market demands as well as industries to institutions. On the other hand, they pose quests for innovation and research and training updates. As a result, it is true that the study of cooperation methods in research – development – technology transfer between higher education institutions and enterprises in international integration has practical meanings in the current situation.

Key words: *cooperation methods, higher education institutions, enterprises*

1. Introduction

The cooperation in research – development – technology transfer between higher education institutions and enterprises plays an important role in knowledge-based societies and economies. The collaboration happens to partly support the institution upgrading training quality and job opportunity for students. Besides, it comes the chance for the enterprises to change technology as well as access to modern equipment and updated manufacturing production. Moreover, there are several indirect achievements: knowledge-based economy development support, new established enterprise assistance, small and medium enterprises assistance, economic growth and job opportunities.

The cooperation between institutions and enterprises in research, development and industry transfer boils down to "knowledge trading" between universities and manufacturing business for mutual benefits. Those tradings are able to go direct or indirect, individual or common. In terms of the shared values, cooperation stimulates the interaction between lectures, students in universities and experts in enterprises. It also commercilizes research results, builds training programs, organizes lifelong learning and supports startup effort and organizational management.

Due to the specialization of majors, each institution has their own advantages - disadvantages and capacity to divide into occupational groups. In general, cooperation methods in research – development – technology transfer between higher education institutions and enterprises includes: Cooperation in research and development; Commercialization results of research and development; Transferring students; Transferring scholars & experts; Building and implementing training programs; Promoting lifelong learning; Inspiring startup spirit and supporting startup activities; Joining the university administration. The detailed analysis on each group is mentioned as below.

1.1. Definition: Cooperation between education institutions and enterprise

In many countries, universities - business collaboration and several cooperation methods are studied thoroughly. It is considered trading between universities and manufacturers which is toward the shared values. On the one hand, working with enterprises brings along the university financial support for schools while enterprises benefit in achieving and remaining competitive advantages in an active economy currently. On the other hand, the cooperation might boost economic growth and answer the labor market's requirements (Carayon, 2003; Gibb & Hannon, 2006).

The cooperation between higher education institutions and enterprises boiled down to the engagement of scholars as well as officers in universities, State offices and departments with local units which were involved. It pointed out the attention on works, policies as well as actual results of methods on paper and reality (Dan, 2013).

Therefore, the relationship and cooperation are defined direct or indirect, individual or public methods of cooperating between universities and enterprises with a target on shared values: Cooperation in research and development; Commercialization results of research and development; Transferring students; Transferring scholars & experts; Building and implementing training programs; Promoting lifelong learning; Inspiring startup spirit and supporting startup activities; Joining the university administration. The detailed analysis on each group is mentioned as below.

1.2. Definition - Cooperation between higher education institutions and enterprises in research - development - technology transfer

The relationship works as an effective method which enhances training quality, research and technology transfer. It has a good impact on training activities, research, university improvement and usage of human resources in both universities and enterprises.

Cooperation between higher education institutions and enterprises in research - development - technology transfer stimulates engagement of lecturers, students and experts working in enterprises. In addition, it encourages commercialization results of research and development; Transferring students; Transferring scholars & experts; Building and implementing training programs; Promoting lifelong learning; Inspiring startup spirit and supporting startup activities; Joining the university administration.

Therefore, cooperation in research, development and technology transfer in the cooperation between higher education institutions and enterprises are all forms of direct or indirect interactions, having an individual or organizational characteristics, between institutions and enterprises, and about research, development and technology transfer between the parties in order to support each other for the benefit of both sides.

1.3. Cooperation methods in research, development and technology transfer between higher education institutions and enterprises

There are a lot of authors who suggested different ways to classify cooperation methods. Santoro (2000) classified cooperation between universities and enterprises into 4 types: research support, technology transfer, knowledge transfer, and research cooperation. Davey, Muros, and Meerman (2011) gave a more detailed way to divide cooperation methods. This is the result of a study on university-enterprise cooperation in Europe in 2010 – 2011, as follows:

- Cooperation in research and development.
- Transferring scholars & experts.
- Transferring students.
- Commercialization of results of research and development.
- Building and implementing training programs.
- Promoting lifelong learning.
- Inspiring startup spirit and supporting startup activities.
- Joining the university administration.

Thus, there are a variety of studies on cooperation in research, development, technology transfer between higher education institutions and enterprises. University-enterprise cooperation is expressed in many methods and levels. The low and common levels are: Receiving students for internships, field trips, financial support and facilities support for teaching and learning. The higher levels are: Expert exchange and knowledge and technology sharing; investment in research and implementing for joint ownership and technology transfer; joint investment in business development in order to commercialize scientific research results and provide products and services to the society.

2. Method

Our research team approached the study of popular cooperation methods in research – development – technology transfer between higher education institutions and enterprises in Vietnam in dialectical methods and positivism and comparison. Using a dialectical method, our team studied the roles and connections of parties who joined in promoting the collaboration between higher education institutions and enterprises. In detail, we inspected theoretical basics and reality of the cooperation then identified specific methods of cooperation. By positivist and comparison methodology, we conducted surveys, researched and compared advantages and disadvantages of specific forms, thereby evaluated effects and finalized solution systems and recommendations towards cooperative forms in research – development – technology transfer between higher education institutions and enterprises in Vietnam.

Primary data is collected by depth interviews with higher education institution experts and professors, enterprise managers, Agency for Enterprise Support – Ministry of Planning and Investment, Agency for Enterprise Cooperation, and so on.

Our research team plans to interview 05 higher education institutions and 05 enterprises and authority in charge departments joining in the cooperation of institutions and enterprises ecosystem in each group.

3. Results

3.1. Advantages and disadvantages of cooperation methods in research – development – technology transfer between higher education institutions and enterprises in Vietnam

Relationship and cooperation methods in research – development – technology transfer between higher education institutions and enterprises in Vietnam conveys vital meanings. This is the force for training institutions in particular and knowledge-based economy in general in the Fourth Industrial Revolution. The success of the relationship is to improve training quality and work with enterprises to transfer technology, knowledge to the manufacturing area. Moreover, the relationship is considered trading between universities and manufacturers towards shared values. To improve the cooperation and explore its values stands a chance to help not only universities figure out financial issues but also enterprise to achieve and keep competitive advantage in the current active market. In addition, it contributes to economic growth and responses to job requirements in Vietnam.

As mentioned above, there are several methods between institutions and enterprises. Considering the result level that limitation and level of the cooperation might be easy to evaluate and analyze. At this level, there are eight cooperation methods and their advantage - disadvantages are shown in Table. 1.

Table 1. Advantages and Disadvantages of Cooperation methods

No.	Cooperation methods	Advantage	Disadvantages
1	Cooperation in research and development	- Implement easily, have potentials - Take advantage of human resource in both; - Have beneficial effects on training, research and manufacture.	- Need groups of professional and enthusiastic scientists and experts.
2	Commercialization results of research and development	- Improve research and transfer technology; - Provide training institutions with financial support.	- Require products to response to standards of enterprise; - Require price and quality competitive highly.
3	Transferring students	- Provide students with practical knowledge; - Provide students with the opportunity to find ideas and innovation to upgrade manufacturing activities.	- Fail to gain high productivity because students lack experience and depend on training courses and associate programs of enterprise.
4	Transferring scholars & experts	- Provide scholars and experts with opportunity to update knowledge; - Help enterprises upgrade latest technology, help institutions get updated manufacturing reality to edit practical training programs.	- Remain a likelihood to discontinue teaching, researching and managing processes of both.
5	Building and implementing training programs	- Design training program based on reality; - Diver the training program and motivate the engagement of learners.	- Require time for result verification of edited programs; - Require lecturers to update new information.
6	Promoting lifelong learning	- Provide enterprises with learning spirit; - Enhance manufacturing productivity and enterprise management.	- Require learners to manage time to avoid impacts on manufacture.
7	Inspiring startup spirit and supporting startup activities	- Improve startup spirit among students; - Motivate sponsorship (if successful)	- Require stable social capital from enterprises and sponsors.
8	Joining the university administration	- Make all information about training and economy transparent; - Access modern and positive management methods; - Construct and complete development strategies of training institutions.	- Pose difficulties for manager staffs (principal, chairman) of training institutions; - Remain unclear in the policy framework that makes enterprise unwilling to associate.

Source: Survey data collected by authors

It is clear that the factors leading to the cooperation must be learned to build up action strategies which fits the context to improve the cooperation in research – development – technology transfer between higher education institutions and enterprises. However, the biggest matter that the majority of school and institution administrators find is the insufficient consideration of financial shortage whereas taking bureaucracy for granted. The scholars in universities might assume that the State is supposed to provide financial resources toward developing between institutions and enterprises. They considered it the burden lies on relationships with the State in spite of the fact that they likely come over with a strong motivation and proper awareness on benefits in some cases.

3.2. Impact of cooperation methods in research – development – technology transfer between higher education institutions and enterprises in Vietnam

Institution and enterprise cooperation is no longer a new terminology over the world. It plays an important role in ensuring and upgrading training quality for students that are new resources for enterprises. Building and implementing cooperation between institutions and enterprises in terms of human resource is considered an urgent call as well as an compulsory task to which the universities and enterprises chairman boards pay attention. However, according to the International Labor Organization, there are under 20% of employees receiving professional training which has failed to respond to the market requirement in Vietnam. Many enterprises are in need of high-qualified workers while the number of graduates is insufficient. There appears a challenge with both institutions and enterprises. One of the human market issues is supply - demand disequilibrium. Given a worker is more qualified, he finds it more challenging finding a job.

Table. 2 illustrates survey results on cooperation methods in some universities and institutions in Vietnam on some research majors including Economics, Business and Management Field; Medical Field and Healthcare; Engineering and IT Field; Manufacturing and Processing Field; Agriculture, Forestry and Fisheries Field.

Table 2. Cooperation methods of some higher education institutions in Vietnam

Average number of cooperations / Cooperation methods	Economics, Business and Management Field	Medical Field and Healthcare	Engineering and IT Field	Manufacturing and Processing Field	Agriculture, Forestry and Fisheries Field	Avergae of all fields
Cooperation in research and development	4.6	27.2	11.2	12.6	14.2	13.96
Transferring scholars & experts	16.4	25.8	21.2	14.0	11.6	17.8

Transferring students	25.2	28.4	21.0	11.0	14.8	20.08
Commercialization of results of research and development	2.4	23.0	7.4	6.6	12.2	10.32
Building and implementing training programs	6.0	8.0	4.8	5.4	4.8	5.8
Promoting lifelong learning	3.2	3.6	3.2	2.6	1.8	2.88
Inspiring startup spirit and supporting startup activities	3.6	2.2	3.8	2.2	2.6	2.12
Joining the university administration	0.6	1.0	1.0	1.0	1.0	0.92

Source: Survey data collected by authors

As analyzed in Table 2, we can see that there are various cooperation methods between education institutions and enterprises, however, the impact of cooperation methods on each field are different. From the survey data, it is shown that in this sector, Transferring students method (Average no. 20.08) and Transferring scholars & experts method (Average no. 17.8) accounts for the majority compared to other methods. It indicates that education institutions always value highly-educated scholars and experts, and practical knowledge gained from manufacturing and business companies**,** as well as always put students at the center and find solutions to improve the training quality.

Application of other cooperation methods are still quite limited, for example, Commercialization results of research and development (Average no. 10.32) are mainly used in the group of universities in Medical Field and Healthcare. Application of methods such as Building and implementing training programs (Average no.5.8), Promoting lifelong learning (Average no. 2.88), Inspiring startup spirit and supporting startup activities (Average no. 2.12), and Joining the university administration (Average no. 0.92) are also limited. The reason is that there still exist many difficulties and obstacles hindering cooperations between higher education institutions and enterprises. It can be seen that, thanks to cooperation with enterprises, universities have opportunities to reform their organizational and management structures towards efficiency; to adjust, update training programs and training and research methods to make it more suitable with actual needs of enterprises and recruiters.

In a real situation, students always want to study at universities having close relationships with enterprises so that they can increase their chance to get hired after graduation. Universities with enterprise-oriented mechanisms and organization also have better opportunities to update advanced training methods.

However, being able to find an enterprise that cooperates closely with the institution and provides them support is a huge challenge that meets many limitations. Many enterprises still hesitate to accept students as interns with a fear that it may affect business activities. The short internship period also prevent enterprises from thoroughly guiding students. Therefore, it is necessary to have a deeper understanding of the connection between education institutions and enterprises, which will help discover difficulties and obstacles in the cooperation between education institutions and enterprises, thereby two sides can propose suitable solutions in order to strengthen the cooperation. Cooperation between education institutions and enterprises brings not only advantages for students at the present, but also benefits in the long run.

4. Discussion and Conclusion

According to the above analysis, here are some specific solutions to promote the relationship between education institutions and enterprises in cooperating in training, research, development and technology transfer.

4.1. Solution to promote cooperation in research

Education institutions as well as enterprises need to set up a department specialized in connection and cooperation. There are two forms of cooperation strategies: (1) Signing cooperation agreements on training and technology transfer, and (2) Becoming a shareholder of enterprises (in the inform of individual institutions or university groups with the same training fields). Through these cooperation methods, education institutions can get a closer look at enterprises in order to understand their requirements for high-quality employees, for technology transfer, etc. This is also a good chance for universities to expand their brand image, and to enhance their abilities and financial investment efficiency under the situation of “institutions going financial indepent”. The cooperation helps enterprises to have direct contact with a lot of students, to be able to monitor and evaluate their working style as well as their knowledge and ability in the most accurate way. Therefore, enterprises will know how to recruit, to select suitable employees and to expand their brand image. In addition, the cooperation with education institutions also helps enterprises to access the most recent, most up-to-date research results which can be applied in their manufacturing and business activities.

4.2. Solution to promote commercializing results of research

Commercialization represents "financial assessment of institutional intellectual property". It depends on how intellectual property is commercialized, therefore, to promote commercialization, the following basic solutions need to be implemented:

- Joint research: Bringing research into practice through cooperation means bi- or multilateral cooperation, in which each partner brings a deposit (research potential, capital, feasibility of investment, connecting with practice, etc.). It usually focuses on larger and more difficult projects, and often involves basic research.

- Order-based field research: Research is performed under a contract, in which the sponsor (enterprise) defines the research task (or result) that a scientific research institution (university) would implement. This leads to the creation of an intellectual property, which will be implemented by the sponsor and the law depending on the form of the signed contract.

- Intellectual property (IP) rights transfer (or sell): When the owner of IP rights (especially industrial rights) wants to avoid the risk of obsolescence in the IP (because the further use will be inefficient and unprofitable), the best strategy is to transfer ownership of IP.

- Licensing: If the IP rights holder is unable to bring the IP object to market on his own or to ensure commercial success to the required extent, a good strategy is to license. The rights holder licenses other parties to use the IP based on mutually agreed terms.

- Establishment of subsidiaries: This form of technology transfer is chosen for the independent use and development of IP belonging to academic or research institutions and for the creation of a product or service that is usable on the market. Activities of a spin-off enterprise often involve the author(s) of the IP. IP is provided to the spin-off enterprise through rights transfer or licensing agreements. Organizations can also purchase shares in a subsidiary.

4.3. Solution to promote students' ability to transfer

During the training process, enterprises support facilities for students to visit and do their internship: The internship process helps students to apply the knowledge and skills learned at institutions and to integrate well with future working environment. Therefore, enterprises can connect with education institutions to receive students as interns and create opportunities for them to get the best internship environment.

Enterprises cooperate with education institutions on training students during their time in institutions. For the training process, enterprises can coordinate with the institution in order to discuss with students contents and topics related to manufacturing and business activities, and to share practical experiences, practical problem solving, soft skills training, etc.

Having a strategy of "nourishing", "nurturing" talents at universities by granting scholarships, investing in facilities, technology, finance, recruiting before and after graduation; Ordering training facilities to solve the necessary problems that enterprises are occurring and are going to occur…

4.4. Solution to promote lecturers' activeness and transfer

During the time working at universities, in addition to the main tasks, lecturers are also required to carry out the actual research of enterprises to apply in lessons at their university. The purpose of this task is to encourage students to have a realistic mind, as well as to inspire lectures to do practical research, so that they can come up with ideas and practical research topics.

Institutions and enterprises need to have detailed mechanisms and policies when using a team of scientists and managers to teach necessary contents in the training program as well as to participate in seminars and talks about technology transfer.

4.5. Solution to promote cooperation in building and implementing training programs

Institutions need to update training programs and methods frequently based on enterprises' needs. They also need to do frequent discussion, and to find enterprises' needs for employees in order to build learning outcome standards for the training process.

Enterprises need to actively "dig deeper" into the institution system (including leadership apparatus, curriculum, content, teaching methods, thesis defense, graduation thesis, etc.) in order to offer suggestions and adjustment of the training program, so that it can "match" the needs of enterprises and society. The policy of bringing entrepreneurs into the university council has recently been seen as a step forward in the strategy of socializing education as well as training to meet social needs. This is also an opportunity for enterprises to expand their brand image…

4.6. Solution to promote lifelong learning

To achieve this goal, it is necessary to have solutions coordinated between education institutions and enterprises, specifically as follows:

During the training process, institutions need to guide their lecturers and their scientists (especially young scientists) to spend time learning and doing research practically at enterprises, in order to approach and perceive knowledge which is updated by enterprises and transferred from foreign countries to apply in manufacturing.

Education and research institutions also need to coordinate in designing and implementing training programs that are sustainable and inclusive in order to solve pressing problems of different fields, on the basis of predictable solutions to narrow the gap and incompatibilities among academic and professional standards.

4.7. Solution to promote cooperation in university administration

The institution governance mechanism needs to be built and continuously improved to match the training needs and the development of society.

The administration of training and research facilities will also be performed by one leader (such as Rector, President of the School Council, etc.). The leader must have qualities like: strategic mind; ability to assign tasks; good employee control, etc.

In order for a training and research institution to have sustainable development, it is necessary to have a number of solutions to promote cooperation between training, research, development, and technology transfer institutions with enterprises, as follows:

- Inviting experts in the field of business management to participate in the institution council to join hands in building a high-quality, practical and transparent training institution.

- Coordinating in building and sharing experience in using employee management and evaluating software to adjust its usage to the characteristics of training institutions.

4.8. Conclusion

In the current situation, cooperation between universities and enterprises is an inevitable trend in the socio-economic development of all countries. The width and depth of this relationship depends much on the orientation of the authorities, the choice of methods as well as the compromise of both sides. The effectiveness of the connection is always to raise the “position”, to strengthen the trust as well as to increase the level of positive influence on the social life of the associated parties.

Shortening the distance from the lecture hall to business practice is an urgent requirement for higher education institutions and the enterprise community. The Communist Party of Vietnam and the Government always encourage, while the society is urgently demanding, "barriers" are only within the scope of subjective factors of the associated parties.

5. References

1. Vu, A.P.T (2013) *Connection between schools and enterprises: The missing link in the chain?*, Nhan Dan Magazine. Retrieved from: http://www.nhandan.com.vn/cuoituan/chuyen-de/item/21342502-thieu-mat-xich-quan-trong.html (April 26, 2019).

2. Nguyen, K.D., Pham, T.H. (2017). *Current Status of Cooperation between Universities and Vietnamese Enterprises*. Science Magazine. Ho Chi Minh City University of Education.

3. Pham, T.L. (2016). *About the Cooperation between Education Institutions and Enterprises.* Retrieved from: http://www.lypham.net/?p=745 (April 4, 2017).

4. Pham, T.T.H. (2016). *Cooperation Methods between Education Institutions and Enterprises in Training Tourism Students to Meet Integration Needs.* Science and Technology Development Magazine, vol.19, no. X5-2016.

5. Tran, A,T., Tran, V.T. (2009). *Connection between Universities and Enterprises*

in Training and Research Activities. VNU Publishing House.

6. Dinh, V.T (2016). *Global university - business corporations and some recommendations for application in Vietnam*. Science Magazine. Hanoi National University, Economics and Business Article, Vol. 32, No. 4, 69-80.

7. Davey, T., Baaken, T., Muros, V.G., & Meerman, A. (2011). *The state of European university – business cooperation final report – Study on the cooperation between higher education institutions and public and private organisations*. Munster: Science-to-Business Marketing Research Center.

8. Harley Balzer, Jon Askonas, (2016) *The Triple Helix after communism: Russia and China compared.* Journal of University-Industry-Government Innovation and Entrepreneurship.

9. Jasmine Kway, (2013). *"University and Industry Relations in Singapore" Deputy Director of Industry and Technology Relations Office,* National University of Singapore.

10. Rohrberck and Arnold, (2006). *Making University-Industry Collaboration Work - A Case Study on the Deutsche Telekom Laboratories Contrasted with Findings in Literature*. University Library of Munich, Germany

11. Wilson, T. (2012). *A Review of Business–University Collaboration,* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/32383/12-610-wilson-review-business-university-collaboration.pdf

PROMOTING THE ROLE OF STATE MANAGEMENT AGENCIES IN ENVIRONMENTAL MANAGEMENT AND PROTECTION FROM IMPACTS OF INDUSTRIAL PARKS IN THAI NGUYEN PROVINCE

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Abstract

These days environmental protection has become a crucial and global issue. In our country, this has not only become the cause of the Party and entire people but also a fundamental and inseparable part of policies and plans for socio-economic development of the country and each each locality. The increasing speed of economic development and industrialisation has brought about many benefits such as higher living standards, better education and health, and longer life expectancy. However, this is accompanied by environmental degradation, which has become a very heavy responsibility for the state role from the central government to local authorities in controlling the impacts of environmental pollution from industrial parks. In this paper, we analyse the role of the state management agencies in controlling pollution from industrial parks in Thai Nguyen province.

Keywords: *Environment, Industrial Park, State Management*

1. Introduction

When talking about the Vietnamese environment, some international experts normally argue that issues of environmental crisis have been ignored in the academic literature. Vietnam is vastly mentioned as a bright spot in terms of economic development and poverty reduction. After just over two decades of industrialisation, the number of poor people has decreased significantly and the living standards of the majority of people have been improved. However, citing environmental pollution data, Ortman (2017) makes a very rigorous assessment that the natural environment has been traded off, even sacrificed for economic goals. The environmental state management agencies in Vietnam is completely powerless to enforce its laws and to make those who pollute the environment take their responsiblility. We argue that such assessment is a bit too strict and not paying attention to the specific context of Vietnam. The Party, State and Government of Vietnam have devoted a lot of enthusiasm and early attention to environmental issues in the process of industrialisation and modernisation. This is clearly demonstrated through the process of perfecting environmental management institutions and commitment to the implementation of sustainable development goals.

2. Methods

In this article, the author uses the method of meta-analysis to fully understand the connotation of the term the role of the state in environmental protection.

In addition, the author uses the case study method to examine the actual implementation and operation of industrial parks in a specific area, especially considering the case of Thai Nguyen province to see the role of state management in environmental protection in industrial zones in Thai Nguyen province. In addition, the author also uses the method of logical reasoning to identify problems that are still limited in environmental protection in industrial zones in Thai Nguyen province; then propose some solutions to improve the efficiency of state management in environmental protection in industrial zones in Thai Nguyen province in the coming time.

3. Results

3.1. Legal framework on environmental protection

** Advances in buiding capacity of environmental management institutions*

Table 1.1. Legal framework for environmental protection

Year of issuance	Laws
1991, 2004, 2017	Law on Forest Protection and Development, Law on Forestry
1993, 2000, 2008	Petroleum Law
1993, 2005, 2014	Environmental Protection Law
1998, 2012	Law on Water Resources
2003, 2017	Fisheries Law
2013	Law on natural disaster prevention and control
2008	Law on Biodiversity
2010	Law on Economical and Efficient Use of Energy
2010	Law on Environmental Protection Tax

Source: Stephan Ortman (2017) and supplimented by author

Vietnam is a latecomer but has soon learned and absorbed environmental management knowledge from previous countries and made much progress in building environmental protection institutions. First, Vietnam's progress and achievements are reflected in the number of laws, policies and regulations on environmental protection made and compiled by the government. Since 1993, the Government has made and proposed to the National Assembly for approval of the Law on Environmental Protection. In 2005 and 2014, the Law on Environmental Protection continued to be revised, supplemented and perfected. In addition to the Law on Environmental Protection, in the early 1990s, the

Government developed other basic laws which have been passed by the National Assembly such as the Law on Forest Protection and Development, the Land Law, the Petroleum Law, the Minerals Law and Law on Water Resources. The Laws on Protection of Natural Resources and Environment are continuously revised, supplemented and updated according to the domestic and international development context. Up to now, the legal framework on protection of environment and natural resources in our country has fundamentally been relatively adequate and comprehensive.

In addition to the basic environmental protection legal framework, the Government of Vietnam has shown itself to be an active government, acting for the environment through national strategies and action programs on environmental and resource protection from the very beginning of the reform period. In 1986, with the support of international experts, the Vietnamese government developed a national strategy on environmental protection. This strategy is the basis and foundation for the development of national laws, strategies and plans on environmental protection. Since 1986, the Government has developed and issued three national strategies for environmental protection and many other plans and strategies that incorporate environmental protection (table 1.2). Since 2012, the Government has committed and developed a green growth strategy for the period 2011-2020, with a vision to 2050.

Table 1.2. Environmental strategies and plans to protect the environment

Year of issuance	Names of strategies, plans
1991	National environmental protection strategy for the period 1991-2000
1992	National plan on environment and sustainable development for the period 1991-2000
1998	Plan to implement Directive No. 36 of the Politburo on strengthening environmental protection in the period of industrialisation and modernisation of the country
1998	Water resource development plan to 2000 and vision to 2010
1998	Strengthening environmental protection in the period of industrialisation and modernisation
1999	National strategy for environmental protection 2001-2010
2003	National strategy on environmental protection to 2010 and vision to 2020
2004	National action plan for cleaner production
2007	Strategic orientation for sustainable development in Vietnam (Agenda 21)
2011	Sustainable development strategy, 2011-2020

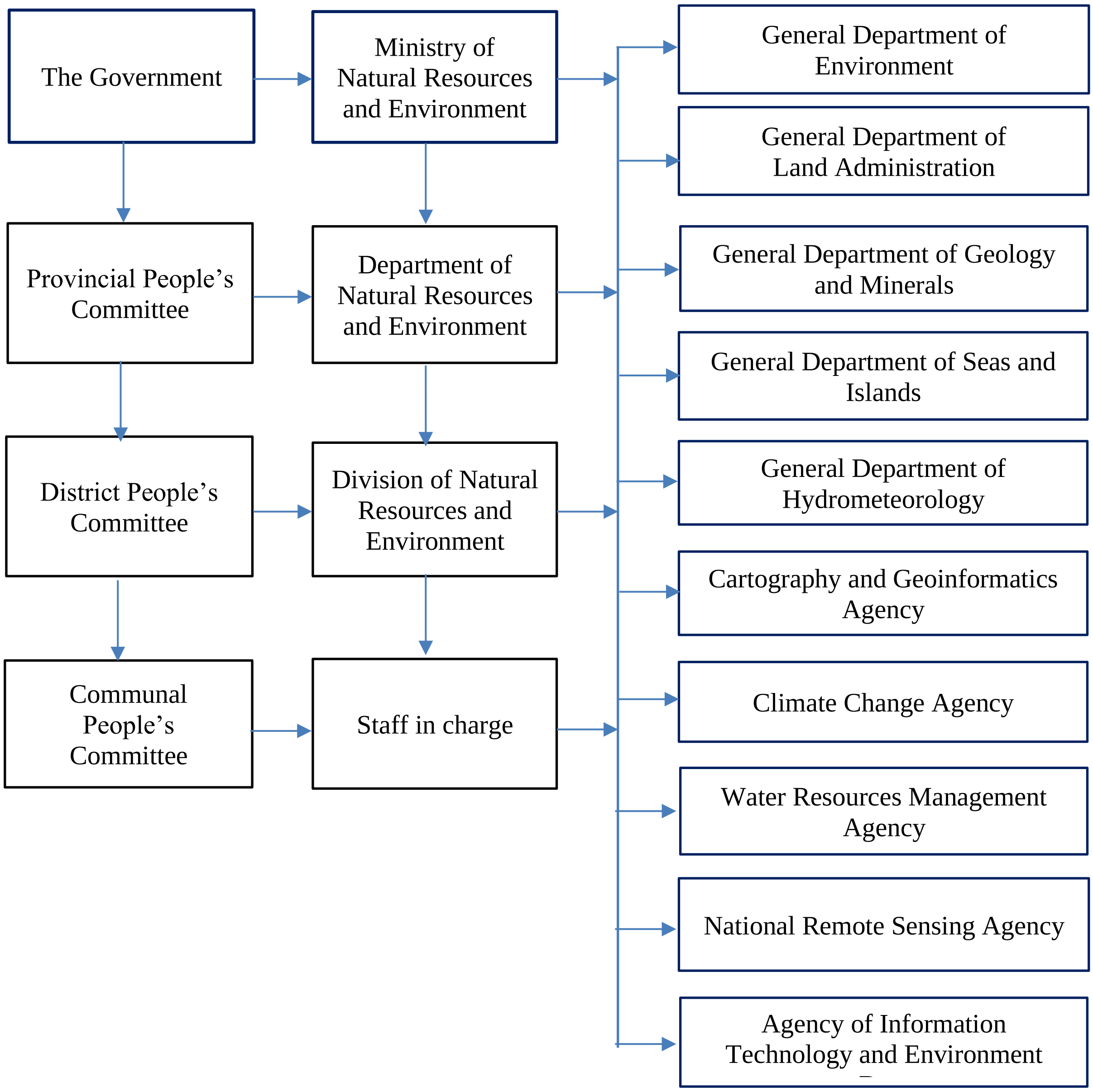
2011	National strategy on climate change
2012	National strategy on environmental protection to 2020 and vision to 2030
2012	National strategy on green growth for the period 2011-2020 and vision to 2050
2017	National action plan to implement the 2030 Agenda for Sustainable Development

Source: Stephan Ortman (2017) and supplemented by author

- *Resource and environmental protection and management system*

Besides the advancements in the legal framework for environmental protection, the environmental protection system is constantly being improved. Since 1992, the environmental management system under the Ministry of Science, Technology and Environment has been established. In 2003, the Ministry of Natural Resources and Environment was established on the basis of general departments: the General Department of Land Administration, the General Department of Meteorology and Hydrology and the Environment Agency. By 2017, the Ministry of Natural Resources and Environment has a structure including 5 general departments, 5 agencies. Several new units were established such as General Department of Seas and Islands, Climate Change Agency, Remote Sensing Agency. Besides, the Ministry of Natural Resources and Environment also has public non-business units and enterprises including two centers, five specialised research institutes, two universities and three companies. At the provincial level is the Department of Natural Resources and Environment, at the district level is the Division of Natural Resources and Environment, and at the commune level, there is full-time staff in charge. Moreover, in the Ministries and sectors, there are departments or officers in charge of the environment to monitor and manage environmental issues related to the fields of expertise. Since 2006, in order to strengthen the capacity to manage and handle violations related to environmental protection, the Government has proposed and the National Assembly approved the establishment of the Environmental Police Agency to prevent environmental crime, which is increasing in the process of industrialisation, modernisation and international integration.

Figure 1.3. The Natural Resources and Environment Management System in Vietnam



3.2. Industrial parks in Thai Nguyen

The whole province has planned 06 industrial parks with a total planning area of about 1,420 ha, including:

Song Cong I Industrial Park is planned 195 ha for lease

Yen Binh Industrial Park is planned 400 ha for lease

Nam Pho Yen Industrial Park is planned 120 ha for lease

Diem Thuy Industrial Park is planned 350 ha for lease

Song Cong II Industrial Park is planned 250 ha for lease

Quyet Thang Industrial Park is planned 105 ha for lease

Song Cong II Open Industrial Park (Under planning, scale 300ha).

Phu Binh Industrial Park - Urban – Services (Under planning, scale 900ha)

Cummulatively, the industrial parks in Thai Nguyen province have reached the coverage rate of industrial land area of 61%. It is accumulated by the end of September 2020 that in industrial parks in Thai Nguyen province, there are a total of 236 projects with valid investment registration certificates, including 119 FDI projects with a total investment registered capital is $8,438.3148 million and domestic-investment-capital 117 projects with a total registered investment capital of VND 15,611.2109 billion.

Regarding the socio-economic development orientation of Thai Nguyen province, according to the Task of planning Thai Nguyen province in 2021-2030, with a vision to 2050 approved by the Prime Minister in Decision No. 664/QD - TTg dated May 20, 2020 and according to the Resolution of the 20th Thai Nguyen Provincial Party Congress for the 2020-2025 term and the Action Plan to implement the Resolution of the 20th Thai Nguyen Provincial Party Congress for the 2020-2025 term, Thai Nguyen province will plan a key economic development area in the South, including the localities of Pho Yen, Song Cong, and Phu Binh as urbanised, industrial and service areas. Correspondingly, in the planning period from 2021-2030, with orientation to 2050, industrial parks in the province are mainly planned in these three localities.

3.3. The work of protecting the environment from the impacts of industrial parks of the provincial government over the years

- When carrying out the construction of industrial parks, the authorities in Thai Nguyen province always ensure the motto: the planned area is suitable, synchronous with the surrounding terrain, does not change too much of the current situation, ensures ecological landscape; protects the land and water resources by only exploiting surface water, not the groundwater and complies with discharge conditions.

- Regarding environmental protection against wastewater: wastewater in the production process of factories in industrial parks is treated locally at factories, then collected and further treated at centralised wastewater treatment stations of the industrial parks. In these stations, industrial wastewater will be treated and cleaned to reach the requirements specified in column A of the National Technical Regulation on Industrial Wastewater QCVN 40:2011/BTNMT before being discharged into the environment. With such a solution for drainage in and around the factories, the negative impacts on soil quality will be minimised.

- The protection of the soil environment is carried out by the following measures: to ensure that rainwater in the industrial parks, especially in production areas with many chemicals, does not flow into the surrounding soil to damage the soil. Solid waste from industrial production and daily consumption of the industrial parks is collected and transported to the collection area of all kinds of solid waste in the industrial parks. Then, this waste will be transported, sorted and treated according to regulations.

- The process of planning and implementing projects ensures the compliance with the provisions of the Law on Water Resources like compliance with the prevention of pollution, degradation and depletion of water sources, compliance with overcoming pollution incidents and restoring polluted and depleted water sources; compliance with the protection of the quality of domestic water sources and with discharge of wastewater into the source, and registration for issuance of permits for exploitation and use of water resources. Industrial wastewater after treatment must meet the standards and regulations before being discharged into the receiving source according to Regulation 40:2011/BTNMT and the discharge into irrigation systems must meet TCKT 01:2018/TCCL standards in Decision No. 150/QD-BNN-TCCL dated January 15, 2018, without affecting the environment, irrigation canal system, lakes and dams near the industrial parks and people's daily life. Moreover, there are plans to use, protect or relocate, return irrigation systems (lakes, dams, pumping stations, canals and ditches ...) according to regulations to ensure irrigation for agriculture production; ensure the compliance with irrigation planning and relevant regulations.

- The work of information propaganda and awareness raising on environmental protection continues have been promoted. Thai Nguyen Management Board of Industrial Parks has issued a plan and organised propaganda, dissemination, guidance and taken notices of the situation of environmental protection at each enterprise that has been put into operation in industrial parks. Thereby, Thai Nguyen Management Board of Industrial Parks has guided businesses strictly implement the requirements of environmental protection such as the investment, construction, and renovation of environmental protection works, the making environmental protection projects and plans; the connection of rain water and wastewater; measures to collect, classify and treat industrial waste; the register book of owners of hazardous waste and waste sources; difficulties and problems that need to be solved in terms of environmental protection.

- The mobilising businesses to join hands to protect the environment is enhanced and its quality is improved. Annually, the Management Board has mobilised cadres, civil servants and public employees together with leaders and employees of enterprises to join forces to respond and support "Volunteer Saturday", "Environment Day", "World Environment Day", "World Cleanup Day", "National Week of Clean Water and Sanitation". All together have cleared up trees, collected garbage, trimmed ornamental plants, dredged sewers, manholes for rainwater, wastewater of industrial parks.

- Leading and directing activitities have been in a timely and effective manner. The promulgating plans and implementing urgent tasks and solutions on environmental protection in the spirit of Directive No. 25/TC-TTg dated August 31, 2016 of the Prime Minister, Directive No. 22/CT-UBND dated October 4, 2016 of the Chairman of Thai Nguyen Provincial People's Committee has been done. A draft regulation on coordination of environmental protection in industrial parks with relevant localities and units in the spirit of Decree 82/2018/ND-CP dated May 22, 2018 of the Government has been compiled. Annually, about 450 documents (plans, guidelines, official letters, decisions, reports,...) are issued to strengthen the state management of environmental protection.

- Environmental monitoring in and around industrial parks is carried out regularly and signing a contract with capable monitoring units to monitor the current environmental status of Diem Thuy Industrial Park with frequency of 4 times per year at approved locations in order to assess the level and causes of air pollution, noise levels in and around the industrial park, and quality of wastewater and surface water has been carried out. Correspondingly, there are active directions for businesses specialising the industrial park infrastructure to strictly implement periodical monitoring at approved locations, promptly take measures to protect the environment in industrial parks when there are signs of pollution.

- Inspection and supervision have been always focused and ensured the compliance with regulations. Annually, the inspection plans for enterprises in the industrial parks and the coordination with relevant units set up inspection teams and take samples of waste discharge at enterprises to assess environmental protection have been done.

- Participation as a member of the delegation to inspect the implementation of the law on environmental protection at enterprises in the province developed and led by the General Department of Environment, the Department of Natural Resources and Environment; participation as a member of the Council for assessing environmental impact reports, plans and projects on environmental protection of new projects which have just put into operation in industrial parks; coordination with the environmental police division of the provincial police and functional branches in inspecting the implementation of the law on environmental protection of enterprises in industrial parks.

4. Discussion and Conclusion

4.1. Discussion

The achievements in making environmental management institutions of the Government in general and the government of Thai Nguyen province in particular are abundant, but the environmental pollution around the industrial parks of the province is bad, even worrisome. A number of foreign studies have assessed the state of environmental pollution in Vietnam as an environmental crisis and considered it the clearest evidence for the failure of the government in environmental management and protection (Ortman et al. 2017). However, among the current limited issues in environmental protection and management, we only mention a few of the emerging challenges and limitations in Thai Nguyen. Below is a summary of some issues related to the state management in environmental protection in Thai Nguyen province including the control of environmental pollution in industrial parks, industrial clusters, and craft villages, the inspection, examination and handling of violations on environmental protection; handling thoroughly units causing serious environmental pollution and controlling residual polluted areas.

Firstly, a difficulty in solving environmental pollution is that since the units were established and operated for decades ago, so the production lines are outdated, followed by the system of asynchronous environmental protection works including seven units with wastewater discharge volume of more than 1,000 m3 per day and night This is not to mention the waste volume of two metallurgical plants with production scale of more than 200,000 tons per year and one acid factory with an output of more than 10,000 tons per year. To monitor the waste discharge of these units, the Department of Natural Resources and Environment of Thai Nguyen province has coordinated with each unit to install an automatic and continuous environmental monitoring system and run pilot tests. This has increased the total number of units implementing water and air automatic and continuous monitoring systems to 11 units, of which data of six waste sources are transmitted to the Department. The remaining units continue to integrate with the Department's automatic monitoring system to regularly and promptly control waste sources.

Secondly, one of the production activities with high risk of causing environmental pollution is the mining of minerals and construction materials with nearly 100 licensed organisations and 195 mining licenses, mainly exploiting limestone, sand and gravel, leveling soil, antimony, barite, kaolin, lead, zinc, coal and iron. Especially, there are 10 licensed gold mines. The process of mining minerals as well as construction materials has more or less affected the natural environment as the wastewater from the drying of the mining pit, the water washing the surface through the mining area, the waste dump areas and wastewater from the ore washing process; dust, emitted gas from transportation, loading and unloading, drilling and blasting, accidents caused by landslides or waste dumps. In addition, there are 15 industrial clusters planned in the province with enterprises who are investors in infrastructure construction without centralised wastewater treatment system, but mainly the secondary units themselves invest in separate waste treatment systems. Related to the natural environment, there are 220 traditional craft villages, of which more than 198 craft villages grow and process tea, the rest process forest products and food.

Thirdly, for waste management: Regarding ordinary industrial waste: about 1,000 tons is generated per day mainly in some operating industrial parks and Thai Nguyen iron and steel industrial park, of which Samsung Company and satellite units generate 600 tons per day, Thai Nguyen Iron and Steel Company generates 240 tons per day. Most of the industrial waste generated is reused, collected and treated. However, there are still some units that are not conscious of environmental protection, and there is a situation of illegal waste discharge. *Regarding hazardous waste:* In 2020, the whole province has 245 units that are granted hazardous waste source owner books, in which the largest source comes from Samsung Company (accounting for about 30% of the total amount generated). Most of the generated hazardous waste is collected, treated or contracted with a functional unit in accordance with regulations. There is no illegal discharge of hazardous substances into the environment. The control and supervision of waste transportation and treatment activities of the units (especially the units outside the province that carry out solid waste treatment for Samsung Company and satellite companies) still face many difficulties.

In the province, currently there are 188 investment projects in industrial parks, 121 of which have been put into operation including: 48 projects in Song Cong I Industrial Park, 55 projects in Diem Thuy Industrial Park, 13 projects in Yen Binh Industrial Park and 5 projects in South Pho Yen Industrial Park. Of the total 121 investment projects in the above mentioned industrial parks, 65 projects are subject to make environmental impact assessment reports; 56 projects are subject to make environmental protection plans. Up to now, 59 out of 65 projects have been approved for their environmental impact assessment reports and detailed environmental protection projects; six out of 65 projects have been put into operation but have not been yet approved their environmental impact assessment reports or environmental protection projects; 37 out of 56 projects have been confirmed with environmental protection plans. The new completion confirmation rate reached 63.6%, while 36.4% of the projects have been into official operation but have not yet been confirmed for completion. Currently, only two out of 19 operating industrial parks have wastewater treatment systems with the amount of about 500 m3 wastewater being treated centrally per day. For industrial parks without an investor, the wastewater treatment is mainly built and operated by enterprises themselves. The total amount of wastewater generated and discharged is estimated from 1,000 m3 per day and night; emissions according to the Appendix attached to the Government’s Decree No. 38/2015/ND-CP.

Fourth, according to the provisions of Decree No. 38/2015/ND-CP dated April 24, 2015, in Thai Nguyen province, there are 07 units with wastewater discharge volume of over 1,000 m3 per day; two metallurgical units with scale of more than 200,000 tons per year; two thermal power plants and five units of cement production; one acid factory with over 10,000 tons per year. Most of these units have been established for a long time and the system of environmental protection works is not synchronized, so this is one of the environmental hot spots in the province.

Fifth, the inspection, examination and handling of violations of environmental protection: In 2017, the General Department of Environment inspected the observance of the law on environmental protection in Thai Nguyen provinces from September 18, 2017 to November 17, 2017 of 19 units in Thai Nguyen province and issued eight decisions on sanctioning administrative violations in the field of environmental protection for violating units in Thai Nguyen province, with a total fine of 2,052,860,500 VND. The inspection results show that there are nine out 19 inspected units discharging wastes (wastewater, exhaust gases) in excess of technical regulations into the environment. In addition, some units are inspected for violations on management of hazardous wastes and for not having a certificate of completion of environmental protection works, improperly performing the contents of the EIA report/environmental protection project/commitment to environmental protection and there is no automatic monitoring system as prescribed. The inspection delegations organised in 2020 by local authorities: During the reporting period, all levels and sectors in the province organised more than 500 periodical and irregular inspections and checks on the observance of the law on environmental protection; conducted the specialised subject on guidelines for confirmation of the completion of thorough treatment of pollution, certification of completion of environmental protection works, approval of environmental protection and restoration projects, verification of voters' opinions and petitions. Accordingly, 130 units have been handled for administrative violations on environmental protection with a fine of nearly 6 billion VND; in which 14 cases of illegal dumping and discharging into rivers and streams were detected and handled with the fine of VND 2.5 billion.

Sixth, the thorough handling of units causing serious environmental pollution: For factories belonging to Thai Nguyen Iron and Steel Joint Stock Company, the situation of environmental pollution has not been thoroughly handled, especially at Steel Plant, Mechanical Joint Stock Company, Thai Nguyen Steel Rolling Factory, Iron and Steel Alloy Joint Stock Company. Gas sample analysis results show that most metallurgical units in Song Cong 1 Industrial Park and Shinwon Company had an interest in investing in the installation and operation of a system to treat dust and gas emissions into the environment at the time of inspection meeting the permitted standards. There was one enterprise in Song Cong 1 Industrial Park that was detected to have the dust concentration in the exhaust gas exceeding the standards. Air pollution and environmental pollution caused by smoke and dust released into residential areas near these factories are always pressing public opinions. Correspondingly, Thai Nguyen province has directed functional sectors to urgently handle and solve "hot spots" of environmental pollution caused by mining and industrial production activities. The provincial Department of Natural Resources and Environment has strengthened their inspection, examination, and periodic monitoring of wastewater and gas emissions at large industrial facilities, closely supervised the implementation of environmental impact assessment reports of enterprises, coordinated with functional agencies to resolutely sanction acts causing environmental pollution, suspended operations of enterprises causing the serious and prolonged environmental pollution.

4.2. Conclusion

Some suggestions for improving the efficiency of state management for environmental impacts from industrial parks in Thai Nguyen province

Firstly, solutions on science, technology and environment:

The province needs to support interest rates on termed loans for businesses with technological innovation programs. It is necessary to promote the process of socialisation of science and technology non-business units in order to move towards establishing science and technology enterprises to better perform the role of technology transfer units; step by step create local technology markets; develop policies to support enterprises to innovate and use modern technology, apply scientific and technological advances, improve productivity and quality of products, goods and services and establish industrial property rights in the province. Moreover, the establishment of relationships between enterprises and scientific research institutions to develop production should be done. The province also need to spend a part of the budget to support research and application of new technologies. Finally, the province need to take measures to limit the use of outdated equipment, machinery and means of production with outdated technology having bad impacts on the environment.

Second, solutions to environmental protection

It is necessary to link industrial development planning with environmentally sustainable development, closely combine the investment in renewal of production equipment with modern solid waste and industrial wastewater treatment technology in order to provide useful solutions to protect the environment. Besides, regular monitoring and inspection of production units in compliance with regulations on environmental protection must be done. Synchronous investment for construction of concentrated environmental treatment works together with enhancing education, training and raising awareness on environmental protection for employees, business managers, management boards, state officials on industrial environment should be carried out. Stakeholders need to fully enforce legal regulations in new investments in industrial constructions and exploiting, processing and using works of natural resources. It is necessary to make a plan to protect the environment and strictly organise its implementation, especially pay special attention to environmental protection in industrial parks and clusters.

Another solution is to conduct a specific assessment of the environmental status of industrial parks, clusters, and operating production units, assess pollution caused by exhaust gases and industrial wastes, emissions and dust of vehicles, pollution levels of water sources, etc. to have a general treatment plan in the locality as well as in each area. Besides, it is needed to periodically monitor and analyse the composition of hazardous wastes.

Before construction, investment projects and factories must commit or make a report on environmental impact assessment before being granted investment and construction permits. Industrial parks and clusters must invest in a waste treatment system so that treated waste reaches the prescribed level before being discharged into the environment. For projects and factories which have been granted construction investment permits must conduct periodic environmental impact assessments in accordance with the provisions of the Law on Environment.

Drainage planning for industrial parks must take into account specific water drainage sources. It is necessary to apply two wastewater treatment systems: the on-site water treatment system for each factory and the general treatment system of the industrial park.

Third, it is necessary to renew the development thinking and approach in resource management and environmental protection towards a comprehensive and sustainable approach, eliminate the local approach to resource management and environmental protection. In particular, it is necessary to consider the task of environmental protection as an important task of the province in order to realise the goal of sustainable development.

Fourth, it is necessary to reform the administrative system for environmental management in the direction of leanness, efficiency and quality with a clear assignment and division of responsibilities between the provincial and district environmental management agencies. In addition, it is advisable to increase civic and social criticism to the province's policy and management effectiveness on environmental issues, and to reform the administrative system in the direction of focusing on reforming services and interactions between the government and citizens and businesses towards a modern and convenient market to reduce the cost of time and money. The administrative agencies need to promote businesses that are responsible for the social community and the country. Regularly, stakeholders need to update technology in the direction of green, saving resources and protecting the environment. The provincial government needs to improve the capacity of the environmental management system by strengthening research, updating and applying modern technological solutions in monitoring and evaluating the current state of the environment.

5. References

1. Management Board of Thai Nguyen Industrial Parks (2021): *A report on the orientation and planning for development of industrial parks in Thai Nguyen province, period 2021-2030.*

2. Management Board of Thai Nguyen Industrial Parks (2020): *A Summary report on the performance of tasks in 2019, and direction and tasks in 2020*

3. Ministry of Natural Resources and Environment (2015), *Circular No. 27/2015/TT-BTNTM of the Minister of Natural Resources and Environment dated May 29, 2015 on strategic environmental assessment, environmental impact assessment and environmental protection plan.*

4. Ministry of Natural Resources and Environment (2015), *Circular No. 36/2015/TT-BTNMT dated June 30, 2015 of the Minister of Natural Resources and Environment on hazardous waste management.*

5. Stephan Ortman (2017). *Environmental governance in Vietnam: Institutional Reforms and Failures. Palgrave Macmillan,* Published by Springer Nature.

6. Pham Thi Ngoan (2016*). "Solutions to reduce environmental pollution in industrial parks"*. Journal of Natural Resources and Environment, p. 30-31.

7. National Academy of Public Administration (2006). State Management in Science - Technology and Natural Resources – Environment. Hanoi: Education Publishing House.

ENHANCING DIRECT DEMOCRACY: CASE STUDIES IN VIETNAM

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Abstract

Direct democracy is the original and true way to ensure the power and position of the people as the owners of the state and society. Along with representative democracy, the implementation of direct democracy is important and indispensable in modern states in the world. In Vietnam, direct democracy has been recognized in many important legal documents and has been concerned by the Vietnamese Government, especially in recent times. Promoting and expanding direct democracy in Vietnam is evaluated as very correct and consistent actions of the Communist Party and the Government of Vietnam. The implementation of democracy is an important driving force to promote the socio-economic development as well as people's sovereignty. It also stimulates the material and spiritual resources among the people to serve the socio-economic development and fulfill social tasks. In the recent context of Vietnam, there are a lot of difficulties and challenges in implementing direct democracy, which requires significant solutions to strengthen in the future. In this paper, besides providing general researches and opinions on direct democracy, the authors focus on analyzing issues of direct democracy implementation as well as proposing some solutions to improve direct democracy in Vietnam.

Keywords: *Democracy; Direct democracy, Election*

1. Introduction

Direct democracy is the original and accurate way to ensure the power and position of the people as the owners of the state and society; Along with representative democracy, the implementation of direct democracy is important and indispensable in contemporary political regimes. Through direct democracy, the people themselves could decide which laws and policies are important for the community and the country. In decades, the trend of strengthening direct democracy is increasingly stronger in all countries in the world.

Reality practices in the world show that there is no archetype for the application of direct democracy’s forms in all countries in the world or for the different development stages a country. Some forms of direct democracy are suitable for one society but they are not acceptable for the others. In other cases, the forms of direct democracy which bring the good results for a society in a specific of period may cause serious consequences for that society in another period. In order to successfully apply direct democracy, besides progressive and strict legal framework, parties, organizations and the citizens need to have an understanding of the nature of direct democracy as well as methods of enforcing direct democracy. They also have to be sensitive to the situation of their country, be dedicated to a true direct democracy and act based on the mutual benefits of the community and the nation.

Vietnam is a developing country and does not have a long history of democratic enforcement in general and direct democracy in particular. The main reason is that the constitutional foundation - the foundation for Vietnam's modern democratic mechanisms is quite new in comparison with other democratic regimes in the world (the first ever democratic regime of Viet Nam only started on September 2, 1945 through the Declaration of Independence for the Democratic Republic of Viet Nam read by President Ho Chi Minh in Ha Noi). Long-lasting fierce wars are additional factors affecting the effective organization and implementation of both direct democracy and representative democracy. In Vietnam recently, direct democracy is recorded in many important legal documents. The 2013 Constitution of the Socialist Republic of Vietnam, Law 96/2015/QH13 Law on Referendum, Law No. 85/2015/QH13 Law on Election of Deputies to the National Assembly and Deputies ... National Assembly and Deputies to People's Councils and Ordinance No. 34/2007/PL-UBTVQH11 Ordinance on exercise of democracy in communes, wards and township are some of them. They provide clearly definition, understanding as well as legal regulations about concepts, objects, general principles, procedures and validity of the results of direct democracy in Vietnam.

Through the study about direct democracy in Vietnam, we are trying to solve the following questions:

- What are the current situation as well as difficulties and obstacles when implementing direct democracy in Vietnam?

- What are solutions to overcome existing difficulties and challenges?

Though the research’s findings may not provide the most comprehensive solutions to overcome the recent problems of implementing direct democracy in Vietnam; the authors suppose that they detect major problems on Vietnam’s direct democracy and give directions to solve them.

2. Method

To answer the above research questions, in this article, the authors use research methodology : common methods in legal scientific research including synthesis, analysis, assessment, comment, statistics and consultation with experts. Although direct democracy is not new in Vietnam, there remain many liminations in practice. The method of consultation with experts was used to collect comments and in-depth assessments from experienced experts in direct democracy, specifically the election. The team has interviewed three experts, whose comments and opinions are reflected in the article.

3. Results

3.1. Literature review

Direct democracy is understood as the form of people directly give decisions on important, matters of the nation and directly make laws without any intermediaries. The most popular forms of direct democracy include:

- *Referendum* is a direct vote in which all electorate is invited to vote to accept or veto a special proposal. It could be the adoption of a new Constitution, a set of laws, the dismissal of an elected official or simply a new government policy (Dao, Trinh, Vu, & Truong, 2014; Truong, 2011; Dao, 2013).

- *Voting* is a process of making people's decisions to select an individual to hold government positions. This is the usual mechanism that democracies currently use to allocate positions mostly in the legislature branch and sometimes in the executive and judicial branches as well as in the local government (Central Committee of Vietnamese Fatherland Front, 2002; Shafritz, 1988; Nguyen, 2003).

- *Recall election* is understood as the electorate voting to express their mistrust with the elected representatives and force these representatives to retire their duties when their term was still available (The 2013 Constitution of the Socialist Republic of Vietnam, Article 7.2; The 1992 Constitution of the Socialist Republic of Vietnam, Article 7).

- *Citizens' initiative* is the act that citizens propose and vote to decide a matter of their country or local community. The condition for this implementation is that proponents must collect sufficient signatures on statutory initiatives range. Citizens' initiatives could be new proposals or proposals to amend existing legal documents or to decide important matters prescribed in the Constitution (Giao, n.d.).

- *Grassroots democracy* is understood as democracy at the lowest geographic or social level where people express their ownership most directly (Directive No 30-CT/TW; Ordinance No. 34/2007/PL-UBTVQH).

In the context of Vietnam, understanding and awareness about direct democracy and related matters come from some significant works of scholars around the world as following:

First of all is the handbook named *Direct Democracy: The International IDEA* Handbook (Beramendi, et al., 2008). It was translated and published in Vietnamese by the Institute of Public Policy and Law of VNU Publishing House in 2014 (Dao, Vu, Phung, Bui, & Le, 2014). The handbook analyzes, compares and provides information and insights on the concerns related to direct democracy. Through the work, the authors articulate the perspective: Direct democracy demonstrates people's participation in government activities (Beramendi, et al., 2008). A range of democratic practices exists to help citizens become more and more involved in making political and institutional decisions. The handbook presents an overview of direct democracy implemented in all regions of the world and evaluates particular cases in 6 countries including Hungary, Switzerland, Uganda, United States (Oregon), Uruguay and Venezuela. The handbook also clarifies and examines the scope of usage four direct democracy mechanisms which are referendum, citizens' initiative, agenda initiatives and recall. Through case studies, the handbook provides a significant comparison among different direct democracy mechanisms and methods in which those mechanisms are applied each country with specific contexts. Accordingly, this research partly reflects the practice of direct democracy in some countries around the world. This is a useful reference for researchers as well as the authors working on direct democracy implementation in Vietnam.

Besides the work of Beramendi, et al., it has to mentioned the contribution of David Held. Held's work shows in the book called *Models of Democracy* (Held, 2004) (its second and the third edition were published in 2006 and 2018, respectively). In Vietnam, it was translated and published under the name *Các mô hình quản lý nhà nước hiện đại* which can be understood as *Management models of modern states* in English (Held, Phạm, & Đinh, 2013). The book consists of three parts, in which, in the first part, Held presents four classic democratic models including Athenian democracy - classical democracy, Republicanism, Liberal democracy and Direct democracy. In part two, he introduced four variants in the twentieth century and one is currently forming. In part three of the book, the author focuses on clarifying the question of "How should the democracy be understood today?". The author critically assessed the existing democratic models and thereby built up a definition of his own: democratic autonomy which is argues as " can link systematic difficulties that often occur and recur in political and social life" (Held, 2004). According to Held (2004), autonomy implies not only personal freedom and but also equal rights and responsibilities of individuals in organizing the community to ensure their eligibility to pursue their plans. This is a new contribution that sets the foundation for grassroots democracy in general and provide valuable suggestive topics for democracy researches in the context of Vietnam.

Last but not least, the book called *Le referendum: Etude Comparative* of Francis Hamon (1995) was introduced to Vietnamese researchers and readers through the name *Trưng cầu dân ý: Một nghiên cứu so sánh*. The book introduced on referendum, the relationship between democracy, democracy and the referendum (Hamon, 1995). According to Hamon (1995), democracy is understood in two different forms: the direct democracy (including the direct participation of each citizen in exercising political power) and the representative democracy (political power is entrusted to the elected representatives who take responsible to the people). In his research, Hamon:

- Gives comprehensive theoretical and practical point view of referendum;

- Provides referendum models in some countries in the world. Those models include (i) scope and objectives of referendum; (ii) method of performing referendum; (iii) the relationship between referendum and political life; (iv) factors influencing the results of referendums; (v) the increase at global scale of referendums.

It can be said that this is an important reference for the authors to propose and apply referendum in Vietnam because there is no referendum which had been held since the Law on Referendum (2015) taking effect in July 2016.

3.2. Implementation of direct democracy in Vietnam

In Vietnam, sovereignty belongs to the people and this is the foundation of the democracy. The people are the sokle and supreme subject of State power. They exercise their right to mastery through the activities of the State and the entire political system and forms of democracy. At present, the Party and State define the election and dissmisal of delegates as one the most basic forms of direct democracy for the people to exercise their right to sovereignty, delegating and control of State power. The electoral system became the mainstay of democracy. Right after regaining independence, Vietnam held the general election in 1946 and was considered to be truly free and democratic, becoming a brilliantly milestone in the history of democracy. In Vietnam, direct democracy implementation has received a lot of concerns and been gradually enhanced by the Government and citizens. Regardless of those actions, there are still many shortcomings.

First of all is the referendum. Initially, the Law on Referendum (2015) was created to create a legal mechanism for citizens to exercise their voting rights when the government bodies organize a referendum. However, in reality, since the Law has come into effect, none of referendum has been held. Considering the current legal documents, it can be seen that the law on referendum still has loophole and lacks of detail causing difficulties in practice, specifically as follows:

(i) The issue of citizens' initiative: at first, it must have a citizens' initiative in order to conduct a referendum. The current Law on Referendum states that: "The Standing Committee of the National Assembly, the State President, the Government or at least a third of the total number of delegates of the National Assembly has the right to request the National Assembly to consider and make decisions on referendum." (Article 14, Law on Referendum, 2015). Citizens or voters do not have the right to propose referendums. Therefore, the absence of specific regulations on voters'/citizens' rights to request referendums has limited the practice of direct democracy.

(ii) The legal validity of the referendum results is unclear: The Law on Referendum 2015 states: "The Standing committee of the National Assembly shall be responsible for making report to the National Assembly on the result of referendum in the next meeting session. Based on the result of referendum, the National Assembly shall decide necessary measures to ensure the execution of the result." (Article 49, Law on Referendum 2015). This provision can be understood that the referendum's results will be reported to the National Assembly for consideration and the National Assembly has the right to accept or not accept such results. The decision of the National Assembly is final, and the will of the people expressed through the referendum is only for reference to government agencies. In this sense, the core of direct democracy - a form of helping people to decide for themselves important issues of the country, is not guaranteed to be implemented.

The second matter is the election. Currently, the voting has not fully promoted the direct democracy in Vietnam. Some specific limitations can be seen as follows:

(i) Voters are lacking information about the candidates. Normally, the Election Boards make brief lists of information about the candidates to provide to the voters. However, the information in those lists of information is often very sketchy. Their contents include only name, hometown, workplace, education and position of the candidates, while the voters' most concerns, for example ability to work, morality, or their contribution for the society, are rarely provided. So, voters do not have many chances to nominate candidates and select delegates in the election, thus they do not play a really decisive role in electing delegates. « *In a constituency, among 5 candidates, three are elected. This means the chance* *for voters to select their representatives is 40%. Delegates are elected mainly because of the selective structure, thus the election becomes formal » (Source : in-depth interview, Prof. Dr, Hanoi Law University, 2021).*

(ii) About equality of representation of voters. The Vietnamese law prescribes the principle of compulsory equality in elections. However, the equality of representation of voters in fact has not been ensured yet due to the unreasonable distribution of the number of elected representatives. In the recent National Assembly elections, there was a huge disparity in the proportions of the population of a province or a city and the number of National Assembly elected candidates. The three highest proportion belong to Ho Chi Minh City with 1 elected candidate represent for 234,838 people, Thanh Hoa with 1 elected candidate represent for 216,494, and Nghe An with 1 elected candidate represent for 218,879 people. Meanwhile, some provinces witness the significant low proportion of representation (around 5 times lower than the highest ones) such as Lai Chau with 1 elected candidate represent for 53,317 people, Bac Kan with 1 elected candidate represent for just 50,250 people (Resolution No. 53/NQ-HDBCQG).

Thirdly, the matter of grassroots democracy. Ordinance No. 34/2007/PL-UBTVQH11 Ordinance on exercise of democracy in communes, wards and township has improved the legal basis for securing direct democracy at the grassroots level. According to statistics, up to 100% of communes, wards and towns have built and implemented the grassroots democracy. However, the reality practice reflects that there are many documents at the grassroots level making their own regulations and policies without compliance with higher legal regulations, especially financial decisions (fees, charges, penalties, etc.). For example, in some communes of Gia Binh district, Bac Ninh province, the commune stipulates that villagers who have motor vehicles and agricultural vehicles must pay specific amount of money per year as road maintenance fee. Outsiders with cars passing through the village must pay a fee from 3,000 to 4,000 VND per trip as road maintenance fee. In Thua Thien Hue, Ninh Thuan, Lang Son and Nghe An provinces, there is a regulation that people have to pay for processing documents and applications at the communes and wards. The fee reaches to 20,000 VND or 30,000 VND per application (Quan, 2015).

4. Discussion and Conclusion

4.1. Solutions to enhance direct democracy in Vietnam

Firstly, to complete and effectively implement the Law on Referendum in practice. The Law on Referendum has been in effect for 3 years, but in fact no referendum has been organized. In the future, it is necessary to amend the Law on Referendum in the directions that give voters the right to propose referendum initiatives and expand the scope of local referendums in order to ensure the voting right as well as nature and effectiveness of referendum when it is held of the State.

Secondly, to finalize the voter's rights as following:

- Issuing documents detailing provisions in the Law on Election of Deputies to the National Assembly and Deputies to People's Councils: (i) Guiding the process and procedures for voting at workplace or permanent residence of the voter to ensure that voters could exercise their right under any circumstance. (ii) Guiding voters to register for voting at temporary residence instead of permanent residence.

- Ensuring the right to select the most competent candidates through the elimination of a restriction on the number of candidates per constituency.

- Prescribing sanctions for the case that one person cast other ballots. In some countries around the world such as Australia and New Zealand, the voting is a civic duty; if the citizens do not fulfill their duty, they can be subject to administrative sanctions. In Vietnam, voting is a citizen's right but the state also needs regulations to ensure voters exercise their right without affecting the exercise of the others' rights.

Thirdly, to strengthen grassroots democracy's regulations by promulgating the Grassroots Democracy Law on the basis of consolidating the current legal documents on grassroots democracy. This Grassroots Democracy Law should strengthen the implementation of democracy at the grassroots level, such as: (i) increasing the number of mattes that grassroots administrations must inform, discuss and absorb people's opinions; (ii) improving the legal effectiveness of receiving public comments; (iii) improving the people's supervision role in elected bodies in the localities.

4.2. Conclusion

Establishing a direct democracy is an indispensable development as well as an objective trend of mankind in order to ensure the principle that all state power belongs to the people. The implementation of democracy is an important driving force to promote the socio-economic development and promote the people's ownership. In the process of social development towards sustainability and the creation of a constructive government, the leaders of the Vietnam Government are increasingly focusing on assessing the limitations and difficulties in implementing direct democracy. A specific roadmap to strengthen the implementation of direct democracy is essential in Vietnam currently. The authors hope that the research's theoretical contribution along with previous studies could help improve the effectiveness of direct democratic practices in Vietnam in the near future.

5. References

1. Beramendi, V., Ellis, A., Kaufmann, B., Kornblith, M., LeDuc, L., McGuire, P., Svensson, P. (2008). *Direct democracy: The International Idea handbook*. Stockholm: International IDEA.

2. Central Committee of Vietnamese Fatherland Front. (2002). *Kỷ yếu công tác Mặt trận tham gia cuộc bầu cử đại biểu Quốc hội khóa XI, nhiệm kỳ 2002 - 2007 [Proceedings of the Front participated in the 11th National Assembly election, term 2002 – 2007]*.

3. Dao, T. U., Vu, C. G., Phung, P. T., Bui, H. T., & Le, T. T. H. (2014). *Dân chủ trực tiếp: Sổ tay Idea Quốc tế*. Hanoi: VNU Publishing House.

4. Dao, T. U., Trinh, D. T., Vu, C. G., & Truong, H. H. (2014). *Some theoretical and practical issues on direct democracy and grassroots democracy in the world and in Vietnam*. Hanoi: VNU Publishing House.

5. Dao, U. T. (2013). Bản chất, nội dung và yêu cầu cơ bản của trưng cầu ý dân [The nature, content and basic requirements of the referendum]. In *Proceeding of the Referendum Workshop - Theoretical and Practical Issues*. Hanoi: The Vietnam Lawyers Association.

6. Directive No 30-CT/TW dated 18th December 1998 on the preparation and implementation of the regulation of democracy at grassroots level.

7. Hamon, F. (1995). *Le referendum: Etude Comparative [Trưng cầu dân ý: Một nghiên cứu so sánh]*. Paris: L.G.D.J.

8. Held, D. (2004). *Models of democracy*. Cambridge: Polity Press.

9. Held, D., Pham N. T., & Đinh, T. M. (2013). *Các mô hình quản lý nhà nước hiện đại*. Hanoi: Tri thức.

10. Giao, V. C. (n.d.). *Dân chủ trực tiếp trên thế giới và những gợi mở cho Việt Nam [Direct democracy in the world and suggestions for Vietnam*]. Hanoi: Viet Nam Institute for Public Policy and Law.

11. Law No. 96/2015/QH13 on Referendum, 2015.

12. Law No. 85/2015/QH13 on election of deputies to the National Assembly and People's Councils.

13. Nguyen, T. H. (2003). *Hương ước mới - một phương tiện góp phần quản lý xã hội ở nông thôn Việt Nam hiện nay [New grassroots-level convention - a means to contribute to social management in rural Vietnam today]*. Hanoi.

14. National Election Council (2016), Resolution No. 53/NQ-HDBCQG dated March 3, 2016 on the number of constituencies, list of constituencies and the number of National Assembly candidates to be elected in each constituency.

15. Ordinance No. 34/2007/PL-UBTVQH11 of the National Assembly Standing Committee on on exercise of democracy in communes, wards and township.

16. Quan, M. (2015, August 25). "Lệ làng": Lắm khi hơn cả "phép vua" [Custom can sometimes rule the law]. Thanh Nien Newspaper.

17. Shafritz, J. M. (1988). *The Dorsey dictionary of American government and politics*. Chicago, IL: Dorsey Press.

18. The 2013 Constitution of the Socialist Republic of Vietnam.

19. The 1992 Constitution of the Socialist Republic of Vietnam.

20. Truong, H. T. H. (2011). *Trưng cầu ý dân: Những vấn đề lý luận và thực tiễn [Referendum: Theoretical and practical issues]*. Hanoi: Political - Administration Publishing House

COMPLETING REGULATIONS ON INSURANCE CONTRACTS IN VIETNAM IN THE REQUIREMENTS OF SUSTAINABLE DEVELOPMENT AND INTERNATIONAL INTEGRATION

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Abstract

The article focuses on analyzing the limitations of the Law on Insurance Business on insurance contracts. In the context that Vietnam is amending the Law on Insurance Business, the author wants to improve the regulations on insurance contracts in the Law on Insurance Business to create a completely legal basis. To make insurance contract relationships useful, in line with the subjects' needs and line with the rapid development in the insurance field.

Keywords: *Law on Insurance business, insurance contracts, completing legal regulations.*

1. Introduction

The world, as well as Vietnam, are facing significant challenges due to the Covid-19 pandemic. The economic sector has become troubled because it could not concentrate on production, people's health is being seriously threatened by the consequences caused by covid. Up to this point, the role of insurance, especially life insurance, can promote its position. Of course, insurance payment also depends on many different factors, but importantly, when meeting the payment conditions agreed upon by the parties, the insurer will have to perform the insurance obligation. At that time, the beneficiary of the insurance money will share the risk, creating a financial reserve to serve life in the future. Therefore, from the early days of the human economy, the insurance area was also simple. However, today, when the human economy has stepped to a new height, the economy of professional production, the insurance also develops strongly and is as diverse as colourful flowers to meet the different needs of people and subjects in society.

Insurance contracts are the backbone of bringing insurance services into the lives of subjects. They are the bridges to form an insurance relationship between the service providers (insurance enterprises) and the demander (the insurance buyer). The guiding legal provisions and the basis for dispute settlement on insurance contracts have also been developed and recognized from an important role. Before having the Law on Insurance Business, insurance contracts were recorded in the Civil Code. However, after the Law on Insurance Business in 2000, especially with specific characteristics, the regulations on insurance contracts were no longer recorded in the Civil Code but only in separate laws. Of course, the basic principles for contracts recorded in the Civil Code still have a specific influence on all contracts, including insurance contracts.

With the importance of insurance and insurance contracts, legal regulations always need to be studied and considered to be complete to ensure stability and safety in each insurance relationship towards the stability of the insurance sector in general. When the insurance sector develops and stabilizes, it will stabilize the country's economy, helping Vietnam integrate into the world economy.

2. Method

To achieve the research result, the authors use the following research methods:

Historical method**:** The author uses historical method to understand the birth and development of insurance and insurance contracts towards finding out the role of insurance in human life. The author wants to prove that sustainable socio-economic development makes it impossible not to pay attention to insurance, insurance service provision, and insurance contracts.

Analysis method: The authors will analyze the provisions of the current law on insurance contracts to find out the inappropriate and limited points in this regulation. With the limitations found, of course, there will be a way to overcome it to be complete and convenient in applying legal regulations.

Comparison method: Compare the provisions of the Law on Insurance Business with the primary law in the field of private law - the Civil Code - so that it can be perfectedin the direction of consistency and logic between specialized law provisions and the primary law. Only then will the legal provisions be synchronous and convenient for application.

Inductive method: After analyzing and comparing, the author concludes the issue to recommend perfecting the legal provisions on insurance contracts, aiming to create a unified and appropriate legal framework for essential adjustments. It will help to create sustainable development for the insurance sector in particular and socio-economic in general.

For this subject, some questions need to be answered and clarified, including:

The first question is the role of insurance contracts, the law on insurance contracts in the development of the insurance field, and socio-economic life.

The second question stipulates whether the current law on insurance contracts has any limitations, especially concerning the current 2015 Civil Code – the primary law in the field of private law.

The third question is the limitations in the regulations on insurance contracts in the insurance business law, which direction should be completed to contribute to the sustainable development of the insurance business and the economy.

3. Results

3.1. The role of insurance, insurance contracts and legal regulations on insurance contracts in today's life as well as in the goal of sustainable development of the economy and society

As early as BC in Egypt, the fact that stone carvers knew how to set up a "mutual fund" to help victims of accidents showed recognition and encouragement to do "mutual assistance".", "risk-sharing" for social actors – especially those who do jobs that are dangerous to their lives, health, or property. That vision has opened up the birth and robust development of a highly diverse insurance field as it is today. Marine insurance considered the first systematic insurance business, laying the foundation for later insurance with the event that researchers found a policy issued in 1347 in Genoa, Italy[58]. Thus, insurance aims at risk-sharing and minimizing damage if an unfortunate event occurs in general economic life. As for the goal of sustainable development, insurance plays an even more critical role. Because, in order to develop sustainably, the subjects themselves must minimize the risks they have to bear. Therefore, insurance seems to be a pedestal right behind for the subjects to maintain their stability, avoid financial "squirrels, " and secure business development.

The basis for forming the insurance relationship between the insurance enterprise (the insurance service provider) and the customers (the insurance buyer) is the insurance contract. In other words, the insurance contract is the basis for the formation and performance of the insurance contract relationship, allowing the service provider to carry out insurance for its customers. Therefore, the implementation of insurance only really comes to life if the parties enter into an insurance contract.

For regulating social relations in a particular order, states must use law. Legal regulations are the basis for orienting social relations and the legal basis for dispute resolution (if any). Legal regulations on insurance in general and on insurance contracts, in particular, are the legal basis for regulating insurance contracts and insurance contract relationships. Therefore, if regulations on insurance contracts are appropriate, it will undoubtedly create a clear legal corridor and a basis for resolving arising disputes (if any).

At this time, as a member of many free trade agreements, of international trade treaties, and a member of the World Trade Organization, Vietnam legal provisions on insurance, insurance contracts, in particular, must not only conform to international commitments but also meet development trends in the world and socio-economic conditions. Regarding insurance and insurance contracts, to achieve the sustainable goal, the legal regulations for this issue must be flexible, suitable with the nature of social relations, the movement of the economy - the society in general. Therefore, finding out the limitations and perfecting the legal provisions for insurance contracts is also an essential need to ensure the

[58] Tlđd.

sustainability of the insurance contract relationship, the sustainable development sustainable for the insurance sector in particular and the economy - the society in general.

3.2. Fundamental limitations in the provisions on insurance contracts in the insurance business Law

Regulations governing insurance contracts arein the Law on Insurance Business. However, the insurance contract is a separate form of the general contract, so the insurance contract must also comply with the provisions of the current Civil Code. In Vietnam, the Law on Insurance Business No. 24/2000/QH10 passed by the 10th National Assembly on December 9, 2000, officially became a legal corridor for business activities and providing insurance services in Vietnam. Then, in 2010 and 2019, in response to the requirements of meeting the development of the insurance market and the context of Vietnam joining international organizations such as the World Trade Organization or participating in international trade agreements. With countries and regions worldwide, the 12th National Assembly and 14th National Assembly passed Laws amending and supplementing the Law on Insurance Business to make timely adjustments to suit practical requirements.

Regulations for insurance contracts are the foundation governing the insurance contract relationships between the insurer and the insurance buyer. Analysis of the provisions on insurance contracts in the Law on Insurance Business in 2000 and the amended and supplemented laws in 2010 and 2019, as well as comparison with the current Civil Code of 2015, can be seen, Insurance contracts have the following fundamental limitations:

First, the definition of an insurance contract. The definition recorded in Clause 1, Article 12 of the Law on Insurance Business has shown the nature of the agreement and the essential obligations of the two parties in the contract, but it also shows some incomplete points. Specifically: If the insurance enterprise and the insurance buyer have other agreements on the payment of insurance premiums or payment of compensation for damage, according to the nature of the contract, it must comply with the contents of the contract signed by the parties. Moreover, many contracts are entered into, but if the conditions for validity are not met as noted in Article 117 of the 2015 Civil Code, they will not have legal effect. In other words, a contract that is entered into is not necessarily legally valid, but a legally valid contract must, of course, be the contract that signed.

Second, the principles of insurance contracts have not been regulated. These principles govern throughout the process of negotiation, conclusion, implementation and termination of insurance contracts. Of course, insurance contracts also adhere to the principle of good faith and honesty. However, this principles in insurance contracts are even higher than that regular contracts because it is associated with insurance risks and even. Just incomplete and inaccurate information can misjudge the incident and lead to insurance fraud. In addition, several specific principles, such as the principle of subrogation, the principle of compensation, have not been recognized. The principle of subrogation is based on recognizing property right to be transferred by agreement or by law. The principle of indemnity is understood to be paid only according to the actual damage to avoid insurance fraud.

Third, the content of the insurance contract. In the provisions of Article 13 of the Law on Insurance Business, the principle that the content of a contract determined based on the parties' agreement has not been brought up first is not appropriate. Among the primary contents: (i) the absence of regulations on the adequate time of the insurance contract. It is crucial because there is a difference between signing the insurance contract and when the insurance liability arises. However, the recognition of the adequate time of the insurance contract is essential because it is related to the exercise of the rights and obligations of the parties, especially the obligation to pay the insurance premiums of the insurance buyers; (ii) should not identify "dispute settlement provisions" because this is the term agreed upon by the parties to resolve disputes if any arise. Therefore, it is not appropriate to call the dispute settlement regulations the same as legal regulations. At the same time, the content of dispute settlement can be noted on their principles, dispute settlement methods and legal consequences for dispute settlement. Moreover, the regulations as the current Law on Insurance Business are making a difference with the 2015 Civil Code when this Code names "dispute settlement method at point g, clause 2, Article 398 of the 2015 Civil Code"; (iii) The Law on Insurance Business has no provision on the term "liability for breach of contract". In fact, for an insurance company - a professional insurance service provider - the liability for a breach of contract or the insurance buyer when intentionally breaching an obligation should also be recognized. This responsibility must exist if we accept the principle of absolute honesty and goodwill. With any contract, goodwill and honesty are required, but in the insurance field, this principle seems to be more demanding, more absolute because it not only ensures the insurance role is promoted. Against the risks that occur in life, but also to ensure the stability of this field. The absence of this provision in the mandatory provisions of the insurance policy would be a significant omission; (iv) the content of the insurance contract in the Law on Insurance Business has not mentioned the "insured scope or interests". If the law does not recognize it, it will also reduce the law's orientation for negotiating and drafting contracts. It is a significant issue as it relates to the insurable value.

Fourth, the limitation on the regulation of the form of insurance contracts. The formality of transactions in general and contracts is currently being considered an issue that needs to be studied deeply because entering the 4.0 technology, if we only look at contracts in general and insurance contracts, we will not solve them. In particular, the three traditional forms of co-insurance, which are oral, written or behavioural, will be significantly entangled in the application process. More specifically, when the trend of electronic contracts is increasingly popular, the insurance industry certainly cannot stand aside from the trend. Many contracts do not even need a detailed agreement, but only basic terms such as civil liability insurance contracts. Forcing the subjects to enter into a written contract is not appropriate and unnecessary. Therefore, the current law regulation is rigid and will cause "frustration" if insurers want to change the form of contract. More importantly, it is inevitable that in order to conclude an electronic contract, the content of this contract itself must also be registered by the insurance enterprise as a model contract and approved by a competent state agency. Therefore, to avoid the "lagging" of the legal regulations, the provisions of the law need to have reasonable anticipation for future trends.

Fifth, limitations in the provisions on the time of signing and the adequate time of the insurance contract. Currently, the Law on Insurance Business has no regulations on entering into a contract and the adequate time of an insurance contract. Meanwhile, the time of signing has great significance in determining the legality of the contract. The adequate time of the insurance contract is meaningful in determining the time when the parties must comply with their rights and obligations to the other party.

Sixth, limitation in regulations on providing information of insurance buyer and responsibility due to the breach of the obligation to provide information. The Law on Insurance Business has the following limitations: (i) it is necessary to identify the obligation or responsibility in providing information correctly. The obligation is the conduct that the subject must perform. Liability refers to the adverse legal consequences if there is a breach of the obligation. Therefore, correct naming should be an obligation to provide information and liability if this obligation is breached; (ii) the policyholder has not been given a specific obligation to provide information. The obligations are to provide personal information, health status, information of the insured or insured property or other information. When this obligation has not been recognized, it will be challenging to handle the consequences of this incorrect information; (iii) no specific record of liability, especially the issue of compensation for damage caused by a breach of the insurance buyer's obligation to provide information.

Seventh, limitations in the regulation on providing information of insurers and liability due to breach of the obligation to provide information. The content includes: (i) the name of the law is not accurate with the true nature of the regulation. The term "responsibility" is used for a variety of insurers' obligations in providing information. Meanwhile, "responsibility" must be understood as the party's adverse legal consequences who violate the obligation. Therefore, there must be an accurate separation of obligations and responsibilities of insurance enterprises in providing information to insurance buyers; (ii) it is necessary to supplement the responsibility of the insurance enterprise if the insurance buyer violates the information security obligation of the insurance buyer; (iii) cases where the insurer is liable due to incomplete or unclear information provided by the insurance buyer due to its fault. It is necessary because of the insurance business.

Eighth, limitation in the interpretation of insurance contracts. In the provisions of Article 21 of the Law on Insurance Business, there is only one orientation for the interpretation of insurance contracts, which is in favour of the insurance buyer. The Law on Insurance Business also does not show a relationship with the principle of contract interpretation in the current Civil Code or other law sources such as custom.

Ninth, limitations for instituting an insurance contract. The provisions of Article 30 of the Law on Insurance Business do not have any logic with the Civil Code 2015. In Article 429 of the Civil Code of 2015 stipulating the "*time limit for initiating lawsuits on contracts*", it is noted: The statute of limitations for initiating a lawsuit to request a court to settle a contract dispute is 03 years from the date the person entitled to claim knows or should know that his/her lawful rights and interests have been infringed. The provisions of the current Civil Code 2015 on the statute of limitations for initiating lawsuits clearly show that respect and guarantee for the party whose rights and interests are infringed can request the Court to protect their rights and interests. its benefits. When the subject knows his rights and interests are infringed, he can calculate the statute of limitations for initiating a lawsuit. Only then, the subject can consider whether or not to ask the Court to protect his/her legitimate rights and interests (i.e., ensure the voluntary element in entering into and performing the contract).

Tenth, limitations in regulations on the insurance contract form. In the 2015 Civil Code, there is a contract record according to the form in Article 405. With such a provision, the Law on Insurance Business has the following limitations: (i) Co-insurance is a type of contract that is mainly signed according to the content of the model contract that the insurance enterprise offers to the customers. The insurance enterprise is not only the subject of contract drafting but also has to carry out the procedures for registering the contract according to the form at the competent state agency (usually the Ministry of Industry and Trade);

(ii) Model insurance contracts often have long content and many terms, so customers (insurance buyers) cannot always fully and accurately understand the content of each article and clause of the contract, including the case where the insurance enterprise (usually an insurance broker) explains to the customer. If there is no specific recognition, the policyholder may have to bear adverse consequences if a dispute arises.

Eleventh, limitations in regulations on general transaction conditions in the conclusion of insurance contracts. The absence of these provisions in the Law on Insurance Business leads to the following limitations: (i) the insurance sector itself in the field in which insurers regularly have programs to apply to customers who are policyholders in specific periods. Many promotions, incentives are announced to attract insurance buyers. Therefore, when customers decide to enter into insurance contracts, they can rely on these promotions and incentive programs; (ii) Lacking synchronization with the current Civil Code. In the 2015 BDLS, the general transaction conditions in entering into a contract are recorded in Article 406. In this law, the legislator recognizes the general trading conditions, the application effect and the requirements for the general trading conditions. The recognition of general trading conditions in the current context is inevitable when the market economy develops strongly. There are regularly announced product supply programs between goods suppliers and service providers. Public policies are the reason for attracting customers to come, and of course, if the contract is concluded, the published contents must be considered part of the contract content. That is the only way to ensure the interests of customers and guarantees from suppliers.

3.3. Specific recommendations to improve the law on insurance contracts towards the goal of sustainable development

Based on the limitations mentioned above, especially before the requirement to perfect the law to ensure the sustainable development of the insurance sector, the stability in the implementation of insurance contracts, the legal provisions on The contract is completed in the direction of ensuring the following requirements: First, ensuring the principles of the contract in general. The principle throughout the adjustment of a contract from the stage of establishment, performance to termination of the contract must be the principle: free will, voluntariness, respect for agreement[59]. When these principles apply throughout, they will directly govern the self-determination and voluntary rights of the parties from the negotiation stage, contract signing, contract performance (especially the right to amend, contract supplements) until contract termination (especially when you want to terminate the contract, cancel the contract unilaterally); Second, respect and ensure maximum freedom of agreement and free will of the subject parties. This content is an inevitable consequence of noting the principles as mentioned above. However, when included in the law, it must be concretized, such as the right to be offered to enter into a contract, adjust the proposal's contents to enter into a contract, and request a risk warning obligation to explain the agreement appropriately. The concretization of rights will be the legal basis for performing obligations to ensure the rights of the subject parties; Third, respect and ensure the confidentiality of information, personal secrets and family secrets of subjects. The recognition in 2013 amended and supplemented Constitution recognizes human rights, fundamental rights and obligations of citizens, and then basic personal rights in the 2015 Civil Code all show civil rights. Fundamental human rights must be recognized and guaranteed in any contract, including insurance contracts. Therefore, these rights must be recognized explicitly in the Law on Insurance Business to create a cross-cutting legal mechanism to ensure the implementation of the rights as mentioned above. In the current Law on Insurance Business, there may be provisions but not fully or not yet specified the number of fundamental rights such as the right to provide information, the right to warn risks from the insurer.

4. Discussion and Conclusion

The specific direction of completion of the contract provisions should be specified as follows:

[59] Nguyên tắc Pacta sunt Servanda được coi là nguyên tắc lâu đời trong pháp luật quốc tế. Nguyên tắc này thực chất là nguyên tắc dành cho pháp luật quốc tế trong đó bao hàm hai nội dung cơ bản: (i) các điều ước quốc tế có hiệu lực ràng buộc và (ii) các bên có nghĩa vụ phải thực thi các điều ước đó một cách thiện chí. Với nội hàm này có nguyên tắc thiện chí (good faith). Nhưng nguồn gốc của nguyên tắc này có từ thời Luật La Mã và nó chứa đựng nguyên tắc là “những điều ước giao ước thì cần phải được giữ”. Chính vì lẽ đó, khi áp vào hợp đồng, nếu các bên thống nhất giao kết hợp đồng thì phải có sự thiện chí, trung thực để thực hiện những gì mình cam kết. Từ đó dẫn đến hệ quả, nếu các bên không tôn trọng những điều ước của mình thì đương nhiên cũng phải gánh chịu các hậu quả nhất định (trách nhiệm pháp lý mang tính bất lợi) cho bên vi phạm. (Nguồn: https://iuscogens-vie.org/2018/09/09/96-nguyen-tac-pacta-sunt-servanda/, ngày truy cập 30/4/2021).

First, it is proposed to complete the definition of an insurance contract. Accordingly, the insurance contract needs to emphasize the rights and obligations that must be performed according to the legally enforceable contract content. Therefore, the definition of an insurance contract can be adjusted as follows: *An insurance contract is an agreement between an insurance buyer and an insurance enterprise, whereby the insurance buyer must pay a premium, and the insurance enterprise must pay insurance money. The insurer must pay the insurance premium to the beneficiary or indemnify the insured according to the legally enforceable contract*.

Second, to develop principles in the establishment, conclusion, performance and termination of insurance contracts. This principle should include the following specific principles: (i) The principle of absolute honesty. This principle is understood that all information must be provided fully and accurately based on the parties' request. This principle also includes the content of providing risk warnings from insurers or providing information related to difficulties in contract performance. In English, this principle is known as "Utmost Good Faith" and is commonly prescribed in the insurance industry. This principle emphasizes aspects such as the insurance enterprise must be honest, disclose the signed insurance contract, and the insurance buyer must declare the risk to calculate the appropriate premium[60]; (ii) The principle of insurable interest. The insurance buyer must always be the one with the insured interest for avoiding insurance profiteering. This principle is always insured. There must be a close financial relationship between the insured and the insured, and this relationship must be recognized by law; (iii) Compensation principles [61] means restoring the original financial status of the participant/insured as before the damage occurred. The insurer can apply compensation forms such as repair, replace, restore or even pay with cash. Of course, in this principle, the insurer limits the insurance amount based on the premium paid by the buyer; (iv) Nguyên tắc thế quyền[62] The principle of subrogation means that the insurer has the right to claim against a third party after completing the indemnification for the insured if this third party is the person responsible for indemnification; (v) The principle of direct cause means that the insured event must be the direct cause of the damage, occur in practice and be the direct cause of the insurable damage[63].

Third, the content of the insurance contract needs to be completed in a specific direction: (i) put the clause "the parties agree on the contract's content" as the first clause of

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[60] Minh Lan, Nguyên tắc trung thực tuyệt đối tại đường link: https://vietnambiz.vn/nguyen-tac-trung-thuc-tuyet-doi-utmost-good-faith-trong-bao-hiem-la-gi-20190929144406928.htm, truy cập ngày 15/5/2021.

61 Thanh Tùng, Nguyên tắc bồi thường (Indemnity) trong bảo hiểm gì, tại đường link: https://vietnambiz.vn/nguyen-tac-boi-thuong-indemnity-la-gi-20191128120943356.htm, truy cập ngày 15/5/2021.

62 Thanh Tùng, Nguyên tắc thế quyền (principle of subrogation) trong bảo hiểm là gì, tại đường link: https://vietnambiz.vn/nguyen-tac-the-quyen-principle-of-subrogation-trong-bao-hiem-la-gi-20191128164945482.htm, truy cập ngày 15/5/2021.

63 Bài tham khảo "6 nguyên tắc bảo hiểm không phải ai cũng biết" đăng trên đường link: https://thebank.vn/blog/17832-6-nguyen-tac-bao-hiem-khong-phai-ai-cung-biet.html, truy cập ngày 15/5/2021

the Article of "insurance contract content"; (ii) add the value of the insured property to point b, clause 2 of the Law, next to the insured object; (iii) supplementing the effective date of the insurance contract; (iv) change the term from dispute settlement provisions to "dispute settlement method"; and (vi) Add provisions on liability for breach of contract. When the provisions on contract content follow this direction, it will ensure orientation for the parties to negotiate and draft contracts. Insurers, when drafting a model contract, must also comply with these primary contents. The insurance buyer also relies on the provisions of the law to review the model contract offered by the insurer.

Fourth, propose to improve the form of insurance contracts. Regulations on this issue should be completed in the following way: It is unnecessary to prescribe the mandatory form for insurance contracts. The 2015 Civil Code itself also removes the provisions on the form of contracts and provides separate provisions for separate contracts if necessary. Therefore, even in insurance contracts, if any contract is significant and necessary, such as a contract with human subjects, a property insurance contract should be mandatory for the form. A civil liability contract is not necessary or reserved only for specific categories in this group.

Fifth, perfect the regulations on the time of signing and the adequate time of the insurance contract. The Law on Insurance Business needs to stipulate the time of entering into the contract and the adequate time of the insurance contract. Construction content should ensure consistency with the provisions of the Civil Code 2015 and the unique nature of the insurance sector. It concludes: (i) The date of signing should be recorded as the time when the last party signs the contract. In a separate case, where the buyer has an insurance application, the time of signing is when the insurance enterprise accepts this application; (ii) The effective date of the insurance contract. This time should be the time of signing unless otherwise agreed by the parties or provided for by law. When the insurance liability arises, the insurance buyer fulfils the obligation to pay the premium unless otherwise agreed by the parties..

The specific recording of the time of signing and the effective date of the insurance contract will make it easier for the parties to enter into the contract. Moreover, it will also create a legal basis for dispute resolution on this issue if it is recognised.

Sixth, recommendations to improve the regulations on the obligation to provide information of the insurance buyer and the responsibility for breach of the obligation to provide information. The Law on Insurance Business needs to supplement the obligation to provide information and liability due to a breach of the obligation to provide information. This completion focuses on the following aspects: (i) The name of the article is "*the obligation to provide information and the responsibility for breach of the insurance buyer's obligation to provide information*" to ensure the complete and correct regulation.; (ii) The insurance buyer's obligation to provide information should emphasize the following issues: One, confirming the insurance buyer's obligation to provide information is mandatory; Second, the principle of providing the information is entirely truthful and complete, especially information that may affect the process of insurance contract performance.; (iii)

Particular requirements on the provision of information by the insurer to the insurance buyer such as the form of request, settlement of legal consequences if the provision is incomplete or not provided or the information is not provided correctly. believe (false information).

Seventh, a proposal to improve the insurance company's obligation to provide information and the responsibility for breaching the obligation to provide information. Similar to the sixth recommendation, with this content, provisions of the Law on Insurance Business need to focus on the following aspects:: (i) The name of the article must be adjusted to its true nature is entitled "*obligation to provide information and responsibility for breach of the obligation to provide insurers' information*". Lawmakers must separate the statutory obligation to provide information and the responsibility due to the breach of the obligation to this subject; (ii) fundamental issues for insurers in providing information such as requirements for information disclosure, terms of their insurance services, explanation of contents not yet understood by the insurance buyer or do not understand; (iii) obligation to warn of possible risks based on experience in providing insurance services.

Eighth, it is recommended to improve regulations on the interpretation of insurance contracts. This regulation needs to be completed with the following aspects: (i) We must develop principles for interpreting insurance contracts comprehensively, especially ensuring a consistent relationship with the logic in the current Civil Code.; (ii) We must see the special in explaining the insurance contract because this is a model contract given by the insurer to the insurance buyer. Therefore, the information asymmetry between the two parties certainly exists. Therefore, there must be a priority for the insurance buyer; (iii) The insurance industry has the peculiarity of being long-standing and having many customs, so it is necessary to consider custom as a source to explain and explain disputes in terms and contents of insurance contracts.

Ninth, we complete regulations on the statute of limitations for initiating lawsuits on insurance contracts. The Law on Insurance Business should be completed in a way that is consistent with the current 2015 Civil Code. Accordingly, the law should record a statute of limitations of 3 years from when the subjects know their legitimate rights and interests have been infringed to initiate a lawsuit to a competent Court to request settlement. The statute of limitations of 3 years from the time the dispute arises is no longer appropriate.

Tenth, to complete regulations on insurance contracts according to the form. If the Law on Insurance Business does not record a model contract for the insurance sector, there will be no legal basis to regulate this issue. Model insurance contract can be recorded with the following contents: (i) The name of the article is “model insurance contract”; (ii) To develop the concept of "model insurance contract" to identify this type of contract. The model insurance contract is understood as a contract containing terms and conditions set forth by the insurance enterprise for the insurance buyer to reply and accept the contract within a certain period. If the insurance buyer replies that he accepts the conclusion of the contract, the insurance contract shall be concluded according to the entire contents set forth by the insurance enterprise.; (iii)

To develop principles applicable to model insurance contracts, especially the principle of publicity. The insurance enterprise must disclose the insurance contract to the insurance buyer. The insurance enterprise is obliged to clearly explain the insurance contract's content to the insurance buyer.; (iv) The insurance enterprise must register the insurance contract according to the form according to the order and publicity. An insurance enterprise must formulate the contents of an insurance contract and register it at a competent state agency by the order, procedures and publicity; and (v) If an insurance contract contains a clause that exempts the insurer from liability, grants liability or removes legitimate interests of the insurance buyer, this provision shall not take effect unless otherwise agreed by the parties.

Eleventh, to complete regulations on general transaction conditions in the conclusion of insurance contracts. The insurance sector needs to be aware of the general transaction conditions in the conclusion of an insurance contract. Regulation on this issue should focus on the following aspects: (i) The article's name needs to be affirmed as "general transaction conditions in entering into insurance contracts" to be consistent with the Law on Insurance Business and have different regulations suitable for the insurance field; (ii) To regulate on identifying characteristics of general transaction conditions in the conclusion of insurance contracts. These conditions must include publicity, transparency, terms containing the rights and obligations of the parties if entering into an insurance contract.

Completing the regulations on insurance contracts in the Law on Insurance Business will be one of the prerequisites that directly affect the stable development of the insurance industry and insurance business. Therefore, this is considered an essential fundamental task for Vietnamese legislators in the current period.

5. References

1. Luật Kinh doanh bảo hiểm.
2. Bộ luật Dân sự năm 2015.
3. https://iuscogens-vie.org/2018/09/09/96-nguyen-tac-pacta-sunt-servanda.
4. Minh Lan, Nguyên tắc trung thực tuyệt đối tại đường link: https://vietnambiz.vn/nguyen-tac-trung-thuc-tuyet-doi-utmost-good-faith-trong-bao-hiem-la-gi-20190929144406928.htm, truy cập ngày 15/5/2021.
5. Thanh Tùng, Nguyên tắc bồi thường (Indemnity) trong bảo hiểm gì, tại đường link: https://vietnambiz.vn/nguyen-tac-boi-thuong-indemnity-la-gi-20191128120943356.htm, truy cập ngày 15/5/2021.
6. Thanh Tùng, Nguyên tắc thế quyền (principle of subrogation) trong bảo hiểm là gì, tại đường link: https://vietnambiz.vn/nguyen-tac-the-quyen-principle-of-subrogation-trong-bao-hiem-la-gi-20191128164945482.htm, truy cập ngày 15/5/2021.

MULTI-TIERED SOCIAL INSURANCE MODEL - ISSUES RAISED IN THE REFORM OF SOCIAL INSURANCE POLICIES

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Abstract

The article studies the current situation of Vietnam social insurance system, also the challenges and requirements for reforming the social insurance system towards the goal of social security for the entire population. On that basis, the article recommends converting from a multi-pillared social insurance model to a multi-tiered pension insurance model: the first tier focuses on expanding the participants to informal workers, farmers, people outside labour force who do not have regular income; the second tier is compulsory social insurance which applies to employees with labor contracts; the third tier is voluntary social insurance which is applicable to specific occupations, high-income workers, and voluntary contributions to get increased pension benefits.

Keywords: *Multi-pillared Social Insurance, Multi-tier Pension Insurance, Social security*

1. Introduction

The current social insurance system in Vietnam is formed under the model of "multi-pillared social insurance system". The design of the multi-pillar system has played a role in promoting the participation of formal groups in social insurance. However, the main limitation of this model is that it excludes a singnificant number of rural and informal workers who do not participate in voluntary social insurance. Thus the goal of ensuring income and stabilizing living standard for these groups still faces many difficulties, then affecting the goal of ensuring social security for the entire population.

In that context, Vietnam government is orienting to build a multi-tier social insurance model to replace the multi-pillared social insurance model.

In the Resolution No. 28-NQ/TW issued by the 7th plenum of the 12th Party Central Committee on reforming social insurance policies, it also clearly stated the viewpoints and goals are "Developing a flexible, diversified, multi-tiered social insurance system …" So, what is multi-tiered social insurance? What tiers does this model include? What are the principles and conditions required to build a multi-tiered social insurance model?

The article studies the limitations of the multi-pillared social insurance model, simultaneously based on the experience of implementing multi-tiered social insurance in order to propose orientations, model suggestions and conditions for forming multi-tiered social insurance system in Vietnam. When studying the social insurance model, the most important regime which accounts for the largest proportion and has considerable influence on social insurance is the pension scheme, therefore, the article focuses on studying the multi-tiered pension insurance model.

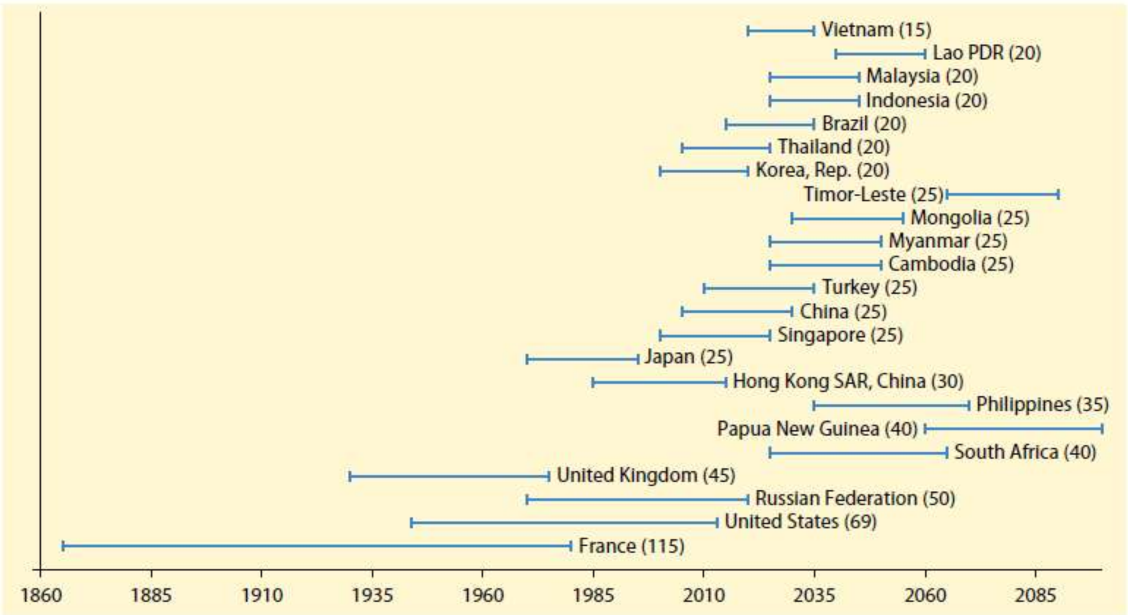
2. Content

2.1. Limiations of multil – pillared social insurance system in Vietnam

The current social insurance system in Vietnam is built based on the model of "Multi-pillared social insurance", including (1) Social allowance for the elderly (Pillar 2), (2) Compulsory social insurance including pension and free health insurance card for pensioners (Pillar 1 and Pillar 4) and (3) Voluntary supplementary retirement insurance/ voluntary retirement Insurance (Pillar 3). Under this model, Vietnam's social insurance is facing a number of challenges, such as:

Rapid population aging: Vietnam is entering a period of rapid population restructuring and has a very fast aging rate when comparing to other countries. Specifically, the time required to move from the "aging phase" to the "aged phase" is much shorter in Vietnam than in other countries. For this change, Vietnam will need only 18 years, while France needs 115 years, the US needs 69 years, Japan and China need 26 years (WB, 2015). In 2015, the ratio of working age population (15-59 years old) to the elderly (over 60 years old) was 6.6:1, then it is forecasted that by 2055, this ratio will be 2.1:1. This movement becomes a challenge for Vietnam and certainly requires significant adjustment of the pension system.

Years to move from 7 to 14 percent population share 65 years and older and the start and end years of transition



Sources: World Bank estimates based on data from UN 2013 and Kinsella and He 2009.
Note: Figure shows starting and ending year for transition from 7 percent (aging) to 14 percent (aged) of population ages 65 and older. Aging and aged thresholds are based on United Nations definitions. East Asia and Pacific economies rounded to five-year increments.

Figure 1. Population aging rate in Vietnam

Demographic trends require expanding retirement coverage: Increasing life expectancy and falling birth rates will increase the number of older people who need adequate protection in old age. The risks of the working-age population are "stuck" between caring for their children and their parents, also facing the increasing financial burden of caring for three generations: their children, themselves, and their parents. This burden is exacerbated because there are fewer people of working age and fewer siblings to share the growing burden of caring for aging parents.

Coverage expansion remains challenging: Despite expanding legal coverage (from January 1, 2018, all workers with a contract of 1 month or more are required to register in the social insurance system, including migrant workers in Vietnam), the number of pensioners is still low. In 2017, only 25.1% of workforce paid social insurance contributions; and about 8.3 million of the 10.1 million elderlies were not entitled to a pension in, accounting for 83% of the total population who are over 60 years old. (ILO, 2018b).

The voluntary pension scheme has worked ineffectively in closing the coverage gap. The voluntary social insurance system aims to attract workers who are not required to participate, but so far this mechanism has only reached about 270,000 people in 2015 - equivalent to about 1.3% of 53,673 thousand labor force (ILO, 2018b). The experience of Vietnam as well as other countries shows the limited effectiveness of voluntary mechanisms in expanding coverage because these programs reach only a small number of workers.

A small number of elderly people are getting low pension benefits from tax source. The subsidy is currently at 5.6% of GDP per capita and among the lowest compared to other middle-income countries. The low benefit may explain the high poverty rate of people over 80 years old even when they are entitled to social pension. Furthermore, only 95,000 people aged 60-70 who live in poor households without supporters are getting pension benefit at 405,000 VND/month (Kidd et al., 2016).

The increase in participants with lump- sum withdrawal affects negatively on the expansion of social insurance coverage. Those who stop paying social insurance contributions for a period of at least one year and have not reached 20 years of contribution are allowed to withdraw. However, a lump –sum withdrawal will affect the old age income security. The number of these participants is approximately 500,000 people per year, and this number is relatively high compared to the number of people receiving monthly pension. Additionally, most young workers tend to receive lump-sum payment, thus it will impact heavily on their old-age income security.

2.2. Multil – pillared social insurance model

In order to deal with the coverage challenges, the Vietnam Government aims to gradually close the coverage gap by combining contributors and non-contributors in multi-tiered social insurance system. The solution is developing a mechanism based on the principle of pension verification to cover all elderly who are not currently receiving pensions from the contribution system. These reforming measures demonstrate Government's strong commitment to universal social security, linked to a number of key values in line with ILO Social Security’s Conventions and Recommendations.

Currently, there is no unified concept of multi-tiered social insurance. Many countries have pursued an expanded coverage approach based on a multi-tiered pension system that typically includes a tax-funded pension tier, an income-based compulsory pension tier and an additional pension tier.

The first tier of the system is usually supported by the Government from public revenue sources to ensure basic old-age security for citizens. This approach has been proven to be one of the most effective ways to expand coverage in the short and medium term, including for those who have not accumulated a sufficient number of years of contributions or who have made no contributions at all. The 2nd tier is a defined – benefit mechanism (DB) that gets financial resources from pay as you go (PAYGO) or partial funding, similar to the current system of Vietnam Social Security. Finally, Tier 3 is usually the supplementary pension, with defined - contribution (DC) which allows people to get higher retirement rates.

Tier 1: Retirement benefits are taken from tax sources

Tier 1 aims to ensure everyone with a minimum income in retirement through a pension derived from tax sources. This is fully consistent with the ILO Social Protection Floor Recommendations. This benefit is particularly relevant for those who have little or no ability to contribute to pension scheme while working, including those with low and irregular incomes, informal and agricultural workers. Each country can choose to design its policy under the following three models: (1) Basic pension, (2) Social pension based on income verification or (3) Minimum pension.

Resolution 28-NQ/TW of Government dated issue 25/03/2018 stated that by expanding coverage, all people who do not receive a social pension will get a tax-funded retirement. It also sets targets to increase coverage by the years 2021, 2025 and 2030, where 45%, 55% and 65% of people above the normal retirement age are entitled to pension scheme, monthly social insurance and social allowance , respectively.

Tier 2: *Compulsory social insurance.*

The tax-funded program (tier 1) is aimed at poverty reduction and redistribution of the pension system, but it lacks the function of stabilizing income. The compulsory pension scheme (tier 2) is sourced from contributory sources to ensure adequate benefits for a large segment of workers, including the middle class. According to ILO standards, this tier must be designed in the form of defined - benefit (DB) managed by the state. Convention No. 102 sets a minimum replacement rate of 40% of lifetime income (after 30 years of contributions) along with Tier 1. ILO's Convention No. 128 sets higher standards that requiring a periodical payment, corresponding to at least 45% of the reference wage.

Tier 3: *Additional Private Retirement*

The occupational pension or other voluntary private pension that constitutes Tier 3 has a limited role in Asian countries as only a small number of people are able to contribute. These individual retirement plans provide a supplementary superannuation in addition to the compulsory retirement for those who want a higher rate of pension.

3. Results

Under the above model, there is a multi-tiered pension system in Vietnam, specifically:

- Tier 1: Social pension is based on income verification. Particularly, Decree No. 136 /2013/ND-CP is about social allowance policy for the elderly (aged 80+/60+ and the poor/60+ and disabled person). Furthermore, it is possible to add a monthly preferential allowance for people who are credited with meritorious services to the revolution.

- Tier 2: Compulsory social insurance implemented by Vietnam Social Security. Currently, there are about 14.5 million people participating in compulsory social insurance. About 1.7 million people are receiving monthly pension and social insurance from the social insurance fund and 1.3 million people are receiving monthly pension and social insurance from the state budget (retired before 1995).

- Tier 3 includes: (1) Supplemental retirement insurance according to Decree No. 88/2016/ND-CP issued by Ministry of Finance. However, it currently has not attracted participants. (2) Voluntary retirement insurance products according to Circular No. 115/2013/TT-BTC and Circular No. 150/TT-BTC issued by Ministry of Finance.

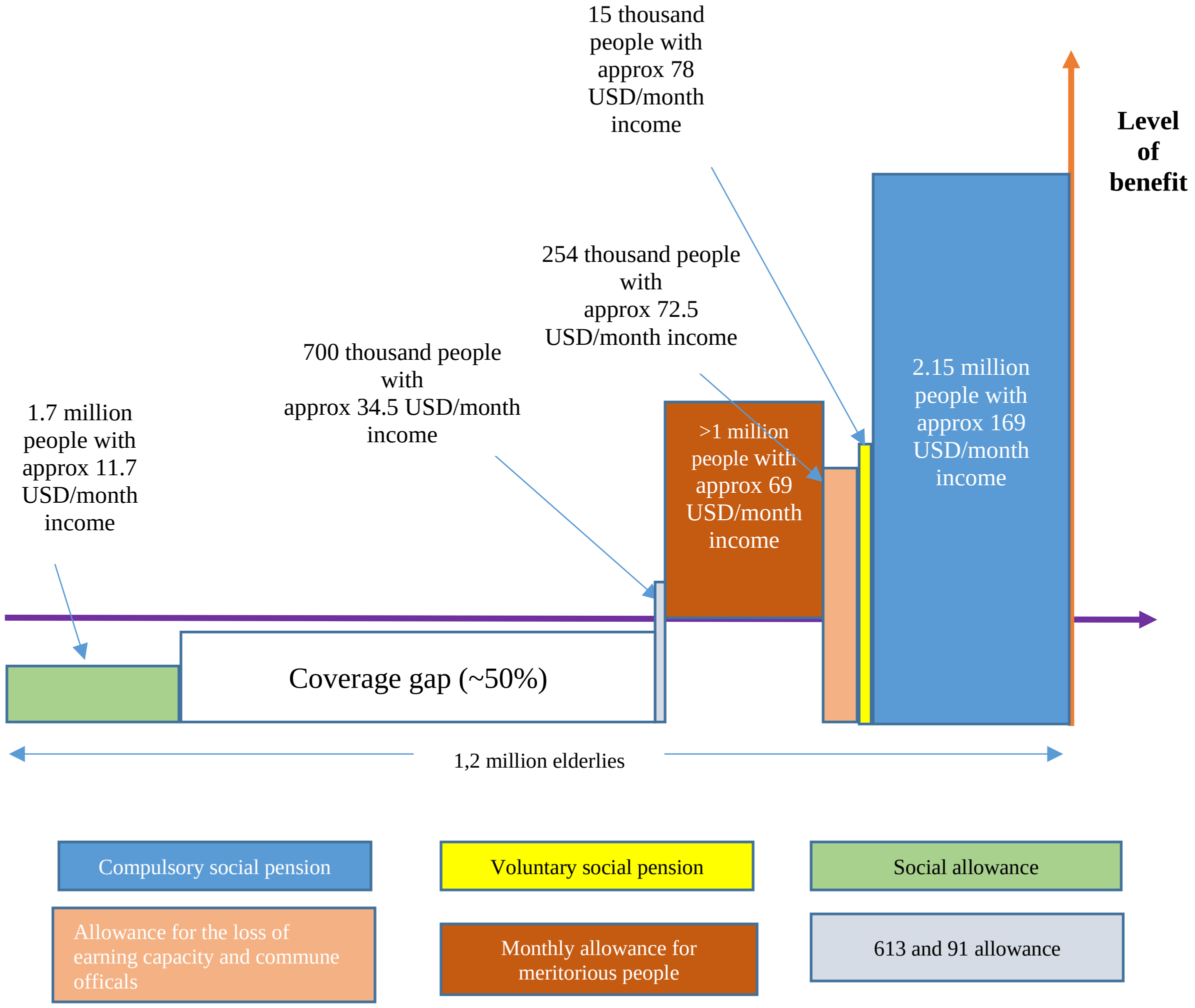


Figure 2: Rate of elderly receiving pensions

Presently, only about 47% of elderly have monthly pensions, social insurance, social allowances and preferential allowances for those with meritorious services.

In order to set up a multi-tiered model for Vietnam social insurance which contains different methods dealing with risks and resources needed to ensure people's health and income.

It can be divided into three groups: children, the workforce and the elderly from a demographic perspective. In which, the labor force is the force that creates material wealth, mainly contributes resources (both taxes and social insurance contributions) to ensure social security for themselves (illness, maternity, unemployment, occupational accidents - occupational diseases), as well as for their children (nutrition, education, medical care...) and their parents (income, medical care). Thus, the system should encourage employees to improve labor productivity, actively contribute to social insurance and savings to take care of their old age; encourage the elderly to partially participate in the production process with suitable jobs to generate additional income; creating conditions for children to have good nutrition, good medical care, good education and training.

Social security policies should be formed under a general and human-centered design. Social security policies should be diverse but not overlapping. Social security policy is designed based on the risks that each person may face. In order to help people overcome their life risks, only one social security policy (single tier) or multiple social security policies (multi - tier) may be needed. For example, an elderly person can have 3 sources of pension: (i) social protection allowance; (ii) social insurance pension and (iii) supplementary pension/ pension from voluntary retirement schemes. A woman giving birth can receive two financial sources: (i) the maternity benefit of the compulsory social insurance and (ii) the payment when giving birth from a life insurance product. A sick worker migh be paid (i) medical expenses from the health insurance fund and (ii) sick benefits from the social insurance fund.

4. Discussion and Conclussion

In the future, social insurance policy should be designed to reach 100% of elderly people having a pension with the following notes:

- Formalizing informal jobs to increase the percentage of employees participating in social insurance, thereby increasing the number of elderly people receiving social insurance pensions (tier 2). The minimum contribution conditions to receive monthly pensions should be reduced to 10-15 years instead of the current 20 years (Korea 10 years, Indonesia 15 years) to encourage employees to join, lower lump-sum withdrawal.

- Encouraging people to participate in other types of insurance in tier 3 so they can also get an additional (higher) pension benefits in.

- Gradually lowering the age of receiving pension allowance from 80 to retirement age according to the labor law and the law on social insurance (65 years old), thus, hose who have no opportunity or cannot participate in social insurance will be supported with basic/minimum pension.

- Separating the contributions of employees and employers into 2 funds. The employer's contribution (14%) is formed into the Paygo-DB fund, which is a risk-sharing fund that demonstrates the nature of insurance. The purpose is promoting employees with monthly pensions, so it is not allowed for employees to withdraw lump-sum pensions, and shortening the period for minimum pension payment to 15 years, then 10 years.

The employee's contribution (8%) should be put into an account and managed under the DC fund. This is not a risk-sharing fund but only for the savings of the employees. If employees pay more, they will benefit more and vice versa

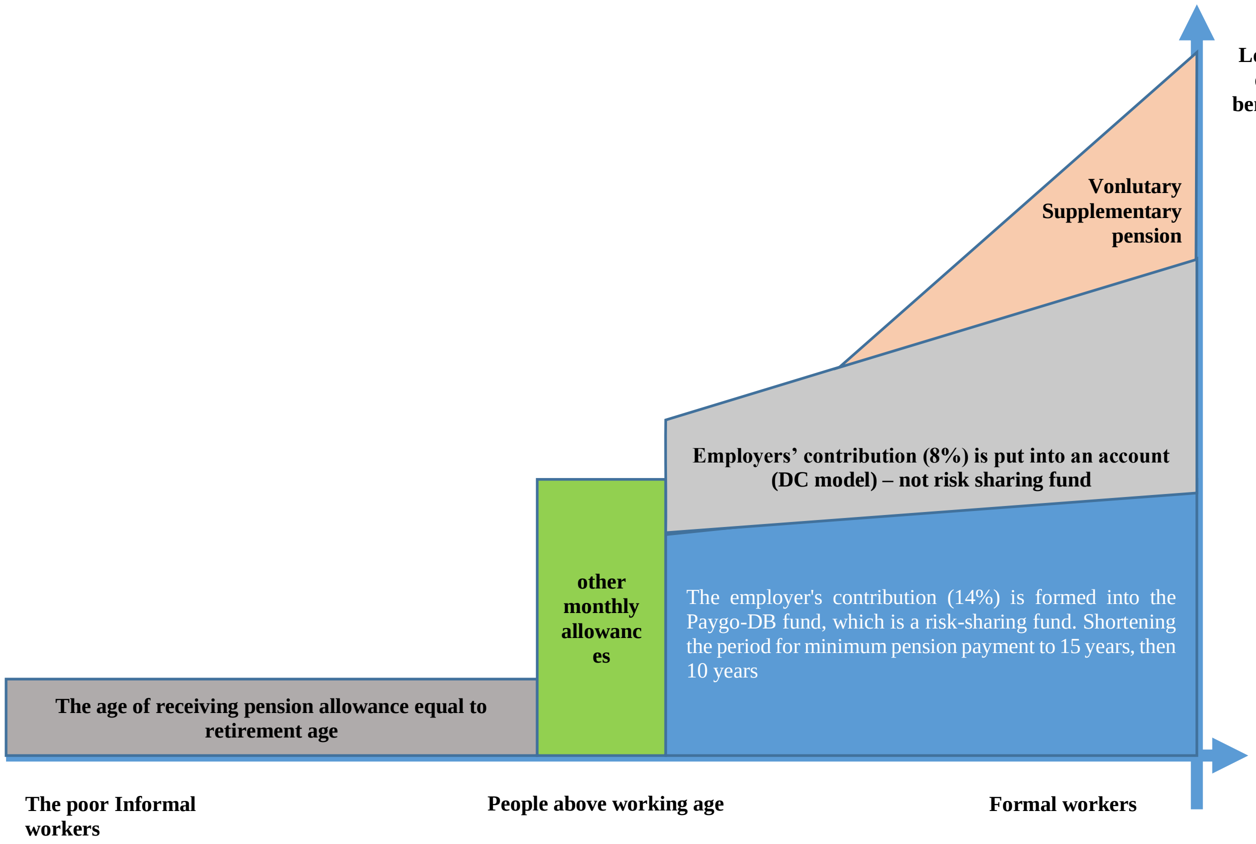


Figure 3: Multi – tiered pension model in Vietnam

The employer's contribution (14%) is formed into the Paygo-DB fund, which is a risk-sharing fund. Shortening the period for minimum pension payment to 15 years, then 10 years

5. References

1. Cling, J. et al, 2010. *The Informal Sector in Vietnam: A focus on Hanoi and Ho Chi Minh City*, Thế Giới Editions, Hanoi.

2. Dorfman, M. et al, 2012, *China's Pension Schemes for Rural and Urban Residents*, in Matching Contributions for Pensions, The World Bank, [viewed 20/05/2021]. Available from: http://dx.doi.org/10.1596/9780821394922_CH11.

3. Hateley, L. and G. Tan (2003), The greying of Asia: causes and consequences of rapid ageing in Asia, astern Universities Press, Singapore, [viewed 20/05/2021]. Available from: http://www.nlb.gov.sg/biblio/

4. Huong, N.T.L and Cuong, M. N., 2017, *Develong multi – tiered to implement universal social insurance: experiences from some countries and recommendations for Vietnam,* Economic & Development Magazine, No 251, May 2018

5. Kidd, S., Abu-el-Haj, T., Khondker, B., Watson, C., Ramkissoon, S., 2016. *Social Assistance in Viet Nam: A review and proposals for reform. MOLISA and UNDP*, Hanoi.

6. LIO, 2018. *Vietnam - Report to the Government: Actuarial valuation as at 31 December 2015 of long-term benefits administered by the Viet Nam Social Security Organization,* Geneva.

7. MoLISA/UNDP (2016), Social assistance in Viet Nam: Review and proposals for reform, Ministry of Labour, Invalids and Social Affairs, United Nations Development Programme in Viet Nam, [viewed 20/05/2021]. Available from: http://www.vn.undp.org/content/vietnam/en/home/library/poverty/social- assistance-in-viet-nam.html

8. World Bank, 2015. *Live long and prosper? Aging in East Asia Pacific,* Washington D.C.

SESSION 7:

SOCIAL AND HUMANITIES ISSUES

FACTORS AFFECTING TO WORK MOTIVATION OF ENGLISH LECTURERS IN FACULTY OF FOREIGN LANGUAGES AT NATIONAL ECONOMICS UNIVERSITY, HANOI, VIETNAM

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Abtract:

From the fact that there is a decrease in labor motivation among English lecturers at a non-language major university - National Economics University (NEU), the author has studied some factors affecting to their labor motivation. through conducting exploratory research with the aim of (i) narrowing and clearly identifying the motivating factors for English teachers in the Faculty of Foreign Languages, NEU, and (ii) exploring responses, attitudes, opinions of officials, managers, as well as experts on research issues and questions, for timely adjusting before conducting official research. From the research model with 7 main groups of factors, 43 explanatory and dependent variables, the author has used a technique to remove the variables that increase Cronbach Alpha value. On the basis of the exploratory factors analysis (EFA) for the independent and dependent variables, the author has compiled research results from all English teachers (58 people) who are teaching in the Faculty of Foreign Languages. - NEU and interviewed some experts in the field of human resources, to draw out 9 specific factors that affect the labor motivation of English language teachers. Stemming from these 9 specific factors, the author proposes groups of specific solutions to increase labor motivation for English lecturers of the Faculty of Foreign Languages in Economics - National Economics University.

Keyword: *Motivation; Motivating Factors; English Lecturers*

1. Introduction

Recently the National Economics University (NEU) in general and the faculty of foreign languages in particular has been facing a problem of reducing number of English classes. This reduction de-motivates English lecturers in the faculty of foreign languages much because it directly affects income of these teachers who also have to complete appropriate number of teaching hours according to the requirements of the university. Besides, in a non-language environment, the faculty of foreign languages is likely considered a minor faculty and rarely receives priorities from the Board of the university presidents. These changes and reality have affected to mental attitude and motivation of English lecturers in the faculty of foreign languages.

The study aims at finding out alternatives, current job motivation of teaching staff in the faculty of foreign languages, National Economics University in a difficult context when number of classes is reduced and a lot of English lecturers are in danger of lacking their teaching position; assessing factors affecting to motivations of English lecturers in the faculty; providing some recommendations to maintain motivations of these English lecturers. Population of this study includes all the teachers of Faculty of foreign languages-National Economics University, Hanoi, Vietnam.

2. Method

In this study, it is because there are so many factors affecting to motivation of employees that the researcher decides to conduct exploratory study with aims to (i) narrow and identify clearly factors motivating English lectures in the Faculty of Foreign languages, NEU, and (ii) (2) explore reactions, attitudes and opinions of officers, managers, expert about the issues, research questions, in order to adjust timely before conducting official study. After that, the author has given a research model that predicts the work motivation of lecturers of Faculty of Foreign Languages - NEU below.

Also through the previous research, the writer has hypothesized that the motivation of English teachers in the NEU Faculty of Foreign Languages - NEU could be influenced by 7 groups of factors: Motivation of English teachers in the Faculty of foreign languages can be hypothetically affected by 7 factors: Fully Recognized through Completed Tasks (FRCT); Income (INCO); Stable and Permanent Job (SAPJ); Independence in Work (INIW); Environment and Working Conditions (EAWC); Flexible and Sensitive Discipline Handling (FSDH) and Supports from the University Management Board (SUMB)

3. Results

3.1. Benefits of motivation

The concept of motivation is situational and its level varies between different individuals and at different times. If the people understand what motivates them, the people have at their command the most powerful tool for dealing with them. According to Higgins (1994), motivation is a psychological process that orients individuals to act for certain purposes. Sharing the same opinion, Bernard (1997) thinks that motivation comes from inside individuals to meet his/her needs and it forces him/her to take efforts, be ready to achieve the targets with own desire.

To be able to create the motivation for employees, it is needed to learn need systems and working force of staffs to help them achieve what they desire with an aim to promote their employees to take effort and achieve main objectives of both employees and organization. According to Cook (1991), there are three main groups of staff motivation including income motivation; Objective achieving personal development; and Objective satisfying social activities.

Like other working staff, teachers need to be motivated. Teachers' motivation is similar to teachers' attitude to participate in their teaching processes within the education environment. Motivation can underlie their involvement or noninvolvement in academic and non-academic activities in their university. An essential factor in an academic environment is creativity which can be created through motivation methods. If a teacher experiences the classroom as a safe, healthy, happy place with supportive resources and facilities for teaching for optimal learning, he/she tends to participate more than expected in the process of management, administration and the overall improvement of the university. The teacher commands and transmits the image of one who improves knowledge and the physical conditions of the classroom through orderliness, discipline and control.

3.2. Factors affecting to motivation of teaching staffs

There are many factors affecting to staff motivation. The following table illustrates factors affecting to motivation of teaching staff which is summarized by the writer.

Table 1. Summary of factors affecting to motivation of English lecturers in the Faculty of foreign languages

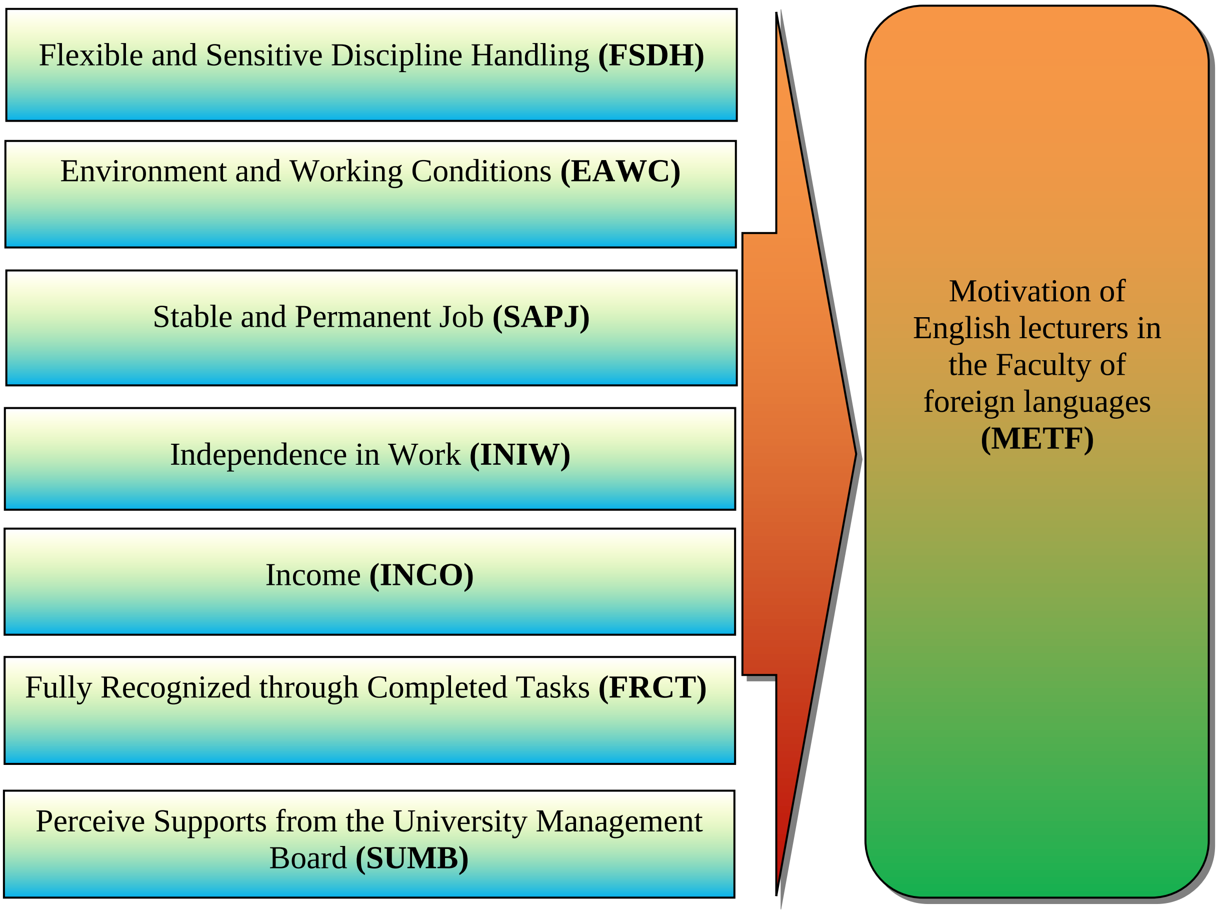
No	Factors affecting to motivation of teaching staffs	Researchers
1.	Interesting work/ tasks	Edwin Locke (1968) and Kenneth A. Kovach (1999)
2.	Fully recognized through completed tasks	
3.	High salary	
4.	Independence in work	
5.	Stable and permanent job	
6.	Promotion and professional development	
7.	Good working condition	
8.	The friendly relationship of the management board with teaching staffs	
9.	Flexible and sensitive discipline handling	
10.	Supports from the University Management Board	
11.	The increasing diversity and importance of the teaching tasks	Hackman and Oldham (2005)
12.	Changing teaching tasks into opportunities for employees	
13.	Empower/ Giving autonomy to the teaching staffs	
14.	Quick, direct and timely feedback mechanism	

No	Factors affecting to motivation of teaching staffs	Researchers
15.	The fairness	Stacy J. A. (1963)
16.	Attraction (Award)	Vroom, V. H. (1995)
17.	Expectation (task realization)	
18.	Means (belief)	
19.	Bonus and welfare	Nguyễn Thị Hương (2015)
20.	Infrastructure and working conditions	Nguyễn Thị Hương (2015)
21.	Achievement	Lương Văn Úc (2010)
22.	Recognition from the Board of management	Herzbeg (1959)
23.	Responsibility	
24.	Advancement	
25.	Expecting growth	
26.	The monitoring inappropriate tasks	
27.	Out of expectations working conditions for teaching staff	
28.	Relationship with troublesome colleagues	
29.	Un-expectation in relationship between the superior and inferior	
30.	The appropriateness with teaching work	The hypothesis of the author
31.	Desire	

Source: Summary of the author

From the previous research, the author comes up with a predictable model for the research about motivation for lecturers of Faculty of Foreign Languages- NEU as follow.

Figure 1: Predictable model for researching motivations of lecturers in faculty of foreign languages in NEU



Source: Summary from the previous researchers

The writer hypothesizes that motivation of English lecturers in the Faculty of foreign languages can be affected by 7 following factors: Fully Recognized through Completed Tasks **(FRCT);** Income (**INCO);** Stable and Permanent Job **(SAPJ);** Independence in Work **(INAW);** Environment and Working Conditions **(EAWC);** Flexible and Sensitive Discipline Handling **(FSDH)** and Supports from the University Management Board **(SUMB).**

4. Discussion and Conclusion

4.1. Discussion

To examine the scale reliability, variables have been designed and surveyed. Cronbach Alpha coefficients have been used. The author has analyzed the scale reliability for the independent and dependent variables which were assumed. These include:

- Fully recognized for completed tasks (FRCT): includes 4 explanatory variables (FRCTi = 1-4)
- Income: includes 4 explanatory variables (INCOi = 1-4)

- Stable and Permanent Job (SAPJ): includes 4 explanatory variables (SAPJi = 1-4)
- Independent in work (INAW): includes 5 explanatory variables (INAWi = 1-5)
- Environment and working conditions (EAWC): includes 11 explanatory variables (EAWCi = 1-11)
- Flexibility and Sensitive Discipline Handling (FSDH): includes 6 explanatory variables (FSDHi = 1-6)
- Perceive Support from the University Management Board (SUMB): includes 5 explanatory variables (SUMBi = 1-5)
- Motivation for English lecturers in Faculty of Foreign Languages (METF): includes 4 dependent variables (METFi = 1-4)

The following table presents the calculation coefficient Alpha Cronbach for dependent and independent variables.

Table 2: Cronbach's Alpha summary

Variables	**Cronbach's Alpha**	**Cronbach's Alpha Based on Standardized Items**	**Variables**	**Cronbach's Alpha**	**Cronbach's Alpha Based on Standardized Items**
FRCT	0.671	0.683	FSDH	0.698	0.698
TNNH	0.743	0.747	EAWC	0.896	0.896
SAPJ	0.801	0.802	SUMB	0.713	0.708
INAW	0.868	0.869	METF	0.994	0.994

Detailed results from the above table show that the majority of these variables meet the conditions of Cronbach Alpha values> 0.7 and will be selected; At the same time, the author also uses the technique to eliminate variables increase Cronbach Alpha value.

Table 3: Results calculated reliability of scales

	Scales	**Cronbach Alpha**	**Types of Variables**	**Cronbach Alpha after rejecting variables**	**Notes**
01	Fully recognized for completed tasks (FRCT)	0.671	FRCT2	0.709	Reject FRCT2 to get Cronbach Alpha > 0.7
02	Income (INCO)	0.743			No rejection
03	Stable and Permanent Job (SAPJ)	0.801			No rejection

04	Independent in work (INAW)	0.868			No rejection
05	Environment and working conditions (EAWC)	0.896			No rejection
06	Flexibility and Sensitive Discipline Handling (FSDH)	0.698	FSDH4	0.769	Reject FSDH4 to get Cronbach Alpha > 0.7
07	Perceive Support from the University Management Board (SUMB)	0.713			No rejection
08	Motivation for English lecturers in Faculty of Foreign Languages (METF)	0.994			No rejection

Source: Results from author research

From the original assumption of 43 explanatory variables and dependencies, analytical results of scale reliability are down 2 explanatory variables (FRCT2 and INAW4) which are not appropriate in terms of statistical value. The remaining variables (41 variables) totally meet the conditions for the reliability of the scale and are continued to be used in the study.

Based on the analysis of the exploratory factors for independent and dependent variables, the author has summarized the research results from 58 sample surveys and a model studying factors affecting to motivation for English lecturers as follows:

Table 4: Factors affecting to motivation of English lecturers in Faculty of Foreign Languages

	Factors	**Explanation**	**Variable**
1.	**Factor 1**: EAWC8, EAWC10, EAWC9, EAWC1, EAWC2, SAPJ2 ➔ ***Teaching environment***	The university/ faculty has a safe and clean teaching environment	MTLV8
2.		The university/ faculty always have tactical way to behave and treat teaching staffs	EAWC10
3.		There are available convenient teaching facilities and office facilities for English lecturers	EAWC9
4.		The university/ Faculty has friendly teaching environment	EAWC1
5.		The university/ faculty has a good foundation values, philosophy, culture,	EAWC2

	Factors	Explanation	Variable
6.	***and social welfare*** Expectation "+"	The university/ faculty always fully has welfare benefits such as social insurance, health insurance, vacation for English lecturers.	SAPJ2
7.	**Factor 2:** EAWC6, EAWC7, EAWC5, EAWC3, EAWC4 ➔ ***Close relationship and internal strength of the university/ faculty*** Expectation "+"	Communication and relationship between departments in the university/ faculty are good	EAWC6
8.		The faculty always encourages all teaching staffs to exchange information, communication, strengthen their relationship.	EAWC7
9.		The faculty has reasonable, understandable and timely policies and procedures.	EAWC5
10.		The faculty is a fair and honest organization	EAWC3
11.		The university/faculty has high reputation in public	EAWC4
12.	Factor 3: INAW2, INAW3, INAW4, FRCT1, SAPJ4 ➔ ***The suitability of work and encouragement policies*** Expectation "+"	English lecturer feels the teaching work is meaningful to their life, business and community.	INAW2
13.		Working time of the university/ faculty is rational	INAW3
14.		The work is suitable with ability and capability of English lecturers	INAW4
15.		Physical rewarding policies when achieving objectives at work in the university/faculty	FRCT1
16.		The faculty always has the bonus system such as holidays, anniversaries to motivate English lecturers	SAPJ4
17.	**Factor 4:** INCO2, INCO1, INCO3, EAWC11 ➔ ***Income and opportunities for***	English lecturers can fully base on salary/ income receiving from university	INCO2
18.		Appropriate income worthy to the effort of English lecturers	INCO1
19.		The lecturers need to receive relevant bonus after completing assigned work	INCO3
20.		The university/faculty always creates conditions and opportunity for English lecturers to develop personal or professional development	EAWC11

	Factors	Explanation	Variable
	professional development Expectation “+”		
21.	**Factor 5:** FRCT3, INCO4, FRCT4, SAPJ1 ➔ ***Developing capabilities and being recognized*** Expectation “+”	Admiration and applause of the colleagues for the teaching work	FRCT3
22.		Per diem policy of the university can encourage and appropriate with teaching environment	INCO4
23.		The ability to get promotion when reaching achievement in work	FRCT4
24.		English lecturers can use their personal capacity in the teaching job well	SAPJ1
25.	**Factor 6:** SUMB2, SUMB3, SUMB1 SUMB5, SUMB4 ➔ ***Perceive Supports from the University Management Board*** **(**SUMB**)** Expectation “+”	The management board is friendly, closed with the teaching staffs	SUMB2
26.		The management board always motivates, encourages the lecturers in working process.	SUMB3
27.		The management board always concern, take care of the English lecturers	SUMB1
28.		English lecturers are always respected by the management board	SUMB4
29.		University/faculty leaders recognizes the contribution of English lecturers	SUMB5
30.	**Factor 7:** INAW3, INAW1 ➔ ***Independent at work*** Expectation “+”	English lecturers become self-aware, self-monitoring and self-correcting	INAW3
31.		English lecturers are self-motivated or do not need regular feedback in order to make progress	INAW1
32.	**Factor 8:** FSDH5, FSDH1 ➔	University/faculty handles complaints of teaching staff timely and keep the teaching staff informed of progress	FSDH5
33.		University/faculty managers keep problematic incidents	FSDH1

	Factors	Explanation	Variable
	***Flexible and Sensitive Discipline Handling* (FSDH)** Expectation "+"	confidential	
34.	**Factor 9:** INAW6 ➔ ***Confident at work*** Expectation "+"	English lecturers take the initiative rather than waiting to be told what to do	INAW6
35.	**Factor Y:** METF1, METF2, METF3, METF4 ➔ ***Motivation of English teachers in the Faculty of foreign languages (METF)***	English lecturers always try their best to complete the assigned teaching work	METF1
36.		English lecturers always work hard to fulfill the objectives of the university/ faculty	METF2
37.		English lecturers are ready to impliment assigned teaching tasks	METF3
38.		English lecturers always try to improve themselves at the highest level with an aim to satisfy the work requirements of the university/ faculty	METF4

Source: Results of the author's analysis

Basing on testing results of the reliability of the scale, and analysis of exploratory factors the author draws out a model studying factors affecting to motivation of English lecturers in faculty of foreign languages summarized in Figure 2 below.

With factors from 1 to 9 as described in Table 4 and explained in figure 2; to consider which factors in the model really affect to motivation of English lecturers in the Faculty of Foreign Languages, the author conducts the following pairs of assumptions with significance level of 5%.

Ho: with $\beta i = 0$ (There is at least one factor which does NOT affect to employees motivation of English lecturers in the Foreign Languages)

H1: with $\beta i \neq 0$ (There is at least one factor affecting to motivation of English lecturers in the Foreign Languages)

Table 5. Summarizes the results of the test.

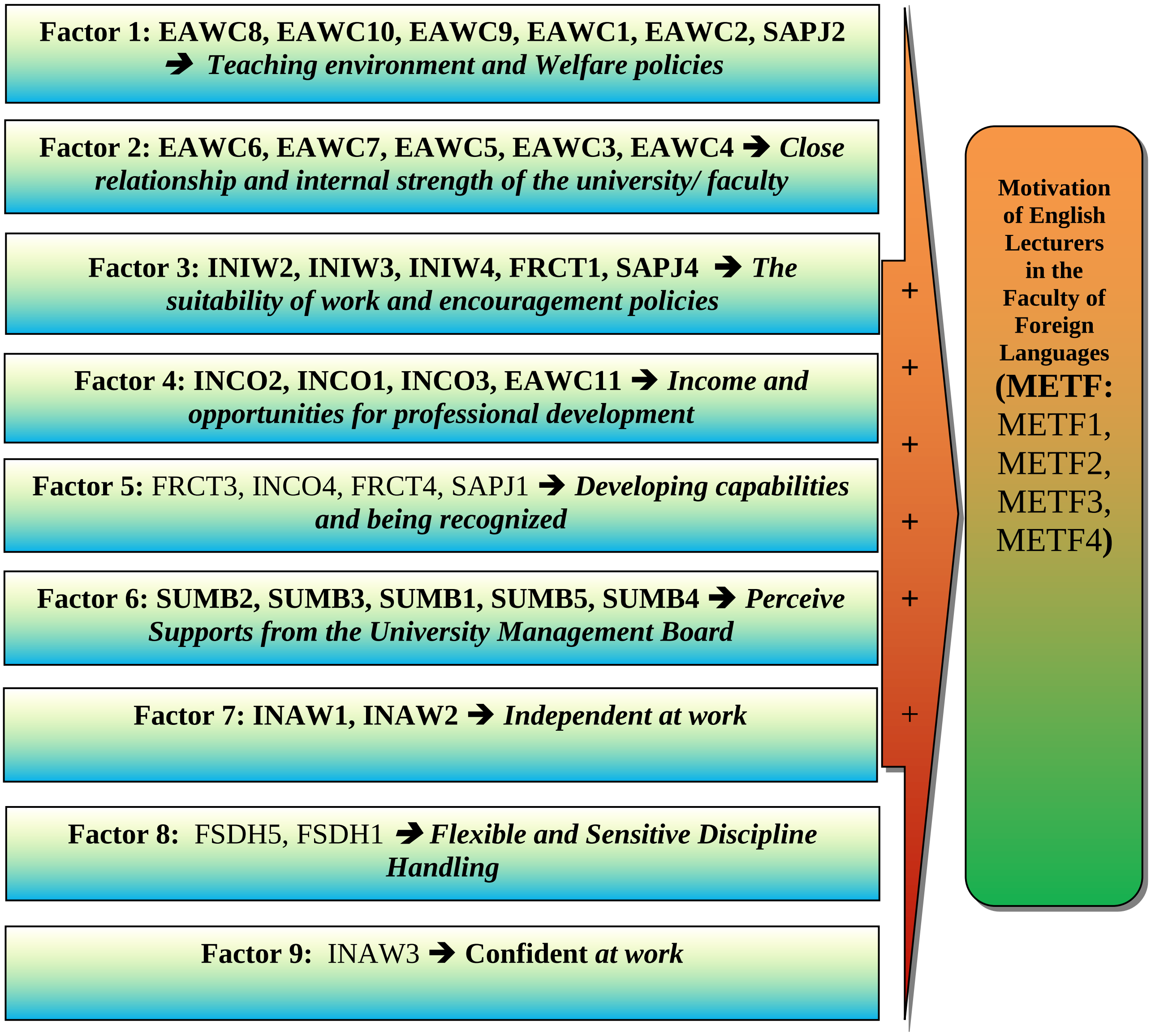


***Figure 2*: Research Model of Factors Affecting to Motivation of English Lecturers**

Table 5: Testing Results of assumptions pairs (Source: Results of the author's analysis)

Factor	T	Sig.	Conclusion	Status of Impact
Factor 1	2.162	.032	< 5%. reject Ho => Factor 1 has affection	+
Factor 2	4.453	.000	< 5%. reject Ho => Factor 2 has affection	+
Factor 3	4.075	.000	< 5%. reject Ho => Factor 3 has affection	+
Factor 4	.858	.392	> 5%. accept Ho => Factor 4 has no affection	-
Factor 5	-2.693	.008	< 5%. reject Ho => Factor 5 has affection	+
Factor 6	.176	.860	> 5%. accept Ho => Factor 6 has no affection	-

Factor 7	3.789	.000	< 5%. reject Ho => Factor 7 has affection	+
Factor 8	2.892	.004	< 5%. reject Ho => Factor 8 has affection	+
Factor 9	2.372	.019	< 5%. reject Ho => Factor 9 has affection	+

4.2. Suggestions to motivate english lecturers in faculty of foreign languages

4.2.1. Improving the teaching environment and welfare policies to motivate English lecturers (Factor 1)

Studies shows that teaching environment and welfare factor has a positive impact on motivating English lecturers; thus improving a better teaching environment (safe, clean, friendly, fully equipped, and good corporate culture, transparent labor regulations) and building reasonable welfare policies will facilitate increased working motivation for English lecturers.

For physical health, English lecturers have the right to work in a safe and sanitary environment. That factor 1 is at average level of importance can probably be explained because teaching environment is a risk-free environment. Teaching conditions must be assured so that English lecturers feel comfortable to have creative, interesting lectures.

Regarding to mental health issue, English lecturers are eligible to teach in a friendly, safe environment where other lecturers are willing to help them overcome difficulties, are willing to share with them interesting experience to teach better. Rewards and positive compliments are good to create a motivated teaching environment for English lecturers. In addition, almost all English lecturers are female; therefore, organizing outdoor activities for them and their families to join will create a peaceful, friendly and happy environment for these female English lecturers to prolong their working time.

4.2.2. Increasing relationship and promote intrinsic strength (factor 2)

Research results show that the relationship and intrinsic strength within the faculty will increase motivation for English lecturers through such elements as communications among lecturers in the faculty, communication with other faculties; encouraging all members to exchange information, communicate, interact; policies, procedures are reasonable, understandable; fairness, honesty; high reputation under public opinion ....

To increase relationship and promote the intrinsic strength for English lectures in the faculty of foreign languages, some of the following should be addressed. Firstly is building the core value for the university and especially faculty. Basically, the core value will be basic in each daily decision, and helps lecturers have unified behavior and standards in every situation. Second point is building counter-relationship with colleagues. Relationships with colleagues will be appreciated. In addition to understanding the professional capability, it is advisable for English lecturers to learn about individual circumstances, the family of colleagues in the faculty, so when it is needed people can support each other in time to complete the work on time. As mentioned above, most English lecturers in the faculty of foreign languages are female who have separated from teaching by a time maternity period, and they have to spend much time taking care of their babies, their family; therefore, during this time, the faculty dean should not ask them to teach in the early morning, or late in the afternoon. Besides, the faculty tries to organize outdoor parties, sporting events, children competition, cooking contest, family festivals where they can take their family and children to participate, to create conditions for all English lecturers to exchange and understand each other more deeply. Thirdly is recognition and rewarding achievements. It is necessary for the faculty to appreciate the achievements made by a group or an individual to have timely praise and reward these people. Quarterly, the faculty dean holds an official meeting to vote for individual excellence in the implementation under the core values of the university, faculty, then given rewards for some of the most talented individuals. Award is not important than the way to reward; therefore, the awards are organized with the participation of all lecturers and representatives of the university leaders, and these awards are posted on the website of the university. The award should also be based on achievement award and progress award which reflects efforts of the lecturers because those who are rewarded progress award will try hard to get higher achievements. Fourthly is increasing public relation. One important part to increase intrinsic strength of the faculty, university is creating close relationship and responsibility to the community closed to the university. These activities involve volunteering staffs to improve living conditions for the community. Creating English community is an example among many other social activities the faculty can do. When participating into this activity, lecturers will find they are a part of the community having responsibility to make the community better, and they will be well known soon when participating into activities creating English community in the university. The fifth thing is communicating. It is necessary to encourage frequent communication and information exchange among all levels and departments within the university. At the same time, the leader of the faculty creates an open environment, conditions which allow the employees to ask questions or personal aspirations with the leaders/ head of the faculty when they have unsolved problems in the group or in parts. The sixth point is committing to organize training courses for the staff. The university/ faculty must make every English lecturer understand that capacity development for the staff is extremely important, and the university/ faculty now always creates changes for English lecturers to promote creativity and advancement. In addition to the training programs improve skills and qualifications, the university/ faculty has taken other way such as organizing an initiative book club, professional club to encourage all lecturers to participate. The seventh point is creating connection with levels in the university/ faculty. Participating in sports activities, singing contests is necessary for the university presidents and the faculty dean to create close relationships with English lecturers. The last point in the section is writing about traditional figures in the history. This document will help everyone in the university/ faculty as well as other counterparts, alumni fully know about the historical milestone in the development process every few year. The university prints out and widely publishes this document because this document helps staffs to better understand the role of the university and even each lecturer in the faculty. It is also a very necessary book for new lecturers who will understand the traditional aspect of the university/ faculty.

4.2.3. Constructing relevant disciplines for employees (Factor 3)

The university has some disciplines and policies identifying regulations and procedures for employees. Appropriate labor policies bring many benefits for the university and faculty. Preparing a clear policy may also provide a positive image for the university/ faculty in the eyes of students, alumni and local authorities. Besides enhancing the university's reputation, standards can also help the university attract more new excellent teaching staff. There are some basic regulations the university consider the following things. Among many regulations, as mentioned above, because the faculty consists of many female staffs, such disciplines as aternity regulations, sick leave, childcare policy; Equal Opportunities; Health and safety; Salaries, benefits and contributions policies; Controlling and handling violations; Chatting should be highly cared.

Among these principles, salary is an important factor affecting work relationship. The university/faculty needs to develop appropriate salary system and rewarding policy for their employees. Salary system includes rewarding forms for employees relevant to their contributions to the university/faculty. When considering bonuses for employees, the president of the university keeps in mind that salary and financial benefits are important and are engine for the implementation of the staff. The other important motive for employees include safety at work, job satisfaction, being recognized for their good work and are properly trained so that teaching staff can fully be promoted their potential ability.

For the case of English faculty, an appropriate salary system should be tailored to meet the needs in this particular circumstance of the university. Paying salary by considering workload and work performance is a good and fair way the university to apply. The university must organize talks in which teaching staff can raise questions for personnel officers as well as school leader relating to salary system, wage increases. Teaching staff must have the right to participate into process designing salary system so that their comments can be heard before the salary system is applied.

4.2.4. Developing capabilities for English lecturers in a reasonable manner (Factor 5)

Research has shown the improving capacity and being recognized factor has negative effect to labor capacity. Some following measures should be considered: (i) Constructing good examples which typically represent the advanced qualities that both the leaders and staffs want to reach; (ii) Setting clear objectives, goals and mission for teaching staff which base on physical items such as output, quality, profitability, cost ... or some spiritual items such as working style, ethics ...; (iii) Taking care and using emotions are good methods to "win" lecturers' hearts. The head of the university/ faculty must pay more attention not only to his/her own work, but also to practical difficulties of English lecturers to help them feel comfortable when teaching, and not be distracted from working during creativity and working time; (iv) Rewarding or punishing timely and fair will help employees realize that their contributions are recognized. Timely and firm compliments have great effect to employees' confidence, stimulate pride and it will stimulate their creativity.

4.2.5. The university/ faculty create relationship, and take more care teaching staffs (factor 7 and 8. 9)

The leader of the faculty of foreign languages should implement a number of things as follows: (1) Do not get angry because anger does not include in "set of tools" for a leader to manage the organization; (2) Do not be indifferent, rude and unfriendly and apart from teaching staffs; (3) Be careful with communication to avoid causing confusion to teaching staffs; (4) Be careful with the rights, benefits of the faculty itself rather than anything else because. The teaching staff is always sensitive and appreciates the job a manager through their behavior; (5) Be responsible to actions. A proper manager is always a reliable person and ready to accept responsibility of his actions; (6) Be consistent. There is nothing better to show the excellence of a manager and reflect the success of an organization than proving that manager is a consistent person who always keeps his word and always does exactly what he has declared; (7) Be positive and enthusiastic in doing job of the faculty (for example, answering phones, emailing response to the teaching staffs); (8) Be opened to help and support the staff. The disappointment and dissatisfaction with the teaching staff must be addressed privately and not rushed; (9) Be frank in recognizing mistakes the leader him/herself ... and receives criticism, suggestions for different mistakes in his/her work; (10) Be fair and smart in evaluating and recognizing the strength and weakness of English lecturers in the faculty. The head of the faculty recognizes the importance, great effect and the power of the recognition and praise on employees for the effort of the teaching staff.

4.3. Conclusion

The study points out factors affecting to motivations of lecturers in faculty of foreign languages - NEU. It is found that motivated lecturers will fulfill their responsibilities by exerting maximally if the university/ faculty apply appropriate methods and techniques to encourage teaching staff to show their capacities and creativity.

From the study, it is recommended that motivation techniques may be included in detail in training courses of teachers and a special training course may be arranged for educational managers, administrators and supervisors to use motivation techniques appropriately to achieve competency. It was found that abstract benefits such as teaching environment, welfare policies, relationship, intrinsic strength, relevant disciplines for employees, and developing capabilities in a reasonable manner. In this study, it is clear that although teaching staffs are in financial difficulty, high salary is not always what teaching staffs really expect and motivate them. Therefore, creating a friendly environment, taking care of staff training should be taken more care by the university. Besides this, the study also suggests some specific recommendations which target to affecting factors 1, 2, 3, 5, 6, 7, 8 mentioned in the study.

5. References

1. Bernard M. B., (1997). The Ethics of Transformational Leadership. *Academy of Leadership Press.*

2. Cook, M. (1991). 10-Minute Guide to Motivating People. Alpha Book Publishers. New York. USA.

3. Edwin L. A. (1968). Toward a theory of task motivation and incentives. *Organizational Behavior and Human Performance. 3 (2):* 157–189.

4. Hackman, J. R. & Oldham, G. R. (2005). How job characteristics theory happened. *The Oxford handbook of management theory: The process of theory development*, 151-170.

5. Herzberg's Motivation-Hygiene Theory (Two Factor Theory). NetMBA.com. Retrieved on August 9, 2015

6. Higgins, E. T., (1994). Motivational science: Social and personality perspectives. Philadelphia, PA: Psychology Press

7. Hoàng Trọng – Chu Nguyễn Mộng Ngọc (2005). Phân tích dữ liệu nghiên cứu với SPSS. Statistics Publisher.

8. Kenneth A. Kovach (1999). *Employee Motivation: Addressing a Crucial Factor in Your Organization Performance*. Wiley Periodicals, Inc., A Wiley Company.

9. Lương Văn Úc (2010). *Giáo trình tâm lý học lao động*. National Economics University Publisher.

10. Maslow, A. H. (1943). A theory of human motivation. *Psychological Review 50 (4):* 370–396.

11. Nguyễn Thị Hương (2015). *Tạo đông lực cho người lao động tại công ty cổ phần môi trường và du lịch đô thị thành phố Ninh Bình*. Hanoi Labour – Society University

12. Stacy Adam (1963). Toward an understanding of inequity. *Journal of Abnormal and Social Psychology, 67,* 422-436.

13. Vroom, V.H. (1995). *Work and motivation*. New York: John Wiley & Sons.

ROLE OF THE VIETNAM FATHERLAND FRONT FOR BUSINESS DEVELOPING RELIGIOUS RESOURCES IN THE COUNTRY DEVELOPMENT

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Abstract

This study focuses on analyzing the role of the Vietnam Fatherland Front in promoting religious resources in national development. The research results show that over the past time, the Fatherland Front of Vietnam at all levels has shown up good role for promoting religious resources in socio-economic development in Vietnam. The evidence is that religions have certain contributions to politics, economy, culture and society. From research results, solutions are given to further enhance the role of the Vietnam Fatherland Front in promoting religious resources in national development, especially in Vietnam is in the process of accelerating the process of industrialization, modernization, extensive international integration and coping with complicated developments of the Covid-19 pandemic.

Keywords: *Vietnam Fatherland Front, religious resources, national development*

1. Introduction

1.1. An overview of the Vietnam Fatherland Front

The history and traditions of the Vietnam Unified National Front are attached to the history and traditions of the Vietnamese nation's struggle, led by the Communist Party of Vietnam, in order to gain independence for the country and freedom for the people to liberate the people, liberate society, and liberate people [1, p.9]. From the middle of the nineteenth century, the French colonialists invaded, turning our country into a semi-feudal colonial country. The French colonialists carried out cruel policies of rule towards the Vietnamese people. In the society at that time formed two basic contradictions: the conflict between the entire Vietnamese people and the invading imperialism and the conflict between the majority peasants in society and the feudal landlords. There have been many struggles of Vietnamese generations that have emerged, but all have failed.

In the face of the crisis of the way to save the country, the problem at that time was that it was necessary to have a pioneering revolutionary force leading and organizing the masses to gather the entire people in the struggle to liberate the people. In that context, Nguyen Ai Quoc was the first Vietnamese patriot to find the light of national liberation in a new way. Along with the preparation to establish the Communist Party of Vietnam, Nguyen Ai Quoc rekindled the idea of designing a front to gather a large number of social strata to realize the goal of national independence associated with theism. In 1923, in the Report to the Communist International, Nguyen Ai Quoc suggested that an action plan should be soon to "gather revolutionary ethnic elements" [2, p.204]. At the 22nd session of the Fifth Communist International Congress (in 1924), He again petitioned the Communist International to make the united front of the people of the country and the colony a reality [2, p.282]. Those were important early outlines of the idea of forming a national struggle front.

Resolutions on the problem of treason at the Central Committee of the Communist Party of Indochina in October 1930 clearly stated the urgency to establish the counter-imperial unification Front. On November 18, 1930, the Party Central Standing Committee issued a directive to establish the Anti-Allied Association - the predecessor organization of the Vietnam Fatherland Front, the first form of the National Front for reunification of Vietnam.

Over the past 90 years of establishment and development, the National Union for the Unity of Vietnam has different specific organizational forms and names, suitable to the tasks of each revolutionary period. History has proven that the Vietnam Unified National Front is an indispensable factor, ensuring the Vietnamese people from being a slave to the owner of the country. It is a glorious and very proud history of the nation, a valuable asset that generations of Vietnamese people forever preserve, cherish, inherit and promote [1, p.9].

Currently, the Vietnam Fatherland Front is an organizational form of the National Front for the unification of Vietnam. Since the liberation of the South and reunification of the country, the Vietnam Fatherland Front has gone through 08 congresses and is in the 9th congress (term 2019-2024). It can be seen that the Vietnam Fatherland Front has increasingly enhanced its position and role in the political system in particular and in society in general. Article 1 of the Law on Vietnam Fatherland Front affirms: The Vietnam Fatherland Front is a political alliance, a voluntary union of political organizations, socio-political organizations, social organizations and typical individuals in all classes, social classes, ethnic groups, religions, overseas Vietnamese; is the political basis of the people's government; representing and protecting the legal and legitimate rights and interests of the People; rally, promote the strength of great national solidarity, exercise democracy, strengthen social consensus; social monitoring and criticism; participate in building the Party and State, and participating in people's foreign affairs, contributing to building and defending the Fatherland [3].

1.2. Be aware of religious resources

Religion as a form of social consciousness, an entity that affects society both positively and negatively. In that context, "peaceful coexistence", proactive identification of religious resources to promote and serve the cause of national construction and development has become the attitude of dealing with religion of many countries with different political institutions in the world, including Vietnam. There are many approaches to religious resources. According to author Nguyen Hong Duong, religious resources, after all, have: spiritual resources and material resources [4, pp.9-10]. The author Chu Van Tuan also thinks that religious resources have a quite broad connotation, not only spiritual resources but also material resources. From the perspective of spiritual resources, it is ideological, philosophical, worldview value, human-life, moral value, culture, educational values, humanistic philosophies, good direction ..., these values have been participating in all fields of social life, in building the cultural and spiritual foundation of society. . In terms of material resources, religions in Vietnam have a system of worship facilities with many valuable legacies that have great potential for exploitation. Religions can attract huge social resources such as economic resources, human resources, cultural resources ... From here, religions transfer these attracted resources into society. , in areas such as social security, charity, health, education ... Religious resources are formed from spiritual and material factors as mentioned above are religious resources. Religious resources can be exploited in a sustainable way to serve the development of the country. The correct awareness of religious resources and promotion of religious resources will contribute to preserving, preserving and developing the values of religion itself; preventing wastage of religious resources, avoiding negative impacts on society; providing a scientific basis for the formulation of religious policies participating in social service provision [5].

Religion is the spiritual need of a part of the people, which is and will exist with the nation in the process of building socialism in our country [6]. The reality shows the continuous development of religion in the number of followers, dignitaries, and jobs; the activities of religions are increasingly diversified and plentiful. According to the Government Committee for Religious Affairs, by the end of December 2020, the State of Vietnam recognized 36 religious organizations of 16 religions and 04 organizations, 01 dharma subject was granted the certificate of registration of religious activities [7]. Incomplete statistics show that the whole country has nearly 27 million followers of all religions, accounting for about 27% of the population; more than 55,000 dignitaries, 145,000 positions and 29,000 worshiping facilities. Promoting the resources of religions in development will contribute to accelerating the process of industrialization, modernization, international integration and sustainable development of the country.

2. Method

To do this research, on the theoretical basis, the author has based on the views of Marxism-Leninism, Ho Chi Minh's thought, the views of the Communist Party of Vietnam on religion and based on regulations of Vietnamese law on the rights and responsibilities of the Vietnam Fatherland Front. Regarding scientific research methods, the author uses the scientific inheritance method from the authors who have researched before; the method of synthesizing and analyzing information and data to give an objective view of the issue demonstrating the role of the Vietnam Fatherland Front in promoting religious resources in national development.

3. Results

The Vietnam Fatherland Front shows its role in promoting religious resources through gathering, propagating, and mobilizing - the Front's basic and important functions up to now. The Vietnam Fatherland Front has gathered and gathered religions in the great national unity bloc; propagate, mobilize and bring into full play the resources of religions to develop the country, towards the successful realization of the goal of "rich people, strong countries, a democratic, fair and civilized society". Gathering, propagating, and mobilizing and promoting religious resources of the Vietnam Fatherland Front in recent years has achieved good results, reflected in the contribution of religions to political stability, security, order and strengthen the block of great national unity and People's diplomacy; in economic development; cultural development and social problem solving.

3.1. The role of the Vietnam Fatherland Front in promoting religious resources in political stability, security and order, strengthening the block of great national unity and People's diplomacy

The Vietnam Fatherland Front gathers and unites religions in the great national unity bloc, propagates and mobilizes religions to comply with the Party's lines and guidelines, and the House's policies and laws; well implemented patriotic emulation movements, campaigns such as: "All people unite to build a new countryside and a civilized city", "The whole country joins hands For the poor - No one will be left behind". The Vietnam Fatherland Front Committee in localities across the country regularly propagates and popularizes movements and campaigns for people of all religions to respond, implement, and contribute to the movements. The people of all religions always ensure the full and serious implementation of the Party's and State's lines, undertakings, policies and laws. In fact, very few religious people commit criminal crimes.

The Vietnam Fatherland Front Committee at all levels has mobilized religion actively join the world, contribute more in all areas of social life. Religions have built the path of practice in close association with the nation; gather a large number of believers in the great national unity bloc, contribute to building the homeland, a rich and beautiful country, such as: "Dharma - Nationality - Socialism" of Buddhism; "Live the gospel in the heart of the people" of Catholicism; "Living the gospel in service of God, of service to the Fatherland and people" of Protestantism; "Glorious country, bright religion" of Cao Dai religion; "For the Dharma, for the nation" of Hoa Hao Buddhism, ...

In recent years, together with the authorities, the Vietnam Fatherland Front has mobilized and supported religions to promote their role and position, strengthened foreign affairs and hosted many national religious events. economic and regional; attend multilateral and bilateral conferences, seminars and forums; actively contribute to the common initiative to reduce violent conflicts due to religious and ethnic reasons; contribute to introduce the image of the country and people of Vietnam, and promote People's diplomacy. Specifically, the 500-year Reformation Ceremony was held in Vietnam in 2017; Great Buddha United

Nation Day - Vesak has been held in Vietnam over the years 2008,2014,2019; The Catholic Church organized the World Dominican Congregation in Dong Nai, Vietnam in 2019, etc. In recent years, Vietnam has been known as a country for peace and political stability. Having this is not to mention the efforts of religions in Vietnam in promoting resources and contributing to the overall development of the nation. One of the actors playing an important role in promoting religious resources in political stability, security and order, strengthening the great national unity bloc and People's diplomacy is the Fatherland Front of Vietnam.

3.2. The role of the Vietnam Fatherland Front in promoting religious resources in economic development

The Vietnam Fatherland Front propagates and mobilizes religions to actively promote resources in organizing religious activities. Today, spiritual tourism is strongly developed, contributing to economic promotion, creating jobs and income for people. Reality proves that localities with famous religious places often attract a large number of tourists, thereby bringing economic benefits and creating jobs for local people. The festival of Huong pagoda, Bai Dinh pagoda, Yen Tu pagoda, Ba Vang pagoda, etc. of Buddhism are typical examples of this problem. In addition, the Vietnam Fatherland Front Committee at all levels supports religious organizations to create products that contribute to the life of the community. Products made by religion are also easy to win the hearts of society and are trusted by many people, such as: Buddhist vegetarian food,

In the movement of economic development, hunger eradication and poverty reduction, the Vietnam Fatherland Front Committee in many localities encourages people of all religions to boldly renew their ways of thinking, doing, and having bright ways, creating to improve the lives of individuals and families, contributing to poverty reduction in the locality. Typically in Quang Binh province in recent years, there are many fishing households in Tan My parishes (Quang Phuc, Ba Don), Van Phu (Quang Van, Ba Don), Xuan Hoa (Quang Xuan, Quang Trach), Trung Hai (Quang Phu, Quang Trach) has invested funding in building new large and modern fishing ships to cling to the sea. With the aim of getting rich, many lay households in the hilly and mountainous areas of Bo Trach and Tuyen Hoa districts of Quang Binh province have taken advantage of and promoted the development of high-income breeding models such as livestock models. wild boar, pepper planting, ... Along with that, the cooperative groups for growing sim-fruit trees, the cooperative groups for growing saffron and processing commercial turmeric starch of the Nguon Son parish; the forest tree breeding complex of Cho Sang parish (Quang Lien commune); flower growing village of Tuong Son sect (Quang Long ward); household seafood and seafood processing complexes in Nhan Tho parish (Quang Tho)... have bravely applied science and technology, developed highly competitive chains, bringing stable income for the people [8].

3.3. The role of the Vietnam Fatherland Front in promoting religious resources in cultural development

The diversity of religious forms is an important factor contributing to the formation of the national cultural identity. In the process of leading the revolution, the Party and State not only affirmed a consistent policy of respecting and ensuring freedom of belief and religion, but also advocated promoting cultural and ethical values of the goodness of religion in the cause of building and defending the country. In the history of the Vietnamese nation, religious culture and morality are not constant, but always have been adjusted to suit social life and accepted by society. Buddhism has deepened and enriched the traditional values of Vietnamese culture such as: the concept of compassion, bliss, selflessness, the six republics, or the law of cause and effect. The moral value of Catholicism is expressed in the 10 commandments, of which there are 7 moral ones about human morality such as: be respectful of parents, must not kill people, cannot lewd, do not covet others, do not testify lies, hide deception, must not desire another's wife (or husband), must not lust for wealth. The Islamic ethics has brought about valuable and unique values about the culture and customs of the Cham people ... These standards contribute significantly to the principle of appropriate behavior in society, very useful in maintaining social morality [9].

Recognizing that, for many years, the Vietnam Fatherland Front Committee at all levels has propagated and mobilized religious organizations, dignitaries, and job organizations for religious organizations and dignitaries. mobilize believers to actively participate in movements "All people build cultural life", live a good life - be beautiful, build residential areas free of social evils ...; building models of "streets, neighborhoods without rubbish", propagating on "Traffic Safety Year" for believers and people to raise awareness of law observance when participating in traffic. Religious organizations have step by step improved the self-governance of the community, a sense of civic responsibility, contributing to the elimination of outdated practices, limiting the youth violation of the law.

In addition to a deep philosophical system, religions also contribute to national culture by works with profound human values such as architecture, painting, and sculpture. Buddhism has contributed to the creation of unique art works in Vietnamese pagodas, towers and statues. The integration of Western style and architecture of Catholic and Muslim has contributed to the integration and integration of the national culture. The creation of the Catholic national script is a great contribution to Vietnamese culture; the birth and development of religious newspapers have contributed to conveying religious values and national cultural values, making religious culture closer, more familiar with Vietnamese culture and vice versa. Vietnam is expressed in religious rites [9]. These are achieved by the Party organization, the State and the Vietnam Fatherland Front, from the central to local levels, regularly coordinate closely with each other in the gathering, propagation, advocacy and management of religion, creating all favorable conditions for religion to maximize resources, contributing to the preservation, inheritance and development of national culture in particular and the development of the country in general.

Cultural values, religious ethics contribute to the creation of social unity and consensus, religious beliefs have influenced the behavior and conduct of each believer and religious community. The close connection with people of the same faith always has a stable vitality and spreads to the community, creating relationships in social relationships, contributing to consensus and social progress.

3.4. The role of the Vietnam Fatherland Front in promoting religious resources in solving social problems

In the religious community, dignitaries and priests always play the role of mediating disputes, conflicts in families, communities, and even mediating conflicts between social institutions. The Vietnam Fatherland Front Committee at all levels regularly focuses on mobilizing religious dignitaries and monks, orienting them to advise believers to work hard, obey the law, avoid evils, and comply with the guidelines and policies in the locality; build village friendship, respect and unite religions, national solidarity. Those jobs have created stability and created cohesion, inner strength in the religious community and made religion always have a certain place in social life. In addition, the Vietnam Fatherland Front Committees at all levels also monitor and closely follow the political situation, Timely propaganda and mobilization, not allowing activities to take advantage of religion, superstition, self-seeking, causing social frustration, separating the people, undermining the national unity bloc, religious solidarity; raising the spirit of vigilance, not allowing anti-revolutionary forces to take advantage of the destruction.

In recent years, the Vietnam Fatherland Front at all levels has mobilized and supported religions to contribute resources that are considered the strength of religion in the cause of health, education and charity work, social security, and environmental protection. Specifically:

Educational activities are both strengths and interested by religions in the missionary process and are often carried out in the following models: preschool, vocational training and study promotion activities, establishment of relics, support poor students, students in remote areas. Currently, the country has 270 kindergartens, about 1,000 groups, independent preschools established by religious individuals, accounting for 2% of the total number of public and non-public kindergartens, accounting for 15% of the total. the number of non-public preschools in the country, mobilizing about 125,594 children to go to school/class, accounting for 3.06% of the total number of preschool children nationwide (public and non-public), accounting for 18, 3% compared to children going to non-public preschools. Religious organizations have established 12 vocational training institutions nationwide, including: 01 vocational college, 01 vocational secondary school and 10 vocational training centers.

In the health sector, with the spirit of charity, religions clearly show their influence through free medical examination and treatment, opening charity clinics, building a system of ambulances to transport patients. . Raising awareness for believers to organize a hygienic life, prevent disease, go to the hospital when sick, take medicine instead of praying, and advise people to eliminate backward practices that affect their health. Religions have opened 185 medical examination and treatment establishments, including 143 medical examination and treatment establishments combined with traditional oriental medicine or traditional medicine; 42 western medicine establishments (33 medicine cabinets, 9 pharmacies) and 01 clinic. In the three years from 2011 to 2014, the total number of people receiving medical examination, treatment and health care at humanitarian medical examination and treatment establishments of all religions was over 1.5 million [10, p.7].

The whole country currently has 113 social assistance institutions belonging to religious organizations (with permits) taking care of and nurturing 11,800 social protection beneficiaries with a total of 2,600 employees, on average, 01 support facility. Society belongs to religious organizations to care for and nurture 104 objects of social protection [10, p.7]. In the campaign "Day for the Poor", "Fund for the poor" of religions has actively participated. The total value of social charity activities of religions in 2016 is more than 3,146 billion VND [10, p.27].

In sustainable development, religion plays a special role in environmental protection, and promotes living in harmony with nature. The Vietnam Fatherland Front regularly strengthens the mobilization of religious organizations, dignitaries and religious organizations to mobilize believers and people to actively respond and take practical actions in the program "All people participate in environmental protection". In 2015, at the National Conference on "Promoting the role of religions participating in environmental protection and responding to climate change" held in Hue city, representatives of 14 religions were presenting the Message on environmental protection and climate change response. Leaders of religious organizations in Vietnam together with the Standing Committee of Central Committee of the Vietnam Fatherland Front.

In particular, over the past time, religions have made many positive contributions to the prevention and control of Covid-19 pandemic with many practical activities in religious communities and establishments, making an important contribution to the whole country to control the first effective control against the spread of pandemics in Vietnam. Facing the complicated situation of the Covid-19 pandemic, spreading rapidly in a number of countries, with the number of infected and fatalities continuing to increase, on March 3, 2020, the Standing Committee of the Committee. The Central Committee of the Vietnam Fatherland Front has issued Official Letter No. 603/MTTW-BTT requesting religious organizations and religious organizations to continue to coordinate with agencies, departments, branches, and the Fatherland Front, national organizations and mass organizations to step up activities to participate in pandemic prevention and control.

4. Discussion and Conclusion

All religions in Vietnam have a spiritual direction and motto that is closely related to the nation, actively participates in patriotic emulation campaigns and movements, together with the government to resolve people's difficulties. The oriented development of religious resources has brought into full play, serving the cause of national construction and defense. To get those good results, it is impossible not to mention the important role of the Vietnam Fatherland Front. In addition to the achieved results, the Vietnam Fatherland Front still has a number of limitations, such as the contents and forms of propaganda and advocacy are not yet diversified and plentiful; sometimes not fully proactive in promoting religious resources in national development, waiting for the direction of the Party or the coordination of the State and other organizations.

Vietnam is in the period of accelerating the process of industrialization, modernization, extensive international integration and coping with complicated developments of the Covid-19 pandemic. To maximize the mobilization of religious resources in the country's development in the current period, it is necessary to pay attention to the specific characteristics, strengths and capabilities of each type of religion and religious organization to exploit and promote in an effective way. In the coming time, in order to further enhance the performance of the Vietnam Fatherland Front's role in promoting religious resources in the country's sustainable development, the author of the article gives the following notes:

- *Firstly*, continue to propose to the Party and State the completion of guidelines, policies and laws related to religion in order to promote well religious resources.

- *Secondly*, proactively, creatively and renovate the contents and modes of operation of the Vietnam Fatherland Front at all levels for the promotion of religious resources in particular, for the implementation of other political tasks in general.

- *Thirdly*, actively coordinate with the Government and related agencies to formulate and soon issue specific policies to promote the role of representative in religions; increase religious communication activities; organize praise conferences to replicate models and typical in religions.

- *Fourthly*, to pay more attention to the training and retraining of religious officials and civil servants to improve their skills and understanding of religions in Vietnam, thereby making it easier to promote their resources towards sustainable development of the country.

- *Fifthly*, improve operational efficiency, promote roles and responsibilities of Advisory Council, Advisory Board, Advisory Group, members of the Vietnam Fatherland Front Committee, dignitaries, intellectuals, ethnic groups, religions, scientists, religious experts, practices.

- *Sixthly*, strengthen the task of social supervision and criticism of the Front and socio-political organizations in religious work. Well implementing the motto "People know, people discuss, people do, people check" in areas where people have faith.

- *Sevenly*, promote the role of media agencies to participate in and support propaganda about the advocacy and solidarity of religions, attaching importance to propaganda about good people, good deeds, collectives and individuals. People do well religious work in order to gather, unite, promote the aggregate strength of religions in the great national unity bloc, to build and defend the Fatherland.

The development path of the Vietnam Fatherland Front and the outstanding contributions of religions in Vietnam recently affirmed:

- *Firstly*, the more revolutionary career progressed, the more successful the innovation was, the more the position and role of the Vietnam Fatherland Front and the religious resources were increasingly confirmed, contributing significantly to the realization to present democracy and strengthen social consensus.

- *Secondly*, the more extensive and developed the innovation cause, the deeper the international integration, the heavier the Front's mission. One of the important tasks is to promote religious resources in sustainable development of the country. One of the factors contributing to the country's sustainable development is the resources of religions in Vietnam.

5. References

1. Tran Hau (2016), *Vietnam Unified Front - Past and Present*, National Truth Political Publishing House, Hanoi.

2. Ho Chi Minh (2002), *Complete Works, Volume 1*, National Political Publishing House, Hanoi.

3. National Assembly (2015), *Law No. 75/2015/QH13 on Vietnam Fatherland Front*, dated June 9, 2015, Hanoi.

4. Nguyen Hong Duong (2015), Resources of religion and beliefs - epistemology, *Journal of Religious Work*, No. 10 (110).

5. Chu Van Tuan (2018), *Speech at the Scientific Seminar with the theme: "Promoting religious resources in current national development"*, by the Central Theory Council and Academy of Sciences Vietnam Society Coordinated Organization, Hanoi.

6. Central Executive Committee (2003), Seventh Conference Resolution on Religious Work, dated 12 March 2003, Hanoi.

7. Ministry of Home Affairs (2020), *Official Letter No. 6955/BNV-TGCP on the list of religious organizations, organizations granted certificate of registration*, issued on December 28, 2020, Hanoi.

8. Xuan Thi (2020), "7 good lives, 3 good looks", <http://daidoanket.vn/7-tot-doi-3-dep-dao-459915.html>, (February 26, 2020).

9. Le Thi Lien (2019), "Promoting religious resources in national development", <http://hdll.vn/en/nghien-cuu---trao-doi/phat-huy-nguon-luc-ton-in-the-land-in-country-country.html>, (February 5, 2019).

10. Central Executive Committee (2018), *Project "On strengthening religious mobilization and unity in our country today"*, Hanoi.

THE ROLE OF THE BUDDHISM IN ENSURING SOCIAL SECURITY IN VIETNAM TODAY

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Abstract

Although, Buddhism is an imported religion to Vietnam, with the spirit of loving kindness, compassion, vicarious joy, equanimity, egolessness, selflessness, especially with the thought of saving from misfortune and danger and reincarnation, Buddhism has established a particularly important place in Vietnamese life. Over the historical periods of Vietnam, Buddhism has always accompanied the nation, performing its social security function well. The Buddhism's social security work is developing in breadth and depth, from charitable and humanitarian fundraising activities to sustainable hunger eradication and poverty reduction activities by multi-activities. Therefore, Buddhism plays an increasingly important role in ensuring social security in Vietnam in the current background. In order to clearly show the purpose of the article, the author proceeds to clarify the following points: (1) analyze the basic philosophical contents of Buddhism related to social security; (2) assess the reality of ensuring social security of Buddhism in Vietnam through analyzing and synthesizing Buddhist activities; (3) propose some solutions to promote the role of Buddhism in ensuring social security in Vietnam in the coming time.

Keywords: *Buddhism, social security, Vietnam.*

1. Introduction

In the view of the International Labor Organization (ILO), social security is the society's guarantee to individuals through a series of public measures, aimed at counteracting economic and social difficulties caused by income suspension or reduction, caused by illness, maternity, work accident, unemployment, injury, old age and death; at the same time, ensuring medical care and subsidizing multi-child families. Therefore, in essence, social security is the guarantee of income and life for individuals in society through public measures, therefore, this is a deeply humanistic and important action for the sustainable development of society. Social security includes a number of basic components that are social insurance, social assistance, family subsidy, social savings fund, and other social services financed by public funds.

In Vietnam, ensuring social security is always considered as a regular duty of the State and the entire society. In Article 34 of Constitution of the Socialist Republic of Vietnam

2013, it is affirmed that: "Citizens have the right to social security". Currently, the system of social security policies in Vietnam consists of four basic groups: (1) The group of employment policies to ensure minimum income and reduce poverty: supporting people to proactively prevent risks by entering the labor market for good jobs, minimum income and sustainable poverty reduction; (2) The group of social insurance policy: supporting people to reduce the risks of getting sick, work accident, old age ... through social insurance to be actively compensated for the reduced income or lost due to the above risks; (3) The group of social assistance policies, including regular subsidies and irregular subsidies. (4) The group of basic social service policy, helping people to access basic services in education, health, housing, clean water and information and communication1.

Buddhism has a long tradition, accompanying the development of Vietnamese history. Buddhism was an important resource in the process of building and defending the country from the historical dynasties of Vietnam to the period of resistance against French colonialism and American imperialism. Currently, in the period of peace and integration and national development, Buddhism continues to conduct charity and social activities to help unfortune people. The Buddhist social security activities not only show compassion, thought of saving from misfortune and danger but also show the function of patronage and social relief. Not only that, Buddhism also cooperates with other social organizations to conduct many charity and social activities to support people and build a social security system.

2. Method

The author combines many research methods, in which mainly using methods of analysis, synthesis, demonstration, comparison, data tabulation, generalization to clarify the content of the stated theses.

Introduction: The author uses analytical methods to clarify the basic content of social security; overviewing of the social security policy system of Vietnam; clarifying the role of Buddhism in the development process of the Vietnam's history.

In the research results and discussion section: The article inherits the relevant research results, in which analytical methods are used to clarify the contents of Buddhist philosophy of reincarnation, responsibility to the social community and others, clearly showing the spirit of social security. To evaluate the current state of the work of ensuring social security of Buddhism, the author collects and gathers data to make a demonstration table. From the specific data, the author analyzes and proves the Buddhist social security activities such as building charitable, building roads, building bridges, vocational training, career guidance, medical examination and distribution to the people and other volunteer activities.

From the research on the current situation, the author uses the synthesis and generalization method to assess the success and limit of the Buddhist social security work, as a basis for proposing solutions to improve the quality of social security in the coming time.[64]

Conclusion: The author uses the synthesis and generalization method to highlight the research results.

3. Results

3.1. Buddhism and social security issues

In the Buddhist scriptures, the concept of social security is not mentioned in detail and clarity. However, over the period of more than 2500 years of establishment and existence and development, Buddhist philosophies and perspectives have covered contents related to social security and are manifested by reincarnation activities, saving life, saving people.

Since its inception, Buddhism has promoted the spirit of loving kindness, compassion, vicarious joy, equanimity and kindness for the happy and peaceful human life. According to Buddhist philosophy, the goal of practice is enlightenment and liberation, however, in order to accomplish that goal, the religion must be associated with life, "The Buddha Dharma is irresistible to the world" must take loving kindness, compassion, vicarious joy, equanimity, egolessness, selflessness to perform. In particular, Buddhism always upholds the spirit of compassion in a practical way through sharing human suffering and loss, helping people in need. In Buddhism's Six Degree (which includes the virtues of almsgiving, morality, patience, diligence, meditation and wisdom), almsgiving is the first action to be performed on the path of liberation. In the Ten virtues, not only not stealing but also almsgiving is one of the three good things about karma that all Buddhists must practice. Or like the concept of the Four Divine State of Mind of Buddhism, Buddhist philosophy states that people need to have loving kindness, compassion, vicarious joy, equanimity. This is the main factor that helps to develop compassion, saving life, and directing Buddhist activities to human purpose. Buddhist scriptures in Ignorance Rakshasa booklet have affirmed that "the ability to harmonize, create karmic effects, turn samsara" means living in harmony with other people, doing good deeds, accumulating virtues is the way of liberating from samsara. In the Medicine Sutras, the Buddha advised sentient beings to light a lamp to bless, to be liberated from calamities and accidents. As in the Lotus Sutta states: One is to be recited by the Buddhas, the second is to plant the roots of merit, the third is in right concentration, and the other is to devote to saving all sentient beings. Thus, in the way to enlightenment, the first thing is to practice generosity, live responsibly with society. This content is close to social security, directing Buddhist activities to human purposes, meeting the urgent human needs for the right to life, the right to seek happiness.

[1] Mai Ngoc Cuong: Xay dung va hoan thien he thong chinh sach an sinh xa hoi o Viet Nam hien nay, National Political Publishing House, Hanoi, 2009, tr.21.

Stemming from the theory of dependent origination and the conception of Causal Law and Reincarnation Law, Buddhism has found the relationship between human and human, human with society, the relationship between past, present and future; helping people and live responsibly with society is the path of practice. The basic purpose of the Buddhist Doctrine is to release people from the suffering of present and next incarnation. Liberation does not mean spiritual practice to escape from life, but to best perform its duties and responsibilities to society by concrete actions, ie "Dharma Prachar" is associated with "benefit of populace".

Thus, in the spirit of Buddhism, helping people and helping life is a natural reason on the path of enlightenment. The Buddhist philosophy is rooted in welfare from the individual to the family and society level. From a research perspective, it can be affirmed that Buddhism has performed many social functions, ensuring social security including ideological functions, directing activities of a certain community of people in the commune to carry out material and social activities, as an affirmation of "Religion often has a decisive influence on social resources…, combined with human and financial resources, determines the national economic growth"[65].

3.2. The current situation of Buddhism in ensuring social security in Vietnam

Vietnamese Buddhism pays a lot of attention to regular sponsorship activities, helping the vulnerable people, people in need and at risk through the formation of a system of orphanages, centers for nurturing old and childless people, volunteer classes. To demonstrate Buddhist activities in ensuring social security in Vietnam, the article mainly goes to research the actual figures in 2019, because in 2020, due to the impact of the Covid-19 epidemic, all aspects of activity leveled off. If we take the data in 2020, it will not really correct when considering the current situation of Buddhism in ensuring social security.

In 2019, Vietnam Buddhist Sangha has 46 active orphanage raising centers with 136 nannies, nurturing 1,329 children; 15 centers for nurturing the lonely elderly are in operation with 49 employees, helping 527 elderly; 21 active volunteer centers; 12 charity classes in operation with 12 teachers and 5,687 students (See Tables 1, 2, 3, 4).

Table 1. Orphanages

No.	Provines/Cities	Number of Orphanages	Number of Orphans
01	Khanh Hoa	5	93
02	Dong Thap	1	18

[65] L. Iannaccone: Introduction to the Economic of Religion, Journal of Ec2onomic Literatue 36, 1998, pp. 1465-96.

No.	Provines/Cities	Number of Orphanages	Number of Orphans
03	Dak Lak	1	49
04	Ben Tre	3	103
05	Bac Ninh	9	23
06	Bac Lieu	3	121
07	Da Nang	2	105
08	Can Tho	1	70
09	Ha Nam	4	26
10	Binh Đinh	1	30
11	Tien Giang	1	24
12	Tay Ninh	2	92
13	Dong Nai	8	320
14	Lam Đong	1	7
15	Thua Thien Hue	2	175
16	Gia Lai	2	73
Total		**46**	**1.329**

(Source: Social Charity Committee of the Central Vietnam Buddhist Sangha: Summary Report on Buddhist work in 2019, December 1st, 2019)

Table 2: The Centers for nurturing the lonely elderly

No.	Provines/Cities	Number of centers	Number of elderly
01	Khanh Hoa	3	14
02	Dong Thap	1	48
03	Bac Ninh	2	11
04	Bac Lieu	1	6
05	Đa Nang	1	8
06	Tien Giang	1	117
07	Tay Ninh	1	146
08	Dong Nai	3	130

No.	Provines/Cities	Number of centers	Number of elderly
09	Thua Thien Hue	2	47
Total		**15**	**527**

(Source: Social Charity Committee of the Central Vietnam Buddhist Sangha: Summary Report on Buddhist work in 2019, December 1st, 2019)

Table 3: Charity classes

No.	Provine/Cities	Number of classes	Number of students
01	Khanh Hoa	3	282
02	Ha Giang	1	0
03	Quang Tri	1	4.684
04	Tien Giang	1	200
05	Lam Đong	1	0
06	Thua Thien Hue	3	362
07	Gia Lai	2	150
Total		**12**	**5.678**

(Source: Social Charity Committee of the Central Vietnam Buddhist Sangha: Summary Report on Buddhist work in 2019, December 1st, 2019)

The facilities of the above centers are quite good, the Buddhist regular social protection activities have come into order and brought high efficiency. Many children have grown up from the temple's social protection centers and become teachers, doctors, businessmen ..., contributing to the stability and socio-economic development of the country.

Table 4: Other charity centers

No.	Provines/ Cities	Number of centers	Specialized activities
01	Khanh Hoa	3	
02	Lao Cai	5	
03	Ha Giang	4	
04	Đong Thap	4	
05	Đa Nang	2	Charity cooking

No.	Provines/ Cities	Number of centers	Specialized activities
06	Quang Tri	1	Rehabilitation
07	Đong Nai	1	Nurturing agent orange children
08	Gia Lai	1	Nurturing agent orange children
Total		21	

(Source: Social Charity Committee of the Central Vietnam Buddhist Sangha: Summary Report on Buddhist work in 2019, December 1st, 2019)

In addition to centers established for regular subsidies, Vietnamese Buddhism has promoted charity and social activities, and unexpected subsidies to support natural disasters, floods and droughts with the total amount in 2019 of 10,217,000,000 VND.

One of the basic activities is providing medical and accommodation assistance for people in need. Many monasteries, monks, nuns and Buddhists have donated health insurance cards and paid health insurance premiums for the lonely elderly, the poor, and orphans. In some localities, the Board of Trustees of Vietnam Buddhist Sangha has set up counseling and support centers for people infected with HIV/AIDS. The system of oriental medicine clinics works very effectively, bringing many benefits to everyone, and is operating in many provinces and cities nationwide. In 2019, Vietnam Buddhist Sangha of has 33 active oriental medicine clinics, with 206 doctors and nurses, examining free of charge for 6,298 people/month; 10 active western medicine clinics, with 40 doctors, examining free of charge for 4,680 people/month (See Table 5,6).

Table 5. Oriental medicine clinics

No.	Provines/Cities	Number of clinics	Number of examiners / month
01	Khanh Hoa	1	600
02	Dak Lak	1	1.500
03	Ben Tre	6	6.290
04	Bac Lieu	2	1.050
05	Da Nang	1	295
06	Can Tho	2	6.219
07	Quang Tri	1	30
08	Tien Giang	1	13.204

No.	Provines/Cities	Number of clinics	Number of examiners / month
09	Tay Ninh	2	600
10	Dong Nai	9	15.800
11	Binh Duong	3	2.400
12	Thua Thien Hue	1	795
13	Gia Lai	1	10.000
14	Quang Ngai	2	1.515
Total		**33**	**60.298**

(Source: Social Charity Committee of the Central Vietnam Buddhist Sangha: Summary Report on Buddhist work in 2019, December 1st, 2019)

Table 6. Western medicine clinics

No.	Provines/Cities	Number of clinics	Number of examiners / month
01	Bac Lieu	2	800
02	Binh Duong	7	2.760
03	Thua Thien Hue	1	1.129
Total		**10**	**4.689**

(Source: Social Charity Committee of the Central Vietnam Buddhist Sangha: Summary Report on Buddhist work in 2019, December 1st, 2019)

These medical facilities have provided traditional medical diagnosis and treatment, acupuncture, acupressure, physiotherapy, examination and distribution of Vietnamese herbs and Chinese herbs for hundreds of thousands of patients, with funding up to tens of billions dong. Monks, nuns, and Buddhists in many places also enthusiastically participate in humanitarian blood donation activities, donate to support free eye surgery for cataract patients, etc.

Associating social security activities with forms of health care, medical examination and treatment, Buddhism also organizes kitchens, charity porridge pots for poor patients. In 2019, Vietnam Buddhist Sangha provided 14,816,209,000 VND to charity vegetarian rice cookers and 1,263,790,000 VND for charity porridge pots (See Table 7.8).

In recent years, the social security work of Vietnamese Buddhism has aimed at sustainable development such as developing a type of career orientation, vocational training to create the self-reliance of people. The major Buddhist vocational training centers are concentrated in the central of Vietnam, with 02 centers in Quang Tri and Thua Thien Hue (See Table 9).

Table 7. Charity vegetarian rice cookers

No.	Provines/Cities	Quantity	Value of money
01	Tay Ninh		357.000.000
02	Ca Mau		3.200.000.000
03	Bac Lieu		4.716.109.000
04	Ba Ria - Vung Tau	4	6.543.100.000
Total		**10**	**14.816.209.000**

(Source: Social Charity Committee of the Central Vietnam Buddhist Sangha: Summary Report on Buddhist work in 2019, December 1st, 2019)

Table 8. Charity porridge pots

No.	Provines/Cities	Number of porridge pots /month	Value of money
01	Hai Phong	200	100.000.000
02	Lang Son	60	30.000.000
03	Phu Tho	2200	1.109.790.000
04	Quang Tri	48	24.000.000
Total		**2.508**	**1.263.790.000**

(Source: Social Charity Committee of the Central Vietnam Buddhist Sangha: Summary Report on Buddhist work in 2019, December 1st, 2019)

Table 9. Vocational centers

No.	Provines/Cities	Number of centers	Number of trades	Number of students	Number of teachers
01	Quang Tri	1	4	360	40
02	Thua Thien Hue	1	2	30	20
Total		**2**	**6**	**390**	**60**

(Source: Social Charity Committee of the Central Vietnam Buddhist Sangha: Summary Report on Buddhist work in 2019, December 1st, 2019)

Since its establishment up to now, these two centers have had thousands of children studying embroidery, knitting, sewing, office computers. After graduating, depending on the profession, they are introduced to work at a garment company in Ho Chi Minh City, Thuy Duong weaving company, an embroidery factory in Hue or working at home.

In the South of Vietnam, there is a vocational centers of Kom Pong Chray pagoda (Hang pagoda) in Chau Thanh town, Chau Thanh district, Tra Vinh province; Phonoraka pagoda in Soc Trang with its wood carving vocational training has given jobs and increased income for hundreds of disadvantaged people in the province, especially Khmer ethnic people. In Ky Quang 2 pagoda, Go Vap district, Ho Chi Minh city, there are vocational activities, teaching Japanese technique massage - acupressure for visually impaired students. Employees, collaborators and administrators at Buddhist vocational and social protection centers have sense of responsibility, enthusiasm, wholehearted love and care for disadvantaged people. Most Buddhist vocational and sponsoring centers have been established in accordance with the law, having well-organized skills development activities for learners and operating with the motto, non-profit charitable purposes, focusing on educating ethical qualities, responsibility and professional skills for students. Buddhist vocational centers contribute to diversifying the mobilization of social resources, sharing the burden with local authorities, with the state and society in vocational training and giving job to workers.

Vietnam Buddhist Sangha has promoted social security in the form of building charity houses, building bridges, building roads, digging wells to contribute to building a new countryside with a budget of over 41 billion VND in 2019 (See Table 10). Particularly, Giac Ngo Pagoda (with Today Buddhist fund), in 2019, implemented 05 programs with a budget of more than 6.1 billion VND, including building 04 rural traffic bridges in Kien Giang province (Giac Ngo Bridge 21, 22, 23, 24); building 03 rural traffic bridges in Tien Giang and Ben Tre provinces (Giac Ngo bridge 25, 26, 27).

Table 10. Number of charity houses, bridges, wells

No.	Provines/Cities	Type of charity activity	Quantity	Value (VND)
01	An Giang	Charity house	50	2.500.000.000
02	Bac Lieu	Charity house	123	5.037.200.000
03	Binh Dinh	Charity house	04	236.000.000
04	Ca Mau	Building bridge	61	7.200.000.000
		Well	160	560.000.000
05	Can Tho	Charity house	63	3.150.000.000
		Building bridge	30	2.502.000.000

No.	Provines/Cities	Type of charity activity	Quantity	Value (VND)
06	Ha Nam	Charity house	01	25.000.000
07	Hai Phong	Charity house	15	600.000.000
08	Kien Giang	Charity house	29	1.450.000.000
		Building bridge	8	900.000.000
09	Lang Son	Well	140	1.400.000.000
		Charity house	01	30.000.000
10	Nam Đinh	Charity house	50	2.500.000.000
11	Quang Tri	Toilet, Preschool	02	261.900.000
12	Tay Ninh	Great unity house	1	1.100.000.000
13	Thanh Hoa	Charity house	4	250.000.000
14	Thua Thien Hue	Charity house	2	120.000.000
15	Tuyen Quang	Building bridge	1	240.000.000
		Charity house	5	150.000.000
16	Vinh Long	Building bridge	15	4.500.000.000
		Charity house	103	6.000.000.000
17	Vinh Phuc	Charity house	8	393.500.000
Total			**876**	**41.105.600.000**

(Source: Social Charity Committee of the Central Vietnam Buddhist Sangha: Summary Report on Buddhist work in 2019, December 1st, 2019)

Responding to the trend "favour repaying", monks, nuns and Buddhists throughout the country have participated in supporting Vietnamese heroic mothers, giving charity houses to mothers, wounded soldier; donating to the favour repaying fund, sea - island gratitude program, the fund for victims of agent orange.

The mobilization of resources for social security has continuously increased over the terms of Vietnam Buddhist Sangha, as can be seen as: 111,733 billion VND in Term III (1992 - 1997), 296,972 billion VND in Term IV (1997 - 2002), over 400 billion VND in Term V (2002 - 2007), 2,879,432 billion dong in Term VI (2007 - 2012), which was 10 times higher than previous term. During the Term VII, the social charity work of the Vietnam

Buddhist Sangha made great progress. In just 4 years from 2013 to 2016, the total funding for Buddhist social charity reached over 4,000 billion VND, greater than the total funding of all previous terms. In 2019, the amount raised to charity by Vietnam Buddhist Sangha was 2,031,072,316,500 VND. These figures confirm the important role and effectiveness of Buddhism's contribution to social security.

3.3. Some reviews and comments

The activities of Vietnam Buddhist Sangha in recent years have made great contributions to the social security work of Vietnam, which can be mentioned on a number of points, as follows:

Firstly, in recent years, the social security work of Vietnam Buddhist Sangha has expanded in terms of beneficiaries and scope of activities, forming a diverse and flexible organization in the way of conducting. The operation process has been in coordination with the authorities, National Front and socio-political organizations, attracting a large number of people, especially businesses, therefore bringing great efficiency, contributing to share burden with the State in solving social security and welfare issues, and building a democratic, fair, civilized and happy society.

Secondly, Buddhism's social security activities emphasize humanity, human values and social responsibility, so it has a great effect on helping people to ignore their selfish lifestyle, having altruism and social responsibility, contributing to consolidating and building up the ethical values and lifestyles of the Vietnamese people. Therefore, Buddhist social security activities have great educational functions. In addition to material gifts, the compassionate spirit of Buddhism also brings noble spiritual values, such as giving sympathy, love, giving pure faith, giving merciful energy and help people to rise in life.

Thirdly, the Buddhist social security programs have a great attraction and spread, positively affecting the soul life life of the human and society. Through social security programs, the positive values of Buddhism have entered the lifestyle and thinking way of many Vietnamese people, thereby helping them to behave properly at work, to everyone, to society and the environment. Those are the necessary factors to build a sustainable society, harmonious between the economy and the society and the environment.

Fourth, Buddhist social security activities are associated with patriotic emulation movements, social charity campaigns, activities conducted by National Front, Labor – War Invalids and Social Affairs and departments, branches and unions, having actively contributed to building the great unity block of the whole nation, the bond between religion and life is increasingly strong. Many individuals who are monks, nuns and Buddhists actively participate in social protection activities, lovingly and taking care of people with all their heart; actively call on believers to participate in social security activities.

However, the social security work of Buddhism in Vietnam still has some limitations:

Firstly, the systemic connectivity in Buddhist social security activities is still not high, the organizational level is still not professional. The organization of teams helping people suffering from natural disasters is still fragmented, lacks of linkage; not fully promoting rich human potentials of the divisions and members in social security activities; there is a lack of linkage with socio-political mass organizations.

Second, the qualifications and quality of training in social security assurance, especially vocational training, are still simple and have not yet reached specialization and high level. At present, vocational institutions are small in size, scattered, and technical facilities are still poor and degraded; the professional qualifications and skills of teachers and staff members in a number of Buddhist medical, educational and vocational centers are limited; The opening of new centers is still limited and facing many difficulties in personnel, facilities and finance, etc.

Thirdly, the work of reporting information related to social security activities to the Central Vietnam Buddhist Sangha of a number of the Board of Trustees of Vietnam Buddhist Sangha in provinces is still limited therefore Social Charity Committee of the Central Vietnam Buddhist Sangha could not capture data và situation sufficiently. This leads to difficulty in promoting the overall strength and the support of other social forces in social security activities for the people.

Fourthly, Vietnam Buddhist Sangha currently does not have a basic and stable financial source to carry out social security work, so it is sometimes confused and passive in the implementation process.

3.4. Solutions to promote the role of Buddhism in ensuring social security

Firstly, it is necessary to educate the masses of Buddhists to understand the Buddhist philosophy of samsara, cause and effect, their own spirit of will and energy, as the foundation for enlightenment and liberation, driving force for the development of society. It is necessary to educate believers and the masses to understand the roots of the Buddhist philosophy which affirms that the Buddha cannot bless or harm anyone, can not help people escape from poverty and suffering that each person has to take responsibility for his own live. Rich or poor must be created by each person according to the law of cause and effect. Living good accept lucky, living a good life, training willpower, striving to improve morality, wisdom will be the decisive factors to escape poverty, enjoy a fully prosperous life in present. Properly understanding the philosophical spirit of Buddhism, each person will strive for wisdom and mercy, to attain the true values of truth - goodness - beauty, personal enrichment and helping others. These are important factors for the implementation of social security, sustainable escape from poverty, and development of the society.

Secondly, it is necessary to promote social security models, including vocational training and career guidance. With the view of incarnation and saving people from misfortune and danger, Buddhism should continue to promote various types of vocational training and career guidance to help the poor have the ability to establish themselves and establish a career. However, as a major religious organization in Vietnam, this aspect of activity is still limited. Vietnam Buddhist Sangha needs to upgrade the scale and quality of the existing vocational and social assistance establishments to care, educate and train more and more; to adopt policies to support and invest more in training facilities and equipment for Buddhist vocational training centers to develop, making these centers be prestigious and reliable vocational training destinations and competitiveness in the market mechanism and deepening international integration.

Thirdly, it is necessary to train the team working in social security to be more professional. To improve and expand social security work, there must be a professional social security team, equipped with soft skills in social knowledge, psychological understanding and communication ability, public media and events. This team is the adviser to the Central Vietnam Buddhist Sangha and other provinces and cities on social security work; to develop a scientific and methodical social security plan, both to promptly solve arising unexpected problems, while ensuring the long-term to bring Buddhist social security work in depth and sticking to observe social practice. Universities in Vietnam such as: University of Social Labor, Open University, University of Social Sciences and Humanities - Hanoi National University, Academy of Journalism and Communication etc. all have training this subject in many different levels. Therefore, the Social Charity Committee of the Central Vietnam Buddhist Sangha needs to coordinate with these educational institutions to train and issue certificates of social work for monks, nuns and Buddhists.

Fourthly, it is necessary to create a stable financial source for social security. The financial source for the social security of Buddhism can come from a variety of contents such as: donations from Buddhists, sponsorships from businesses and philanthropists and international organizations and the main source of income from activities of Buddhism. To have financial resources for ensuring social security activities, it is necessary to focus on the sources of income from Buddhism itself. For Buddhism, spiritual cultural tourism is a strength, if there is an effective direction and organization, this is an abundant source of finance, serving the missions of Buddhism. Currently, in Vietnam, there are many spiritual and cultural tourist sites such as Huong pagoda, Yen Tu, Tam Chuc, Bai Dinh, which have attracted thousands of domestic and foreign tourists. The cultural and spiritual centers of Vietnam have had great economic and social impacts on the region in particular and the country in general. The revenue from ticket money, accompanying services, performed religious activities, career such as statue casting, cultural and spiritual products etc. have created jobs for thousands of people, at the same time increasing revenue for Buddhism.

However, it is necessary to have a more effective management and organization method in order to comply with the provisions of the law on beliefs and religions; strictly manage financial resources, avoid loss and waste.

Fifthly, it is necessary to renew the social security work of Buddhism, the activities need to go into depth, the method needs to be more creative. The social security work of the Vietnam Buddhist Sangha must be flexible and creative to suit different subjects. To well implement this content, the social security work of the Vietnam Buddhist Sangha needs to be organized systematically, establishing a specialized social security agency from the central to the district level and divided into thematics. Each thematic is undertaken by a corresponding unit, usually voluntary social work teams consisting of monks, nuns and Buddhists in coordination with mass organizations to promptly support people in by natural disasters, floods, poor rural areas. It is necessary to diversify social security activities, for each person and depending on the age to have appropriate forms of help. Associating with material help and spiritual help, it is also necessary to focus on education, converting, spiritual improvement to help them calm down and be at peace and content with unusual events of life, thereby getting rid of worries and grief to rise to master themselves.

4. Conclusion

The social security work of Buddhism is increasingly developing in breadth and depth. Previously, Buddhism carried out social security mainly humanitarian and charitable social activities in the form of fundraising to support, but now it has expanded job creation activities with sustainable poverty reduction through diverse activities such as: donating scholarships, donating charity houses, vocational training, medical treatment, free medicine distribution, supporting family under preferential treatment policy, nurturing orphans, and other volunteer work. With its contributions, Vietnamese Buddhism increasingly asserts its role in society, making an important contribution to the sustainable development of Vietnamese society. In order for the social security to be better, in the coming time, Vietnamese Buddhism needs to promote educating and disseminating its ideas so that the masses can take the initiative and make efforts to rise to master themselves; improve the efficiency of vocational education and training; increase revenue and manage financial resources effectively; Be creative flexible in organization and training for the team of social security work.

5. References

1. Mai Ngoc Cuong (2009), Xay dung va hoan thien he thong chinh sach an sinh xa hoi o Viet Nam hien nay, National Political Publishing House, Hanoi.

2. Standing committee of Executive Board of Vietnam Buddhist Sangha, Summary report on Buddhist work in 2016, 2017, 2018, 2019.

3. Nguyen Hong Duong (2004), Ton giao trong moi quan he van hoa va phat trien ở Viet Nam, Social Sciences Publishing House, Hanoi.

4. Duong Quang Dien, Nguyen Van Tuan (2020), Phat giao voi hoat đong bao dam an sinh xa hoi - Mot so van de ly luan va thuc tien, Religion Publishing House, Hanoi.

5. Do Quang Hung (2005), Van de ton giao trong cach mang Vietnam: Ly luan va thuc tien, Nxb. Truth National Political Publishing House, Hanoi.

6. Tran Hong Lien (2010), Tim hieu chuc nang xa hoi cua Phat giao Viet Nam, Hochiminh city Publishing House, Ho Chi Minh.

7. Le Van Loi (2017), Phat giao gop phan thuc hien chinh sach an sinh xa hoi, Political Theory Magazine, No. July 2017.

8. Thich Tri Quang (2008), Phat giao nhap the va phat trien, Religion Publishing House, Hanoi.

9. L. Iannaccone: Introduction to the Economic of Religion, Journal of Ec2onomic Literatue 36, 1998, pp. 1465-96.

RESEARCH ON VIETNAMESE TRADITIONAL MILITARY CULTURAL VALUES

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Abstract

The traditional military cultural values of Viet Nam is the combination of material and spiritual creativeness that contain truth, goodness, beauty and reflect and express the noble social values of Vietnamese people in the field of military. These values have been passed and developed from generation to generation and have great significance for the development of society and people nowadays. They include patriotism, humanism and unique military art. Currently, it is necessary to actively do propaganda, education, well organizing practical activities and emulation movements, and creating a favorable cultural environment to promote cultural military values in the new situation.

Keywords: *military cultural values, traditional, Viet Nam*

1. Introduction

Over thousands of years of history, the Vietnamese people have created highly unique material and spiritual values that contain truth, goodness and beauty, reflecting and expressing the noble social values of Vietnamese people in gaining and protecting national independence. These values have continuously been passed, transferred, fostered and developed from generation to generation, becoming a particularly important element in the national culture - traditional military cultural values. Traditional military cultural values play a great role in the development of people and society in Viet Nam in general, and soldiers in the People's Army of Viet Nam in particular. However, such role naturally exists only in potential form; in order to create power in practice, it is necessary to have a process of promoting in reality, with the presence of the subjects and elements of military life. Clarification of the concept, arising, development and content of traditional military cultural values is an important condition for proposing solutions to promote them in practice.

Up to now, many scientists have approached and studied the traditional military culture from many different dimensions. Due to the limited scope of research, this article only focuses on considering traditional military culture of Viet Nam in terms of system - value, that means considering it as the core and basic values of Vietnamese military life and activities throughout the history of country building and protecting.

2. Method

This study applies the general methodology of dialectical materialism and historical materialism, namely the views of Marxism-Leninism, Ho Chi Minh's thought, and the policies of the Communist Party of Viet Nam on culture and culture development, human and human development, war and the army. Concurrently, the works also use specific methods such as: analysis and synthesis, history and logic and comparison methods.

Analysis and synthesis method: Being used to analyze documents on related issues, such as: scientific topics, scientific articles, dissertations, practical evaluation reports…etc. to draw information basic information about military operations and life. Systemize such information to identify the article's main points.

History and logic method: By researching the history of Vietnamese military ideology, history of major events in the process of fighting to gain and protect national independence to logicise, finding out the practical arising and development basis of traditional military culture as well as its basic and natural issues.

Comparison method: Being used to compare traditional military culture with modern onesand anti-values. Therefore, we can see the richness, diversity and new manifestations of traditional military cultural values as well as the need to do research of methodological issues in order to promote them in the new situation.

3. Results

3.1. The basic issues of traditional military cultural values

Cultural values is a concept conceived by researchers in many different ways, such as: considering it "the most noble, beautiful; the smell, taste, scent of life" [1, p.133], "the cultural achievements that promote the rise of history and serve the interests and needs of the people and the country" [7, p.136], or "the sum of human achievements, demonstrating the development of the human nature according to the criteria of truth, goodness and beauty of each individual and community in creative activities with social significance" [8, p.17]…ect. In brief, *cultural value is the combination of material and spiritual creativeness that contain truth, goodness, beauty and have great significance to promote human and social development*.

In fact, *culture* and *cultural values* are "couple" terms, which are unified in many ways, even a lot of researchers identify them when they think that "the whole culture is one kind of values, culture only contains values, and culture is a part of values" [6, p.40]. However, to draw a relative distinction when culture is mentioned, people often see it from an aspect of life, where there are not only values - which exist as the stable foundation, but also vivid and diverse expressions. When it comes to cultural values, it is to emphasize the core - the last one remaining when we filter out all external phenomena of cultural life, which have great ability to affect the depth of all people's thought and consciousness. Naturally, the real level, scope and effectiveness also depend on many factors in different periods of the history.

Rejecting some fallacies, which always consider the military as a non-cultural field, we all affirm the existing of military cultural values in the history of military operations of all countries, nationalities, and political - social regimes. Although the military is an area associated with human losses, violence and destruction, wherever the military operations are for the sake of righteousness and protection of human dignity, peace and happiness of the community, which contains the truth, goodness and beauty, they by themselves generate cultural values - military cultural values. Military cultural values can be divided in many different ways, existing in two basic forms: physical forms such as military buildings, combat plans, accommodation arrangements, and other military activities etc; intangible forms such as ideals, spirits, political characters, beliefs, traditions, manners, military lifestyle, etc.

According to Sino-Vietnamese meaning, “Tradition” means the righteous transfer and continuation from generation to generation. When mentioning about the power of tradition, K. Marx had a classic saying: “The tradition of all dead generations weighs like a nightmare on the brains of the living” [2, p.145]. Thus, according to the logic of conceptual development, it can be conceived: *The traditional military cultural values of Viet Nam is the synthesis of material and spiritual creativenesses that contain truth, goodness, beauty and reflecting and demonstrating the noble social values of Vietnamese people in the military, which has been handed down, transferred, inherited and developed from generation to generation, and have great significance for the development of current society and people*.

The traditional military cultural values are always associated with the history of building and protecting the country of Vietnamese people, the social existing with natural and geographic conditions, the ways to organize the state and fight against aggressors throughout the history. The military struggle accounts for a large part of the national history, so the traditional military cultural values are always associated with the history of building and protecting the nation. From the era of the Hung Kings, although the class division was not severe, the demands on water control and against foreign invaders prompted the early birth of the Vietnamese state; along with that, military organizations and activities were also built and carried out in many different forms to protect the community, the nation and the territorial sovereignty. Right from the beginning of history, the core values of the Vietnamese traditional military culture had been identified, laying the foundation for our nation's continuous existence and development in the next centuries. It is more than 10 centuries of fighting against assimilation to preserve the spirit of the nation; is a brilliant Dai Viet civilization; and being continued until the era of Ho Chi Minh when Viet Nam, regardless of being poor and backward, had a great influence on many countries and people in the world with great victories in the national struggle to gain independence and freedom.

Viet Nam’s geopolitical position is highly valuable, located in the region connecting the Pacific Ocean and the Indian Ocean, between two major civilization centers - China and India. From a very early age, Viet Nam has become the meeting point of those civilizations. With coastal terrain, located in the tropical monsoon area, this land is rich and fertile but harsh and fierce with a lot of unexpected disasters. It is such geographical characteristics and natural conditions that have fostered Vietnamese people’s passionate patriotism, humanism, solidarity and love throughout the history of fighting against two frequent threats: foreign invaders and natural disasters. The natural conditions have also contributed significantly to the formation of special features in the Vietnamese military arts such as "use small force to win big enemy", "use small forces to fight against big enemy", etc. From a very early age, the Vietnamese knew how to exploit the terrain in military activities, relying on the dangerous terrain to fight against the forces of invaders. The victory in several wars against foreign invaders was partly due to the fact that Vietnamese people took the most advantage of terrain conditions.

In the history, foreign powers had repeatedly invaded Viet Nam, forcing generation by generation of Vietnamese to constantly stand up to fight against them in order to maintain human rights and national sovereignty. In this process, the values of traditional military culture of Viet Nam have been continuously fostered and deepened. Right from the beginning of the nation's construction, the inhabitants of Van Lang - Au Lac had carried out heroic struggles against were brave and conspiring to fight against the enemies of An, Man, Red Nose, Qin and Trieu dynasty. After An Duong Vuong's defeat by Trieu Da, Viet Nam had been controlled by Chinese feudal dynasties for more than 1,000 years. However, during such period, the Vietnamese continuously rose up in arms against these oppressive rulers.

After the victory of Bach Dang battle in 938, Viet Nam built up an independent feudal state. However, during the next 10 centuries, we could not live in peace due to several foreign invaders. Vietnamese army and people continued to rise up to carry out resistance and insurrection such as: Two times of resistance against the Song, three times of resistance against the Yuan, the resistance against the Ming, the Lam Son uprising, the resistance against the Siam and the Qing, etc. In the modern time, the values of traditional military culture once again shined and developed to the peak, making an important contribution to the nation's victory over the invading French and American professional armies.

3.2. Values of basic traditional military culture of Viet Nam

The basic contents of the values of Vietnamese traditional military culture have been affirmed and clarified by many researchers; therefore, this article mainly inherits and systematizes them into 3 issues:

Firstly, nationalism

Patriotism is a universal value in human life, but for the Vietnamese people, patriotism has been developed and upgraded to a level of nationalism, covering the whole consciousness, directing all activities in every aspect of every human being, especially in the military field. In other words, Vietnam's military is not a purely military foundation, but all aspects of military organization and activities are imbued with nationalism, using nationalism as the foundation to build, maintain and promote the military strength to protect the Fatherland. Nationalism becomes a core value of Vietnamese traditional military culture, the deepest source of all spiritual qualities and creative potential in every human being, so that when being aroused, it creates extremely strong military power, "passing through all dangers and difficulties and engulfed all gangs of traitors and invaders" [5, p.38], keeping the country and people everlasting.

One of the core contents of Vietnamese nationalism is the spirit of fighting against foreign invaders, protecting independence, freedom and national survival. In the world, it is rare to find out any people who had to go through a long and arduous process of fighting against aggression like the Vietnamese people (throughout history, our people have been dominated by foreign powers for nearly 12 centuries). However, it seems that the more difficult the situation is, the more powerful Vietnamese people’s nationalism is showed. When the country was in peace with good kings, people from all walks of life were gathered under the banner of great cause and ruling classes to consolidate national defense and build the country. When the country was invaded, our people continuously stood up to an armed uprising and were ready to sacrifice to the last one to regain national independence. When the feudal class abandoned the leadership role and the country stood on the brink of many disasters, the people rose to undertake the national mission to fight against foreign invaders and eliminate the feudal reactionaries. In the new era, with the light of the Marxism – Leninism, Vietnamese patriotism has highly developed to the target of national independence being associated with socialism.

The nationalism in the military field not only has a strong attachment to the environment, living situation, family and homeland, but also a deep sense of independence, self-control and sovereignty, which are showed with the acts to sacrifice themselves for a great cause, dare to sacrifice personal benefits for the benefit of the community and the country. All Vietnamese people love peace, but it is not a kind of peace in bondage. Therefore, whenever the enemy invades, the Vietnamese people, from young to old, are all ready to go to the battle and determined to drive them out to regain the independence and freedom. During the thousand-year history of the nation's struggle to build and protect the nation, exemplary examples of noble sacrifice for great cause always appear: They are ready to sacrifice for the independence and freedom for the nation as well as peace and happiness for the people.

From nationalism, the traditional resilience and undauntedness in struggle was formed in the cause of fighting against foreign aggression. Although the vast majority of invaders were the most powerful empires in the East, even in the world, the Vietnamese people have never trembled with fear and never surrendered. With the spirit of "being ready to die for the motherland", "better die in honor than live in disgrace", "better die in Viet Nam than live as an emperor in China", the Vietnamese people always show their tenacious will to fight against the enemy on all fronts and battlefields with any kind of forces and weapons. The most precious thing of every human being is life, but for the country, Vietnamese people are ready to dedicate their lives when necessary to the cause of national liberation.

Nationalism also becomes the common denominator to realize national unity and consistent will in the army and all of Vietnamese people, creating great military power against enemies. In the army of Vietnamese feudal dynasties, the tradition of "generals and solders like father and son in a family with singleness of mind" was built and passed from generation to generation. Standing together like flesh and blood relation is a precious tradition, stemming from the reason that all members of the army share their patriotism and deep hatredness for the enemy. On a larger scale, the national unity is also built on such foundation. In case of foreign invaders, all internal conflicts and discords would be pigeon-holed, highly expressing the spirit of community solidarity, and creating great strength. History has also proven whenever the leading forces of the country are capable of gathering and uniting all classes of people under the banner of nationalism, we could gain victory, no matter how strong the enemy is; on the contrary, if the leading forces fail to do such, failure is inevitable.

Secondly, the military humanity

Military is inherently anti-humane activity, especially in war - where the warring parties always find ways to decimate, destroy, and damage the opponents' life and materials. However, the humanistic spirit is imbued with the Vietnamese military because of the righteousness and self-defense in military organization and activities. In Viet Nam, the military force is built entirely not to dominate, invade and threaten other countries and people, but to defend ourselves, being ready to defeat any invaders and protect the interests of the state and the peaceful life of the people. The Vietnamese people always want peace and find every possible way to prevent war, but the enemy never gives up on their intentions to annex the country. Whenever the Fatherland is invaded, the army forces and the entire nation are resort to stand up for self-defense. At such times, humanity is like a spiritual fulcrum, an ideal that covers the entire life of the Vietnamese community - people, with the fundamental content of human morality, motivating each person to perform their sacred duties and lofty duties: protect the Fatherland, fight against the assimilation, oppression, exploitation and enslavement of great countries, and protect human dignity. It can be said that the goal of protecting people, defending the righteousness and justice is the highest level of perfection and humanity of the Vietnamese military. The nation's great thinkers and generals always have strong and clear declaration on such humanistic goals before, during and after each war, affirming: "using military is a cause of humanity to save the people and the country "[4, p.286],"we go into the battle to save all the people"[3, p.320].

Viet Nam's military humanity is clearly shown through minimizing the death and loss of the people and soldiers. The Vietnamese military always affirms its will to fight and win but not at all costs. We always try to find out the best and most effective way to fight in order to minimize the loss. Accordingly, the Vietnamese military always implements "quality is better than quantity", "use small forces to fight against big enemy", well combining the factors of forces - position - time – strategy to create general power against the enemy, making the enemy weaken, bogged down and led to failure.

Viet Nam's military humanity is also evident in its tolerant and humane policies in dealing with the invaders. In the history, our people had suffered the oppression of the northern feudal dynasties for more than a thousand of years, and a lot of enormous consequences caused by the brutal policies of such invaders. However, with the policy of using great cause to win cruelty and humanity to replace violence, Vietnamese people and military forces are always tolerant and humane towards our own enemies. The Vietnamese military does not aim to completely destroy the enemy, but the highest goal is to weaken the enemy's will to fight, and then driving them out of the country. The Vietnamese people always seek to awaken the invaders' native good judgment, making them being aware of the inhumanity and meaninglessness of their actions which are contrary to the God's will and people; therefore, their failure is inevitable and call them to withdraw their troops in order to avoid loss and death. Even when the enemy has been defeated, we still give them the chance to withdraw in peace. Additionally, the prisoners of war are also treated in a humane way. Above show that the Vietnamese military not only tries to limit the loss of Vietnamese lives, but also always shows the lofty humanity towards their own enemies.

Thirdly, unique military art

Military art is a creative product of Vietnamese people in preparing and carrying out the fight against foreign invaders during the process of building and protecting the country. In addition to its similarities with other countries, Viet Nam's military art has its own characteristics, expressing the independent and creative thinking of Vietnamese people. To Viet Nam, even facing with strong enemies, building up elite forces is not the only target but they include the truth, goodness and beauty. Moreover, in the wars against foreign aggression, the army was not alone, not the only force, but always the core for the entire population to fight the enemy. Therefore, Viet Nam's military art from its birth to the present has always contained unique features with being imbued with the truth, goodness and beauty, becoming a cultural and traditional military value. Depending on the research direction, there are many different approaches, but as a value of traditional military culture, the unique military art of Viet Nam is considered with two main slices, including the art of organizing war preparation and waging war.

The art of organizing war preparation in traditional Vietnamese military culture has always been thoroughly prepared with the spirit of early and remote preparation, taking advantage of peaceful times to gather, build armed forces, and prepare necessary sources, consolidating all aspects being ready for war. It is clearly demostrated with a series of strategies used by many feudal dynasties such as, "For the people"; "Sending the troops to work as farmers in a period of time when the country is in peace", "every common person could become soldiers in the war time", etc. The art of organizing war preparation with the above strategies has brought into full play the power of righteousness, built the trust in victory of the entire nation and aroused a sense of national unity for the independence. All-people war can produce desired effects be effective only when being based on appropriate methods of force organization, mobilizing the power of the entire society. Nowadays, the tradition has been developed to the strategy of all-people defense with the highest purpose of preventing any kind of war, but at the same time, being ready to win all wars of aggression, firmly defending the Fatherland – the socialist republic of Viet Nam.

Vietnamese military art is also very prominent in waging war, especially the unique ways of fighting. Viet Nam's ways of fighting contain all common characteristics and comply with the harsh rule of war - "The strong will win, the weak will lose". However, grasping the idea of proactive attack, promoting the great and endless potentials of the entire army and people, the Vietnamese military has created a lot of effective, flexible strategies and plans in multiforms, causing all invaders failed, no matter how big or violent they are. In feudal times, the strategies of "deserted country", "night attack", "surprise attack", "diversion", etc. have become the fear for the Chinese invaders. In the time of Ho Chi Minh, the Vietnamse military art had developed from the guerrilla warfare to the regular troop operations (raid, ambush, attack an entrenched fortification to decimate its reinforcements, offensive movement, air landing attack, etc.) to the combined operations among military regions or army corps, combining the general uprising and offensive of the masses.

3.3. Promoting the values of Vietnamese traditional military culture in the current situation

Currently, in the world, the Fourth Industrial Revolution has strongly and comprehensively been impacting on all fields and all aspects of social life, creating many important premises for people to develop comprehensively and become stronger. The achievements of more than 30 years of renovation have made the material life of the people, cadres and soldiers constantly improved. The army continues to receive the attention and care of the Party and State leaders. These are the basic advantages that affect the promotion of the traditional military cultural values today. However, addition to these advantages, many difficulties and challenges appear, affecting and dominating the promotion. Along with achievements in material development, the society is also facing many problems such as degradation of moral, culture, lifestyle, human personality; social evils; a part of young people "empty" of historical awareness, turning their backs on traditional values, the trend of "Western lifestyle" is taking the throne, etc. Additionally, the non-stop antigovernment in many aspects of the hostile forces has been affecting the psychology, thoughts and feelings of the masses, especially the young, creating the risk of "self-evolving", "self-transforming".

The national traditional military cultural values have proved their great role and impact on the development of Vietnamese society and people in history. In the current situation, the traditional cultural and military values not only continue to assert their role, but also show the continuous increase in their effectiveness. A value system of humanity, human love, human character and solid cultural origin in the nation's millennial military tradition are the solid spiritual support for the Vietnamese people to overcome all difficulties and challenges, creating a resilient and strong country of Viet Nam.

Today, promoting the traditional military cultural values requires many solutions, with the synchronous participation of all levels, branches and forces. First of all, it is necessary to focus on carrying out effective propaganda and education of traditional military cultural values in order to raise the awareness and responsibility of all classes of the people, especially the young. It is necessary to continue to have in-depth studies to continue to systematize, summarize, affirm, clarify and enrich the values of the national traditional military culture. Actively innovating methods of propaganda and education, focusing on new, visual methods, promoting the application of new technologies to improve the quality and efficiency of these activities. Paying special attention to traditional history education and propaganda for pupils, students, teenagers and children through history learning activities, historical monument visiting, history discussion, etc. Through the education of traditional military cultural values, to focus on building political ideologies, ideals, goals, lifestyles and develop comprehensive personality for them. To effectively carry out the above work, it is necessary to promote the creative and proactive role of youth union organizations, socio-political organizations, and at the same time, closely link school education with home training.

Well organizing practical activities, emulation movements in the whole society. The national traditional military cultural values are not only limited to the Army, but they always exist through the practices of living, fighting, labor and learning of all people. Therefore, for these values constantly spreading, promoting their effects and roles, it is necessary to put it into all practical activities, promoting the competitive spirit in the whole society. Therefore, the essential issue is to ensure "ideological value" in organizing all activities. Any organized activity should always aim at the highest goal: the direction of people towards patriotism, humanism and other noble values. Fighting against any thoughts and expressions of selfishness, or trivial material goals in practical activities. In order to gain the target, it is highly necessary to have the close and comprehensive leadership and direction of the party committees at all levels as well as the drastic and creative participation of the contingent of managers and commanders at all levels.

Building a cultural environment honoring the traditional military cultural values of the nation. First of all, it is necessary to study, refine, select and standardize the cultural value system of the current Vietnamese people, including a suitable integration of traditional military cultural values. In other words, building the current Vietnamese cultural and human value system needs firmly sticking to the traditional military cultural value systems, as well as modernizing them to adapt to the new situation. Improving the efficiency of cultural institutions in society; in which, besides promoting the cultural organizations and full-time staff, each party organization, government organization and leader also acts as a cultural institution, even a powerful and embracing one. Properly investing in the cultural activity organization as well as embellishing and preserving historical relics, works, and military cultural symbols, at the same time, promoting its effectiveness in political and ideological education and satisfying cultural needs for all classes of people. Building a cultural environment imbued with traditional military cultural values will create a very effective "cultural filter", preventing the intrusion of anti-values, anti-culture, and creating favorable conditions for the development of Vietnamese personality.

4. Conclusion

In summary, the traditional military cultural values of the Vietnamese people are a specific part of the national culture, arising and developing during the nation's struggle to build and protect the country, associated with military organizations and operations. The basic traditional military cultural values of the nation include: patriotism, humanism and unique military artistic values. In the face of rapid, profound and comprehensive changes in social life, the work of building the Army, protecting the Fatherland, as well as fighting against the hostile forces should strongly rely on the traditional military cultural values of the nation to well perform the functions and tasks of the Army and develop the personality of the revolutionary soldiers. It is necessary to actively conduct education, propaganda, well organize military practice activities and emulation movements, and effectively do the work of building a cultural environment in order to strongly promote the role and strength of national traditional military cultural values in the current situation./.

5. References

1. Phạm Văn Đồng (1969), *Our country, our people, our cause and the artist,* Literature Publishing House, Hanoi.

2. Karl Marx (1852), "The Eighteenth Brumaire of Louis Bonaparte", *Marx and Engels Collected Works, Vol 8,* National Political Publishing House, Hanoi, 1995, tr.141-277.

3. Lý Thường Kiệt (1075), "Statement on the military beat Tống", *Poetry and literature of the Ly - Tran dynasty, Vol 1,* Social Science Publishing House, Hanoi, 1977, tr.319-321.

4. Hồ Chí Minh (1946), "Of war Sun Tzu", *Hồ Chí Minh Collected works, Vol 4*, National politics Publisshing House, Hanoi, 2011, tr.284-287.

5. Hồ Chí Minh (1951), "Political Report at the Second National Congress of the Party", *Hồ Chí Minh Collected works, Vol 7,* National politics Publisshing House, Hanoi, 2011, tr.18-42.

6. Trần Ngọc Thêm (2015), "Theoretical basis of cultural values and values for the building of a new Vietnamese value system", *Journal of Philosophy, No.2*, tr.38-45.

7. Nguyễn Tài Thư (1983), "Confucianism, Buddha, Taoism and cultural and spiritual values of the Vietnamese nation in history", *About Vietnamese spiritual cultural value, Vol 1,* Information on theories Publishing House, Hanoi, tr.134-147.

8. Nguyễn Xuân Trường (2005), *Developing cultural values in the personality of young officers of the Vietnam People's Army today*, Doctor of Philosophy thesis.

POPULATION AGING'S CHALLENGES TO VIETNAM'S ECONOMIC GROWTH AND DEVELOPMENT

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Abstract

Vietnam has an extremely high rate of aging population and a truly short time to adapt to social problems. This change will reduce both the labor force participation rate and the saving rate, and it also raises real concerns about the slowing of future economic growth. Along with that, Vietnam will face an additional challenge of being "old" before "rich", with an income per capita in the group of low, middle-income countries. Using the annual population change survey data, the GSO's population census data and population projections, the author has specifically described the current situation of the aging population in Vietnam and analyzed several key aspects: changes in consumer behaviors, savings; pressure on public spending; human capital; capital accumulation and aggregate factor productivity; and the adjustment of interest rates, exchange rates, and foreign relations, through which population aging will affect Vietnam's economic growth in the coming period. The main conclusion of the author is that population aging presents enormous challenges but not impossible.

Keywords: *population aging, economic policy, labor force participation, life expectancy, retirement age*

1. Introduction

Vietnam, after the period of the current golden population, in the coming decades, a sharp increase in dependency ratio is expected to appear in all sectors. However, due to improved science and technology in the health sector, the population's health status is improved, and the mortality rate rapidly reduced. At the same time, in the 90s of the twentieth century, our country controlled the birth rate and succeeded in controlling population growth. However, this has created a major social challenge: The high proportion of dependents (children and the elderly) reduces the working-age population and increases the cost of care for the elderly and children, thereby reducing the country's economic growth.

Declining fertility and changes in population structure also reduce the working-age population. As the working-age population declines, the demographic dividend becomes a demographic burden for the country. The higher the population aging, the slower the country's economic growth rate is reduced, as the declining working-age population reduces the workforce, wages and productivity, savings, and investment. Besides, when the age structure changes, the changes in goods and services demand will certainly change and affect a country's total production productivity. The need for goods and services is significant to define both the production structure, the labor market, and the capital, so these factors are directly influenced by the age structure of the country's population.

A lot of research has been done in various institutions on the impact of aging on public finances, yield potential, private savings behavior... However, this article tends to analyze the factors of "general equilibrium" to fully understand the probable impact of population aging on economic growth.

2. Methods

The authors begin with the presentation and analysis of descriptive statistics on population aging size and rate, based on the results of the 2014 Labor Force and Employment Survey, the Population Census, and housing from 1979 to 2019 by the General Statistics Office; Survey of population change from 2010 to 2019 and sociological surveys on the elderly in 2019. Then, the article analyzes the overall impact of population aging on economic growth as well as Adjustment effects across two main channels through which growth can occur: labor supply and human capital accumulation. Finally, the paper emphasizes the vital role of the institutional and policy environment in determining the economic growth impact of the aging population. The author also analyzes many important demographic, behavioral, and policy factors to understand and clarify the effects of population aging on economic growth.

3. Results

3.1. The reality of the aging process in Vietnam

Population aging reflects the process of population structure transformation towards increasing the proportion of the elderly, as shown by the aging index. The Law on Vietnamese Elderly, the Elderly (Elderly) is a Vietnamese citizen aged 60 years or older. In Vietnam, due to the change in the population’s age structure following the decreasing trend of the proportion of children under 15 years old and the increase in the proportion of the population aged 60+, the aging index tends to increase rapidly over the past two decades. As a result, the ratio of the elderly population in Vietnam is much higher than the average of the developing countries and growing faster than the global average. The proportion of the elderly population has steadily increased from 7% in 1989 to 11.9% in 2019%. Although this is still lower than the overall global rate of 12.3% in 2015 [1], it is significantly higher than the general rate of the developing countries. Furthermore, the valuation of the population in Vietnam takes place at a faster rate than the world average. The World Population Aging Report 2013 [2] predicts that the total number of older people will be greater than the total number of children globally by 2047 for the first time. Table 1 below shows that the number and proportion of elderly in Vietnam have increased rapidly since 1979.

Table 14: Number and percentage of the elderly (aged 60+) in Vietnam

Source: 1979-2009 Population and Housing Census, 2012 Annual Population Change Survey, 2009-2049 Vietnam Population Forecast Results.

Unit: million people

Investigation method	Year	Population on 01/04	Number of the elderly (aged 60+)	Percentage of the elderly (aged 60+)	Population growth rate (%) of the period	The growth rate of the elderly (aged 60+) of the period
Census	1979	53.74	3.71	6.9%		
	1989	64.41	4.64	7.2%	19.8%	25.0%
	1999	76.32	6.19	8.1%	18.5%	33.0%
	2009	85.85	7.72	9.0%	12.4%	24.7%
Investigation of fluctuations	2010	86.75	8.13	9.4%		
	2011	87.61	8.66	9.9%		
	2012	88.77	9.06	10.2%		
Forecast	2040	107	22.17	20.7%		
	2049	108.7	26.95	24.8%		

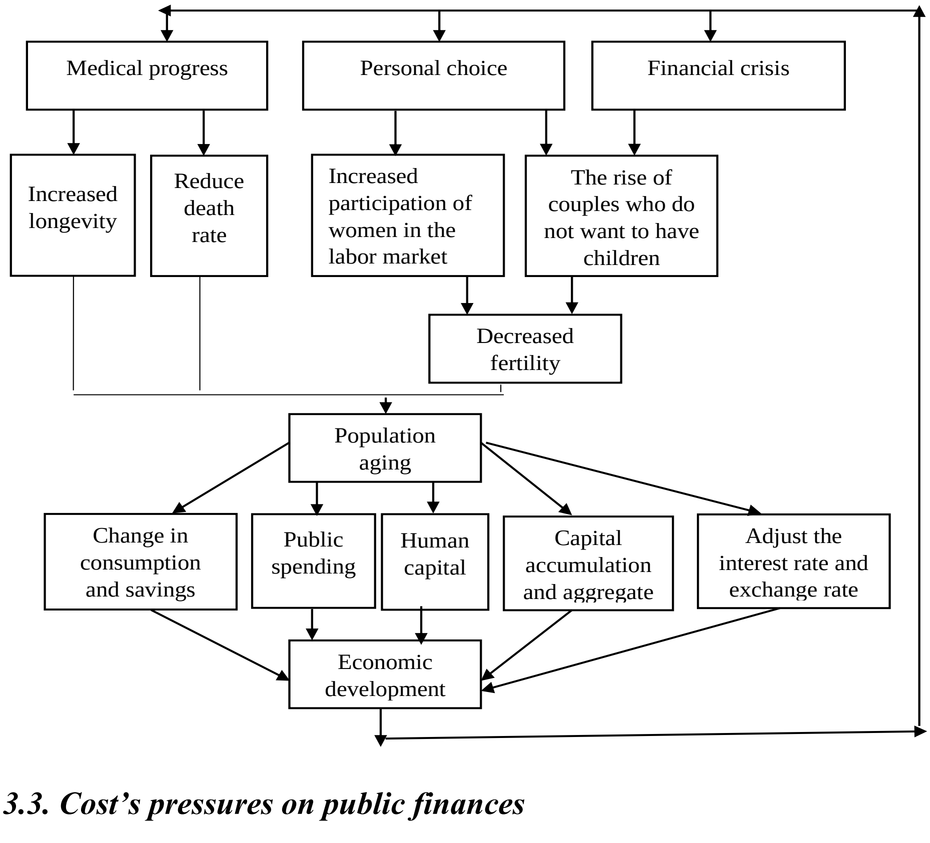
3.2. Challenges of aging for Vietnam's economic development

Models and perspectives on the determinants of economic growth are abundant in scholarly literature. Several frameworks highlight the importance of improving productivity in all sectors and the need to shift by sector. That is, reallocating labor from low-productivity agriculture to service and industrial productivity is higher. Others emphasize the contributions to growth in technological progress, human capital, institutions and governance, trade and macroeconomic policy, and random shocks. Others emphasize the feedback effects from economic growth to technical progress and human capital accumulation, which in turn affects economic growth ((Tyers and Shi, 2007) [3]

The article's main point is that the author wants to emphasize that changes in population structure by age can have a significant effect on economic growth. Besides, a few authors such as Prettner (2012) and Lee et al. (2011) confirmed a positive interaction between population aging and economic growth. According to Prettner (2012) [4], the elderly tend to save more. Therefore, they provide more resources for investment, positively impacting economic growth. An increase in life expectancy will positively affect investments, and capital is often recognized as the engine of economic development (Aghion and Howitt, 1992) [5]. However, most documents suggest that there is a negative relationship between population aging and economic growth, such as: Narciso, 2010 [6]; Bloom et al., 2010 [7]; Lisenkova et al., 2012 [8]; Walder and Döring, 2012 [9]. According to these authors, an individual's physical abilities, preferences, and needs will vary with age. Therefore, inequality in the age structure (higher proportion among the elderly) is expected to affect a country's productivity level. With the emphasis on the two main causes of population aging due to health advancement, socio-economic development that increases life expectancy and decreases fertility, the authors generalize the effects of aging. The coming population growth is mainly through the following factors:

- Spending pressure on public finances
- The effect of the factor "life cycle" on consumption and personal saving behavior
- Labor capital
- Potential effects on capital accumulation (TFP) and Total Factor Productivity (TFP)
- The role of adjustment to interest rates and exchange rates and changes in the external balance

Diagram 1: Factors interacting between population aging and economic development



3.3. Cost's pressures on public finances

Despite the uncertainties associated with all population projections, such as the thrust or pattern of demographic change that has largely been identified over the next 50 years, aging has always been an essential feature of the population. These changes and pressure on public spending in areas of budget management, such as spending on health and pensions, are associated with the development of a person's life cycle.

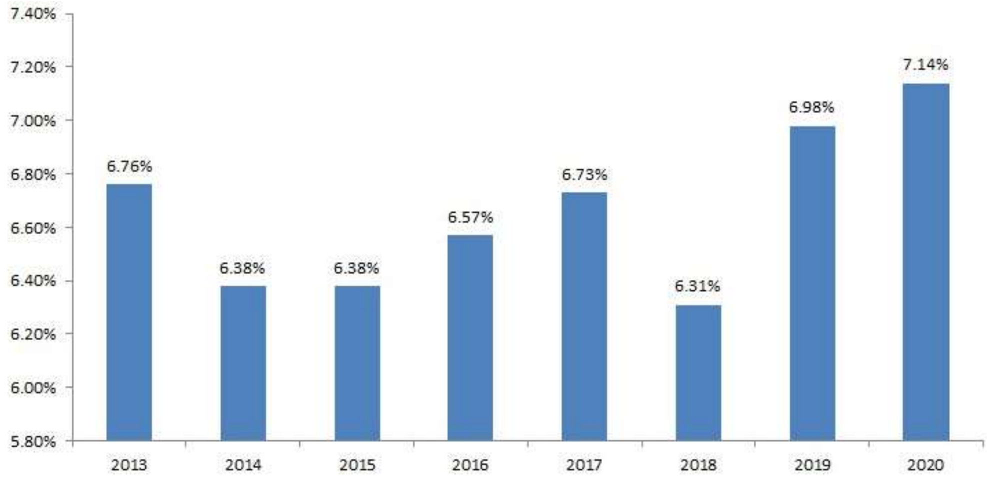
As the population ages, there is a significant increase in age-related public expenditures. Moreover, it is also worrying that if the government has no experience managing this issue, they will find it challenging to keep the budget for existing pensions and health care. These difficulties appear at present when Vietnam is in the "golden population" phase. When the demographic is relatively favorable in terms of public finance, the cost of health and pensions is calculated by % GDP, has been steadily increasing over the past few decades.

Current demographics are favorable in terms of public finances: Generally, current public finances can benefit from demographic growth (demographic dividends), with a low birth rate of the two recent decades, tend to reduce government spending. Indeed, this has something to do with the post-World War II generation of «BabyBooms» who are at their peak in their ability to make money and making a solid contribution to revenue. However, this could bring subjective feelings to the government and prevent the implementation of necessary reforms and contingencies as demographics begin to change radically over the next 10 years.

Health and pensions reform will not be easy: The government needs to face the implications of controlling spending on health and pensions over the next 10 to 50 years. As seen, these increases in expenditures are the main culprits explaining the inevitable increase in the share of government spending in GDP, but only a fraction of this pressure comes from the effects of aging, and the rest comes from other non-demographic factors.

- In recent years, as the share of children in the population has decreased, the proportion of people over 60+ has increased to over 10%, pension spending as a percentage of GDP has increased, partly explained by changes in the old-age dependency ratio and the remainder are due to other non-demographic factors such as: increased benefits and expanded pension eligibility, years of insurance contributions, related State general expansion of social welfare.
- Population aging has a clear impact on current pension systems. Policymakers have long recognized that deficits in the pension system will quickly reach unsustainable levels if no changes are made in distributing benefits and contribution rates. But policy changes from increasing contributions to social security will be a financial burden on the workforce in the future and could cause a negative response to labor supply.
- As for health spending, Oxley and MacFarlan (1994) [10] estimate that “health needs related to population aging, income growth, and insurance coverage can only explain one share of growth in public spending on health in general. However, this may be due to developments related to the provision of medical services”. In addition, public spending on health has also increased significantly to address and responds to pandemics, or the impacts of climate change and environmental pollution on human health. As the Covid-19 pandemic is a testament to this.

Table 1: Total state budget expenditure on health in the period 2013-2020 (%)



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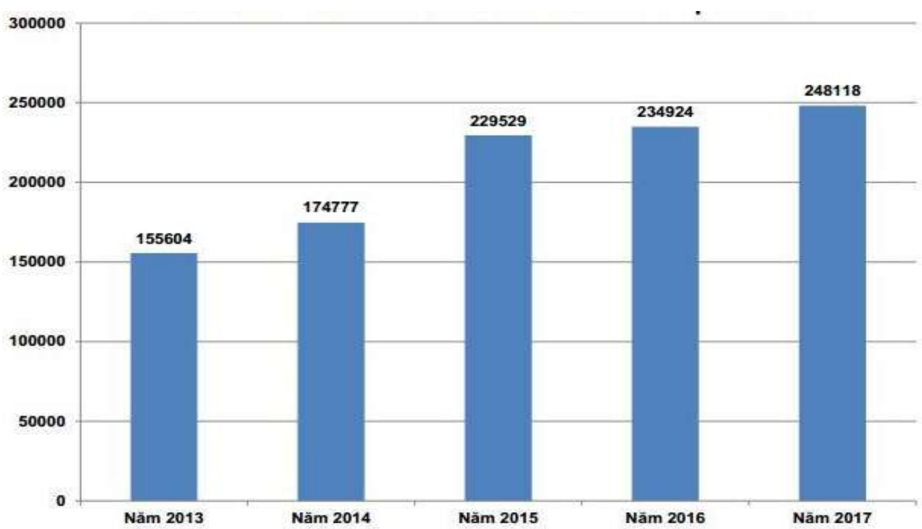
Education expenditure: The bottom line to do here is that a reduction in budget spending on education is expected, reflecting a decrease in the proportion of children in the general population, which expected failed to materialize. The imbalance between figures and expenditure essentially reflects the large fixed cost factor inherent in all public education systems Masson, Bayoumi and Samiei (1995) [11]. Therefore, hoping to recoup spending for higher pensions and healthcare, does not seem to be coming.

Table 2: State budget expenditure for the education and training sector in the period 2013-2017 (billion VND)



Source: https://www.giaoduc.edu.vn/5-nam-ngan-sach-cho-giao-duc-tang-92500-ty dong.htm

3.4. Changes in personal savings and consumption behavior

Demographic changes and personal savings behavior: Many studies are related to the aging population and its impact on savings rates. For example, life cycle models of savings behavior show that an important component in determining the aggregate savings rate is the population's demographic profile and the tendency to save and the rate of savings. The overall dependence is expected to be negatively correlated. According to this view, savings rates are expected to be high when a large portion of the population is employed, with the savings accumulated to finance consumption after retirement. Likewise, savings rates are lower when a large part of the population is very young or above retirement age.

Personal consumption behavior: The elderly population is also the consumer group; although the consumption of this group is lower than that of other groups, but this population also contributes to the development of production of goods, and services for the elderly. Elderly groups have a longer working time and hold more assets because they have savings, the elderly can pay consumption from their own assets, so if the viewpoint that they are people dependent is not "satisfactory".

3.5. Lack of human capital

Population aging is an inevitable and aging rule that leads to more aging out of the workforce each year than young people entering the labor force, resulting in the size of the labor force is narrowing, in the long run, there will be a shortage of labor force. Along with that, the aging of the population leads to the aging of the workforce, which will lead to a decrease in productivity and labor efficiency because the aging workforce will be less agile and dynamic in approaching public science technology, job change training, or even the labor productivity of physical strength. In Viet Nam, the data only show that the aging index of the four key economic regions is the highest in the country, which will potentially risk a lack of local human resources in these regions. The current golden population structure of Vietnam also requires the exploitation and utilization of potential labor resources, requiring the State to actively create jobs and promote vocational training to meet the needs of the labor market is increasingly competitive.

3.6. Impacts on capital accumulation and aggregate factor productivity

Capital accumulation: Savings and investment have an important role in helping offset the effects of increased dependence, with higher savings leading to higher investment efficiency and long-term higher growth. In this way, the negative impact on living standards resulting from a decrease in labor supply can be offset by the rate of increase in labor productivity resulting from increased capital. However, this increased investment to drive long-term growth is likely to be cut off, as the rate of national saving is expected to decline due to demographic and non-demographic factors. It is clear that technical progress plays a large role, and it is important to accept those larger savings, which can convert into greater physical and human properties. These increasing options can be available to deal with the adverse effects of the aging process. Therefore, cautious action is required to increase the national saving rate in the medium to long term.

Total Factor Productivity (TFP) is an indicator reflecting the production results brought about by improving the efficiency of capital and labor, thanks to the impact of new technology, streamlining production processes, improving management… However, it seems complicated to determine with certainty whether the demographic change will be positive or negative for productivity. According to some studies, that could be detrimental to productivity growth if the aging workforce becomes less active and creative. At the same time, other researchers have a different view that technology changes can be promoted to offset the negative effects of labor scarcity Simon (1986) [12] and Wattenberg (1987) [13].

3.7. Interest rates, exchange rates, and external relations balance

The development of savings and investment affects potential growth and interest rates, exchange rates, and international capital movements. The global and regional movements are also variables that are later driven by various pressures on the savings/ investment fronts. Collectively, when the savings/ investment imbalance arises at the world level, such tensions manifest in real interest rate volatility. In contrast, regional tensions lead to changes in exchange rate and net foreign asset position. Among the many factors that can put the savings/ investment balance that demographics could cause in the coming decades, the following stand out for particular attention:

- Adverse effects on private and public savings: These pressures will vary between countries, and this difference will inevitably create a strain on exchange rates and current accounts.
- Negative effect on output growth: If this happens less investment will be required as slower growth in output will automatically translate it into a needed decrease in the growth rate of reserves.
- Changes in the relative share of the output of developed and developing countries

4. Discussion and Conclusion

The population is both a productive force and a force of consumes social wealth. The size and structure of the population will determine the size and structure of production and consumption and therefore play a crucial role in the socio-economic development. Population aging has been occurring in several countries, including Vietnam, posing many challenges to economic growth, with the important premise that labor supply, productivity and savings change with life cycle:

- First, preliminary estimates of the effect of population aging on labor force participation rates and the simultaneous impact of changes in labor force participation rates on the growth economy
- In addition to fundamental resource constraints, the dominance of the informal sector in Vietnam makes the design and implementation of pension, and social security systems, that becomes more and more difficult.
- The next problem that Vietnam faces is the rapid aging of the population, so the pension system and the healthcare system face unprecedented challenges.
- In another situation in Vietnam, the family remains the mainstay of care for the

elderly. However, as life expectancy becomes longer, a family structure may be disrupted, leading to a public transfer system, will change the rate of budget spending for the health system, construction of infrastructure of the State.

To adapt to an aging society or to actively step into aging, it is required to join the entire political system and especially the conditions of policies and laws of the Party and State. In particular, the policy environment plays an important role in the impact of aging on economic growth. New approaches will be needed if countries consider the natural dynamics individuals face to adjust their behavior in the context of population aging. Through analysis and inquiry, the authors have a few recommendations:

Firstly: One of the often encouraged policies is the change of retirement incentives so that people can fulfill their desire to work longer to meet higher life expectancy expectations. More flexible old-age pension arrangements combined with an increase in formal retirement age will encourage long-term workforce participation. Along with that, legal and cultural efforts are also needed to prevent employment discrimination. Lifelong education programs can support these efforts by helping people, especially the elderly, adapt their skills and knowledge to the needs of a changing economy.

Second: Investing in improving the health of those 60+ is an essential policy choice, and health care and healthy lifestyle changes for the young and middle age are also a long-term policy. This approach reduces the burden on the health care and social security systems and allows people to work longer by reducing the incidence of illness into fewer end-of-life years.

Third: Policies and laws against gender discrimination and increased child care support have helped expand the working environment for women in many countries worldwide. Pressure to raise wages is likely to increase women’s participation in the workforce. This could be complemented by policies that enable mothers to combine work and home, such as State-funded child care and more flexible working hours. Of course, the second approach also encourages the upbringing of children, with long-term effects on the age structure.

Fourth: Immigration for developed countries can also make a big difference. However, for Vietnam, the uncontrolled labor export and the brain drain of a high-quality workforce have a huge impact on the quality of the labor force. Therefore, policies on salaries, bonuses, subsidies, and remuneration for employees also play a crucial role.

Fifth: A more important policy consideration addresses the funding gap caused by latent intergenerational transfers in the pension and health systems. Policies that can help reduce the elder’s “dependence” include adjusting premiums and benefits or switching to total funding or individual account systems, whereby individuals can withdraw less. Most pensions from investments are made during employment and they also have a larger amount to withdraw when they retire. Moving to such a system would require large organizations to efficiently and securely attract enough personal savings and investment and financial reserves to pay for the transition of the old generation.

5. References

1. “Tin hoạt động.” http://ifgs.vass.gov.vn/Tin-hoat-dong/Gia-hoa-dan-so-va-nguoi-cao-tuoi-o-Viet-Nam--Thuc-trang--du-bao-va-mot-so-khuyen-nghi-chinh-sach-110615.html (accessed Mar. 23, 2021).

2. “Công bố Báo cáo toàn cầu về dân số thế giới năm 2013 | Báo Công an nhân dân điện tử.” http://cand.com.vn/Xa-hoi/Cong-bo-Bao-cao-toan-cau-ve-dan-so-the-gioi-nam-2013-242835/ (accessed Mar. 23, 2021).

3. R. Tyers and Q. Shi, “Demographic Change and Policy Responses: Implications for the Global Economy,” 2007, doi: 10.1111/j.1467-9701.2007.01004.x.

4. “Population aging and endogenous economic growth | SpringerLink.” https://link.springer.com/article/10.1007/s00148-012-0441-9 (accessed Mar. 19, 2021).

5. P. Aghion and P. Howitt, “A Model of Growth Through Creative Destruction,” National Bureau of Economic Research, w3223, Jan. 1990. doi: 10.3386/w3223.

6. A. Narciso, “The impact of population ageing on international capital flows,” Nov. 04, 2010. https://mpra.ub.uni-muenchen.de/26457/ (accessed Mar. 19, 2021).

7. “Implications of population ageing for economic growth | Oxford Review of Economic Policy | Oxford Academic.” https://academic.oup.com/oxrep/article-abstract/26/4/583/453716 (accessed Mar. 19, 2021).

8. “Population ageing and the labour market: Modelling size and age-specific effects - ScienceDirect.” https://www.sciencedirect.com/science/article/abs/pii/S0264999313003660 (accessed Mar. 19, 2021).

9. B. Aigner-Walder and T. Döring, “The Effects of Population Ageing on Private Consumption — A Simulation for Austria Based on Household Data up to 2050,” *Eurasian Econ. Rev.*, vol. 2, no. 1, pp. 63–80, Jun. 2012, doi: 10.14208/BF03353833.

10. “Health Care Reform Controlling Spending and Increasing Efficiency,” OECD Economics Department Working Papers 149, Apr. 1994. doi: 10.1787/338757855057.

11. P. R. Masson, T. Bayoumi, and H. Samiei, “International evidence on the determinants of private saving,” *World Bank Econ. Rev.*, vol. 12, no. 3, pp. 483–501, 1998.

12. J. Parsons, “Theory of Population and Economic Growth. By J. Simon. Pp. 232. (Basil Blackwell, Oxford, 1986.) £19.50.,” *J. Biosoc. Sci.*, vol. 20, no. 1, pp. 121–122, Jan. 1988, doi: 10.1017/S0021932000017314.

13. B. J. Wattenberg, *The birth dearth*. New York, NY: Pharos Books, 1987.

INFLUENCE OF TIME MANAGEMENT TO ACADEMIC PERFORMANCE: A STUDY OF STUDENTS IN HANOI, VIETNAM

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Abstract

Time management is important and it may affect an individual's overall performance and achievements. For university students, time management plays a vital role in improving their academic performance. Although there have been a number of studies from all around the world showing the relationship between time management and student learning outcomes, in Vietnam, the relationship has not been adequately explored and poorly understood. This study aims to investigate the relationship between students' time management and academic performance. By using quantitative methods with a sample of 455 students studying in economics and business administration fields, the research reveals that two factors namely Planning and using time management tools and Improvement and adjustment positively impact on students' academic performance. Based on analysis, several recommendations are given for students to improve their time management skills.

Keywords: *Academic performance, students, time management.*

1. Introduction

Students are the key assets of universities. Student's academic performance plays an important role in producing the best quality graduates who will become high quality human resource and will be responsible for the country's economic and social development. Academic achievement is one of the major factors considered by employers in recruitment of labour, especially of fresh graduates. Thus, students need to put the greatest effort into their studies to obtain good grades and to prepare themselves for future opportunities in their career as long as to fulfil society's demands.

There are numbers of factors influencing students' academic performance. Among them, time management is recognized as a significant factor. Koch (1998) pointed out that time management is considered a very important element for personal and corporate success, especially in the professional environment. For individuals, time plays an important role in completing tasks on time, and in business, every minute can be converted into profit. According to Macan et al. (2000), the secret to achieving success in life is effectively managing the resource that everyone possesses equally, which is time in this case.

In higher education, students from different majors, especially students in economics and business administration, believe that academic success depends on such objective factors as intelligence, assignment accomplishment ability, passing final exams, etc. (Hansen, 2000). Others think it depends on personal time management (Eliseo P. Marpa, 2014; Barbara et al., 2015).

In fact, most university students these days are often prone to falling into unprofitable activities, which in turn affects the time and quality of other jobs. Instead of considering the urgency and importance of the remaining jobs, many of them tend to do things they enjoy or what are easy first. Besides, most students of the current generation are not aware of the importance of planning. As a result, they often neglect important tasks or do not have time for unexpected ones. This may have a bad effect on their daily life in general and academic performance in particular (Ali et al., 2009).

The objective of this study is to investigate the relationship between time management and academic performance of students in Hanoi, Vietnam. The quantitative method is applied with a convenient sample of 455 students studying in economics and business administration. *Based on analysis of the relationship, the study hopes to come up with several recommendations for students and higher education institutions to improve students' time management skills and academic performance.*

2. Literature and hypothesis development

Time management

Shellenbarger (2009) views time management as behavioural change techniques that help people get organized, clarify their thinking and increase their outputs. In this study, the outcomes are learning outcomes. The measure of students' academic performance used in this paper is the Great Point Average (GPA) - a measure supported by the studies of some authors such as Adebayo (2015), Kaushar (2013), and Jalagat (2016).

There are many different ways for effective time management. According to David McDonald (1983), time management consists of four elements: planning, scheduling, monitoring, and control. Jo-Ana D. Chase et al. (2013) suggested that time management approaches include monitoring, setting goals, prioritizing, planning, commiting rights and time analysis.

Based on previous studies, the research team argues that the simplest approach to time management is from consciousness to action. Having positive thoughts helps form good time management habits. Time management routines include planning for certain time periods, testing and evaluating and improving process use of time. At the same time, a person should use time management tools such as notebooks, time management applications, time management matrices, and innovative tools such as 5S, Kaizen, etc.

Previous researches

There has been a growing concern over the relationship between time management and learning outcomes for the last few years. In general, many research and articles from all over the world have indicated this relationship in order to improve students' learning outcomes through time management. However, in Vietnam, there have been several researches on this issue and they mostly were conducted in the South of Vietnam.

In 2014, Miqdadi and colleagues conducted a study on the relationship between time management and academic performance of first-year and second-year male students at Petroleum Institute in Abu Dhabi. The respondents did not include female students and international students because the authors believe that their habits and lifestyles can affect and make a difference in time management habits. This study has come to a conclusion that there is a relationship between time management and academic performance of the male PI Student in UAE. Research has shown that male students tend to use their time inefficiently, leading to unsatisfactory academic results. However, this study has only been conducted on male students of the technical school and has not yet reached female students, so it cannot be generalized to all types of students.

The study of Eliseo P. Marpa (2014) disclosed that correlations existed between mathematics students’ time management and study habits and math major students' study habits and academic achievement. Results of the study reveal that time management of mathematics students was average. They do not manage their time well.

The study of L. Miertschin and colleagues (2015) suggests that relationships do exist between students’ time management behaviours, development of time management skills, and the design of online courses. However, these relationships are not close. In the other words, time management has an unremarkable impact on students' academic performance.

The research by Hoang Khac Hieu & Huynh Van Son (2011) focuses on studying students' time-consuming habits in Ho Chi Minh City. In this study, 1021 students from different universities had been surveyed. The research results show that these student's time management ability is only average. In addition, many students have difficulty maintaining good time management habits such as planning, dividing work, etc.

Dinh Thi Hoa and colleagues (2018) conducted a study to analyse factors that affect the learning outcomes of students in the economics department at Dong Nai University. The authors gradually removed the unreasonable variables, reran the model after eliminating the inconsistent variables and the results were consistent. However, the limitation of the research model is that the survey scale only focuses on final-year students, so the generalization of all students is not high.

In general, there have been a number of studies conducted to learn about the influence of time management on student academic performance. However, the results of each study differ in the impact of time management, caused by different groups of students in specialized, personality and culture. The sample of the study is not large, and also made the results of the study not overall. In particular, in all studies, no research has pointed to the factor "Improvement and adjustment" as a factor that directly affects the management of time. Most studies only mention this factor as a condition added to the study.

In Vietnam, previous studies have not specified how time management affects student academic performance. Studies providing an overview of factors that influence academic performance are mostly concentrated in Southern Vietnam. Given the reasons, the authors focus on the impact of time management on the academic performance of Economics and Business Administration students in Hanoi.

Hypothesis development

Attitude to time management

The perception of how their time requires to be used up or planning including utilizing short and long period goals and time attitudes or students accomplished that both planning and encouraging time attitudes initiated that they had much more time to finish their everyday jobs because they experiences more in control of how their time (Nasrullah & Khan, 2015). Denlinger (2012) also reported that self-perception of having good time-management skills proved to have a direct correlation to performance levels. Considering these views, it was hypothesized that:

[H1] Having a good time attitude has a positive impact on the academic performance of economics and business administration students in Hanoi.

Planning

Planning is defined as the process of identifying goals and choosing ways of action to achieve goals. Kaushar's research (2013) has shown a positive relationship between student planning and academic performance. In other words, when students plan well, the academic results will also be better. Other authors such as Dahie, Osman & Mohamed (2015), Narsrullah & Khan (2015), etc. It is also agreed that planning has the same impact on student academic performance. Thus, the second hypothesis is that:

[H2] Good planning positively has a positive impact on the academic performance

of economics and business administration students in Hanoi.

Using time management tools

Research by Jo-Ana & Associates (2013) published in the Western Journal of Nursing Research has produced research that suggests that people who are likely to refuse jobs that don't create value often achieve better personal achievements. Through in-depth interviews with a number of subjects, the team obtained the result that students who regularly use time management tools often have better academic results. The third hypothesis is stated as following:

[H3] Using time management tools has a positive impact on the academic performance of economics and business administration students in Hanoi.

Self-examination and evaluation

Research by Hamoud Mohammed Alshaya & associates (2017) has shown that students who perform a routine goal-based results assessment often have good academic performance. Research by Karima Sayari, Revenio Jalagat & Van Dalluay (2017) also agrees with this view. The fourth hypothesis is stated as following:

[H4] Self-examination and evaluation has a positive impact on the academic performance of economics and business administration students in Hanoi.

Improvement and adjustment

Improvements and adjustments are necessary activities after detecting problems that arise during the use of learning time to repair, adjust and eliminate them. At the same time, improvement is constantly growing, finding ways to be able to use time more and more effectively. Thus, we suppose that:

[H5] Improving and adjusting time management has a positive impact on the academic performance of economics and business administration students in Hanoi.

Table 1. The table encodes indicators

	Variables	**Encode**	**Reference**
Time Attitude			
1	I feel that I need to use time effectively.	TĐTG1	Supplementation and development
2	I am satisfied with the way I use my time.	TĐTG2	Karim et al. (2015)
3	I don’t delay what I need to do the next day.	TĐTG3	Supplementation and development

	Variables	Encode	Reference
4	I feel that I use my time effectively.	TĐTG4	Karim et al. (2015)
Planning			
5	I regularly take the time to plan.	LKH1	Supplementation and development
6	I have a clear determination of what to do in the coming period.	LKH2	Supplementation and development
7	I clearly identify what to do in the next month.	LKH3	Najnin Khanam & Associates (2017)
8	I have a clear idea of what I want to accomplish during the next week.	LKH4	Najnin Khanam & Associates (2017)
9	I plan the day before I start it.	LKH5	Najnin Khanam & Associates (2017)
10	I frequently leave gaps for unexpected events when planning.	LKH6	Supplementation and development
11	I followed the plan correctly.	LKH7	Supplementation and development
Use management tools			
12	I regularly assign work to other individuals instead of doing it all myself.	CCQL1	Supplementation and development
13	My plan is built on important work.	CCQL2	Jo-Ana & Associates (2013)
14	I do things in order of priority.	CCQL3	Patricia Adhiambo Oyuga & Associates (2016)
15	I regularly turn down time-consuming jobs that don't benefit my goals.	CCQL4	Jo-Ana & Associates (2013)
16	I regularly use other management tools such as books, job management apps, etc.	CCQL5	Supplementation and development
Self-examination and evaluation			
17	I check the accomplishments of my tasks based on the priorities made.	KTĐG1	Karima Sayari, Revenio Jalagat & Van Dalluay (2017)

	Variables	Encode	Reference
18	I periodically re-assess my activities in relation to my goals.	KTĐG2	Hamoud Mohammed Alshaya & Associates (2017)
19	During my studies, I noticed signs that were affecting my time management.	KTĐG3	Supplementation and development
Improvements and adjustments			
20	I believe that there is room for improvement in the way I manage my time.	CTĐC1	Najnin Khanam & Associates (2017)
21	I find to remedy the causes that affect time management.	CTĐC2	Supplementation and development
22	I learn effective ways to manage time.	CTĐC3	Supplementation and development
23	I use many time management methods.	CTĐC4	Supplementation and development
24	I have discontinued any wasteful or unprofitable activity or routines.	CTĐC5	Hamoud Mohammed Alshaya & Associates (2017)

Source: Summarised by the research team

Research model

The research model consists of 5 proposed variables which are 5 factors that affect time management, affecting the learning results of the students: (1) Attitude to time, (2) Planning, (3) Using management tools, (4) Self-examination, evaluation, (5) Improvement and adjustment. Dependent variables are student academic performance (Grade Point Average).

Observation variables are built on a Likert scale of from 1 (Completely disagree) to 5 (Completely agree).

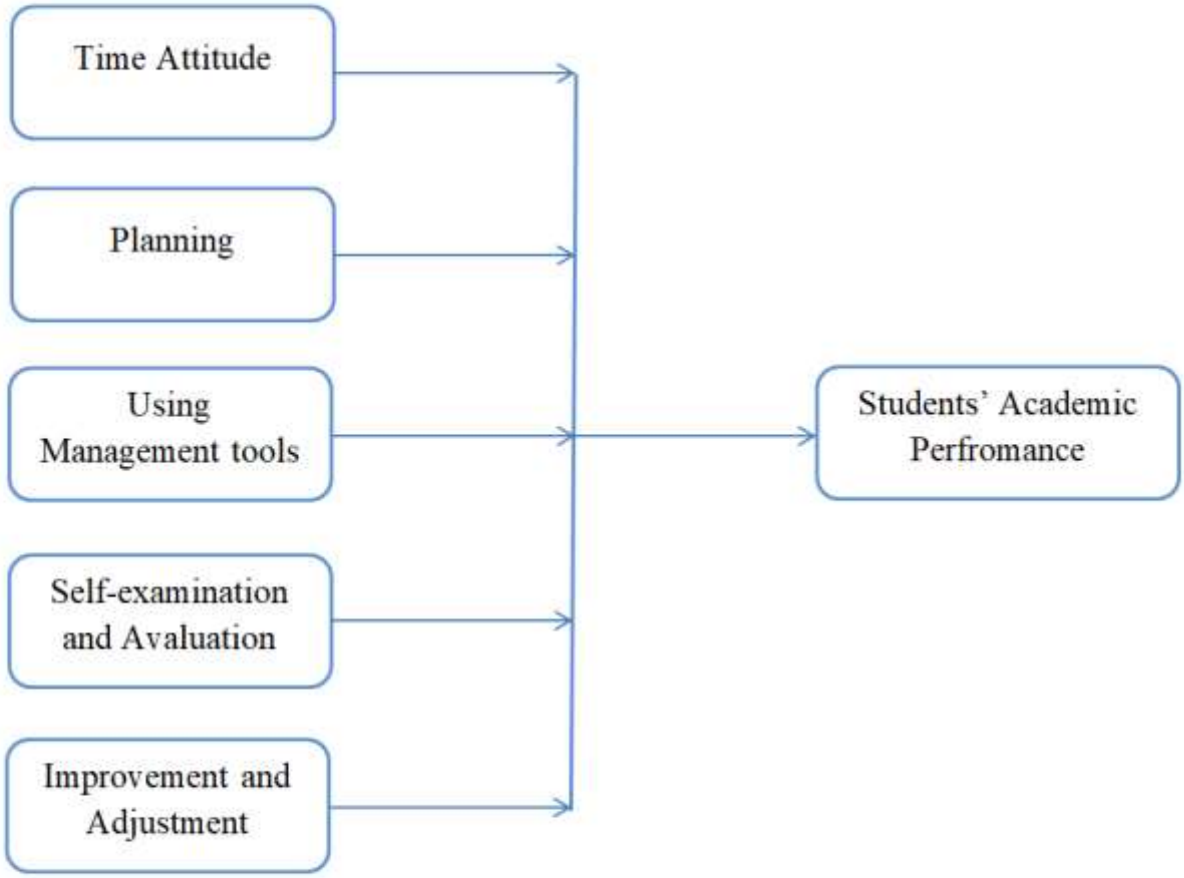

Figure 1. Research model

Source: conducted by the author

3. Method

This study was conducted with students studying economics and business administration universities in Hanoi, Vietnam. By conducting the official survey on a total of 22 universities educating these two majors, the research team obtained 455 valid responses.

Data collection and analysis:

Step 1: Secondary data collection: collected from previous research papers on similar or related topics.

Step 2: Research overview: synthesizing information from sources, secondary data collected in the first step and writing a research overview. From those data, the research team confirms a research gap.

Step 3: Building research models and hypotheses.

Step 4: In-depth interview: after building the research model, the research team continued to interview students and lecturers at universities in different fields of economics and business administration in Hanoi to build the questionnaire.

Step 5: Building the expected questionnaire.

Step 6: Trial survey: conducted on a small group of students to receive comments and edit the survey.

Step 7: Rebuilding the survey and conducting the official survey at universities under the research scope.

Step 8: Data synthesis, processing and analysis: synthesizing processing the primary data obtained. After that, start to analyze and evaluate the analytical results obtained, verify the hypotheses given.

Step 9: Synthesizing all the content done to complete the research to make conclusions and recommendations.

4. Results

4.1. General information of the sample

According to the data analysis result, among these surveyed students, 47.3% belong to the third-year students, whereas 21.5% belong to the second-year ones. The freshmen and the seniors are 12.1% and 13.0% respectively.

It also reveals from the study that students studying Business Administration account for 33.2%, Economics' occupy 28.1%. The student rate of the remaining three surveyed factors (Banking - Finance, Accounting - Auditing, and other majors) is quite equal. The majors mentioned in the survey have a large number of students studying at the School of Economics. The sample is representative of the overall.

Among the 455 valid answers, 25.9% of students come from National Economics University, Foreign Trade University placed in second place with 19.6%, Thuong Mai University constitutes 14.9%, and the 19.8% left belongs to the University of Economics and Business - Vietnam National University, Hanoi and others.

The academic performance within the last semester, 42.2% of students have got GPA at level 3 (from 2.5 to 3.19). 35.4% of students have scored level 4 (from 3.2 to 3.59). Around 15.0% of students have got 3.6 to 4.0 at GPA while there are no students who have scored lower than 1.99 GPA in their last semester.

4.2. Findings

After analysing Cronbach's Alpha coefficients for each group of observed variables depending on different factors, only the factor TĐTT1 is eliminated because the corrected item-total correlation is less than 0.3, the others factor are kept with the Cronbach's Alpha is higher than 0.6.

After selecting the qualified variables, the research team continued to determine the number of factors to retain in EFA with 3 times of conducting.

Table 2. Final EFA analysis result

Rotated Component Matrix			
	Component		
	1	2	3
TĐTG4	0,811		
TĐTG2	0,798		
TĐTG3	0,796		
LKH7	0,712		
LKH6	0,592		
LKH1	0,549		
LKH4	0,534		
KTĐG1	0,529		
CTĐC3		0,830	
CTĐC2		0,749	
CTĐC4		0,746	
CTĐC1		0,628	
CTĐC5		0,563	
CCQL1		0,533	
LKH2			0,792
LKH3			0,698
CCQL3			0,583
CCQL2			0,541
Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization..			
Rotation converged in 5 iterations.			

Source: Result of the study

In Bartlett's test, the sig. value = 0,000 <0.05, it means the data used for the analysis is appropriate, the remaining variables are convergent, suitable for analysis purposes in the next steps.

The results also showed that the remaining 18 variables were allocated to 3 new groups.

Group X_1: Including 8 variables, TĐTG2, TĐTG3, TĐTG4, LKH1, LKH4, LKH6, LKH7, KTĐG1. The variables are mainly about student attitudes and awareness of the importance of planning and time management. The research team named this group is Attitude to time management.

Group X_2: Including 4 variables, LKH2, LKH3, CCQL2, CCQL3. Due to these observed variables mainly referring to short-term and long-term planning habits, and showing how often students are using management tools, the research team named this group is Planning and using the detective management tools.

Group X_3: Including 6 variables, CTĐC1, CTĐC2, CTĐC3, CTĐC4, CTĐC5, CCQL1. Because the variables mostly belong to the Adjustment, Improvement factor, the research team decided to remain the name of this group as Adjustment Improvement.

In the table of Coefficients analysis, the sig. value of group X1 = 0.888 > 0.05 whereas the sig. value of group X2, X3 < 0.05. It means, group X1 has no statistical significance, group X2 and X3 are statistically meaningful in the model.

So, group X1 has no statistical significance in the model. In other words, group X1 has no effect on student academic performance. But according to the result of testing the correlation, there are multi-collinearity phenomena between X1 and X2, X1 and X3. In conclusion, group X1 has effects on group X2 and X3, but has no effect on student academic performance.

Regression model: KQHT = β0 + β1 X2 + β2 X3

Table 3. Model summary

Model summary					
Model	R	R square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0,450[a]	0,202	0,199	0,744	1,930
a. Predictors: (Constant) X3, X2					
b. Dependent Variable: GPA of the last semester					

Source: Result of the study

Regression function: KQHT = 1,186 + 0,275*X2 + 0,377*X3

The result shows that, if X2 (Planning and Management Tools) increases by 1 unit, the academic performance will increase by 0.275 units. And if the variable X3 (modified improvement) will increase by 1 unit, the academic performance increases by 0.377 units as well.

4.3. Discussion

The factor X3 has $\beta = 0.372$. The results show that the set of factors that have the highest mean and highest influence on the academic performance of students are Improvements and Adjustments in time management. The influence of this factor accounts for 37.2% of academic performance. The fact shows that most students are aware that they need to improve their time management process but do not believe that modifying their time management process can improve their results. According to descriptive statistics, most of the questions about improvement and adjustment in time management are responded to by research subjects at a neutral or agreed level, which proves that students at economic schools are somewhat aware of the adjustment but vague and not implemented seriously and methodically.

The factor X2 has $\beta = 0.275$, reflecting the influence of this factor accounting for 27.5% on learning results. Thus, when there are no adjustment factors, planning and using the detective management tools increases by 1 unit, the results of students' learning results increase by 1,461 units. Many students now choose the form of planning, implementing, applying the formulas, and allocating time to their time management to easily track the journey in pursuit of their goals. However, that number is not the majority. Students who do not plan for their life are still aware of the importance of time but cannot maintain the habit or think of planning and learning about time management tools that are time-consuming, effortless, and useless. Planning does not inevitably give students an excellent result. But planning will improve the results of students' academic endeavors.

The adjusted R2 value of 0.199 determined by the two groups of factors above means time management accounts for 19.9% of student learning outcomes. So, time management is a factor that positively affects learning outcomes, but the impact is not too good. This result is perfectly plausible because time management, especially "Planning and management tools"; "Adjustment and Improvement" are not the only factors influencing student learning outcomes. Previous studies have also shown that many factors influence student learning outcomes. Research by the authors Dinh Thi Hoa, Hoang Thi Ngoc Diep & Le Thi Kim Tuyen (2018) has shown that many factors affect student learning outcomes such as (1) knowledge and how faculty organization (2) friends (3) steadfastness (4) competition (5) service (6) facilities (7) school impression (8) classroom interaction (9) learning methods (10) commitment to learning, and ultimately (11) motivation. In conclusion, time management is just one of many factors that can affect a student's academic performance. However, this is a factor that can be changed and developed over time.

5. Conclusions and recommendations

5.1. Conclusions

In general, the research has answered the proposed questions, including the use of time and time management of students in economics and business management field in Hanoi; the relationship between time management and students' academic performance, and what time-management factors influence students' academic performance? The study also systematized the factors of time management and their influence on student learning outcomes, including "Planning and using time management tools" and "improvement and adjustment" two groups of factors that have high impacts on learning outcomes.

5.2. Recommendations

In order to make students achieve higher learning result, students should increase their awareness of time management, learn how to plan and use effective time management tools. They should also constantly learn new things, improve time management skills to achieve better academic peformance. Lecturers and managers of universities play an important role in orienting and creating a favorable environment for students to improve this soft skill. They should eliminate activities that are not beneficial for students, focus activities that bring value to students, and orient students to practise time management skills.

6. References

1. Abdulla Almomani (2014), The Relationship between Time Management and the Academic Performance of Students from the Petroleum Institute in Abu Dhabi, the UAE.

2. Abdulkadir Mohamud Dahie, Asho Abukar Osman & Raqia Ahmed Mohamed (2015), Time management and academic performance: Empirical Survey from high education in Mogadishu-Somalia; International Journal in Management and Social Science, p 367 – 388.

3. Adebayo F. (2015), Time management and Students' Academic Performance in Higher Institution, Nigeria: A Case Study of Akiti State, International Research in Education, 3(2): p. 1-11

4. Ali, N., Jusof, K., Ali, S., Mokhtar, N., & Salamat, A.S.A. (2009). The factors influencing student's performance at universiti Teknologi Mara Kedah, Malaysia, Management Science and Engineering, 3(4), P 81-90.

5. Denlinger, J.C. (2012). The Effects of Time Management on College Students' Academic Performance, Journal of Educational Psychology, 83(3), 405-410.

6. Dinh Thi Hoa, Hoang Thi Ngoc Diep & Le Thi Kim Tuyen (2018), Analyzing the factors affecting the academic results of students of economics department of Dong Nai University, Dong Nai University Journal of Science.

7. Eliseo P. Marpa (2014), Correlation among time management, study habits and academic achievement of the math major

8. Jo-Ana D. Chase, Robert Topp, Carol E. Smith, Marlene Z. Cohen, Nancy Fahrenwald,Julie J. Zerwic, Lazelle E. Benefield, Cindy M., Anderson, & Vicki S. Conn1 (2013), Time Management Strategies for Research Productivity, Western Journal of Nursing Research 35(2): p. 155–176

9. Hamoud Mohammed Alshaya, Mudassar Ali Roomi, Mohammed Amouri

Alzayer, Saad Khaleel Alonze and Rakan Fahad Alshaalan (2016), Is time management related to better academic performance and perceived academic satisfaction among medical students? A cross sectional survey in Saudi Arabia, Assistant Professor Physiology, School of Health Sciences.

10. Hansen, Joe B. (2000) "Student Performance and Student Growth as measure of success: A evaluator's perspective" Paper presented at annual meeting of the American Educational Research Association New Orleans, Louisiana, April 25, 2000

11. Hoang Khac Hieu, Huynh Van Son (2011), The current situation of time management skills of students in some universities in Ho Chi Minh City is now analyzed from the perspective of time consuming habits, Journal of Science, Ho Chi Minh Normal University.

12. Karim, Mitra & K. (2015), Time management skills impact on self-efficacy and academic performance, Journal of American Science, 7(12).

13. Karima Sayari, Revenio Jalagat & Van Dalluay (2017), Assessing the Relationship of Time Management and Academic Performance of the Business Students in Al-Zahra College for Women, Women European Business &amp, pp. 1- 8.

14. Kaushar, M. (2013), Study of Impact of Time Management on AcademicPerformance of College Students, Journal of Business and Management, 9(6): p. 59-60.

15. Koch, R. (1998), The 80/20 Principle: The Secret of Achieving More with Less, New York: Bantam Doubleday Dell Publishing Group.

16. MacDonald, D. H. (1983), Chức năng quản lý thời gian dự án PMI / ESA.

17. Misra, R. & McKean, M. (2000), College students' academic stress and its relation to their anxiety, time management, and leisure satisfaction, American Journal of Health Studies, 16(1): 41–51.

18. Najnin Khanam, Trilochan Sahu, E. V. Rao, S. K. Kar & Syyed Zahiruddin Quazi (2017), A study on university student's time management and academic achievement, International Journal of Community Medicine and Public Health, from http://www.ijcmph.com.

19. Patricia Adhiambo Oyuga, Pamela Raburu, Peter J. O. Aloka (2016), Relationship between Time Management and Academic Performance among Orphaned Secondary School Students of Kenya, International Journal of Applied Psychology, 6(6): 171-178.

20. Prof. Susan L. Miertschin, Dr. Carole E. Goodson & Dr. Barbara Louise Stewart (2015), Time Management Skills and Student Performance in Online Courses.

21. Shellenbarger, S. (2009), The relationship of time management strategies, The Wall Street Journal, Work &amp.

RELATION BETWEEN ISLAM AND MALAYSIAN POLITICS

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Abstract

Currently, Islam has developed rapidly and become a multicultural belief, a religious community covering many cultures around the world, including Malaysia. Islam was introduced into Malaysia around the 15th century and played an important role in political and cultural life here. During its seven centuries of ups and downs, Islam has had a great influence on spiritual and material life and become an indispensable element in Malaysian culture.

However, the dogmas of Islam, which actually encourage believers to be more active and try to increase their power, are propagated as a religion that goes against the development of history, associated with poverty and backwardness. Islam was ethnicized and politicized at the same time. In that context, in order to build an independent, prosperous country with a unified culture, Malaysia had to solve problems related to its ethnicity and religion. Especially in the current context, when Islam is the most prominent and complex issue in the region and the world, associated with all aspects of the political life of many countries, and Malaysia is not an exception.

Keywords*:* *Malaysia, Islam, politics, religion.*

1. Introduction

Today, the relation between religion and politics is considered a central issue in the history of modern Islam. It can be said that, there is no separation between religion and government in Muslim countries in general or Malaysia in particular and it is difficult to distinguish between canon law and national law.

As an official religion, Islam has become the way of life of the Malaysian Muslim community, becoming a determining factor in ethnic and national cultural identity. Thus, Islam not only changes the external structure of society but also changes the internal structure, that is, its spiritual value. Malaysians follow Islam, eat foods that are allowed by Islam, live according to the rhythms of Islam, dress in the style of Muslims and perform Islamic rituals. Islam has truly raised the national consciousness of Malaysians and created a new framework for their national identity.

This topic will contribute to clarify the process of Islam's introduction to Malaysia; The relationship between religious power and political power; The influence of Islam in Malaysian political life.

Some sources the author has used:

Islam in Malaysia (Pham Thi Vinh): Presents an overview of "Islam in Malaysia" and its influence on all social, cultural and political spheres of Malaysia.

Federation of Malaysia, cultural history and modern issues (Institute of Southeast Asian Studies): Islam in Malaysia was introduced to the basic features, the process of Islam infiltrating and affecting aspects such as culture and society. However, it has not gone deeper into the cultural and social aspects. It shows the influence of Islam on all aspects of Malaysia.

Through the above works, it shows that the issue of "Relation between Islam and Malaysian politics" has been studied from many different angles, but most of these works are still individual and not comprehensive.

In the current era, along with the general development of the world in general and Malaysia in particular, Islam is constantly changing and increasing its influence on countries around the world. But how much influence does Islam have on Malaysian politics? These are issues that need to be studied and clarified.

With that in mind, the author chooses the topic "Relation between Islam and Malaysian politics" to contribute to a better understanding of Islam and its effects on politics in Malaysia. It is a source of material of scientific and practical significance.

2. Methods

To solve the scientific problems posed by the topic, the author has used:

Historical method: to see the overall development of Islam in specific historical periods as well as its influence on Malaysia in general.

Logical method: to consider the relevant facts in the dialectical relationship of the development process, the process of historical perception, thereby finding out related issues.

3. Results

3.1. The introduction of Islam into Malaysia

Since the 9th century, Arab Muslim merchants have already known the land of Southeast Asia. Old Malaysian history mentioned merchant ships to the coasts of Sumatra, Riau Lingga and Pulau Tioman, but there was no record of organized trade there until the middle of the 10th century. Andaya claimed that: "The first evidence about the activities of Islam in Southeast Asia is the report of Marco Polo in 1292. Marco Polo's report is about the city of Perlak (or Ferlec) that followed Islam, in Marco Polo's travel diary, he recounted as follows: Ferlec was a kingdom located so far south of the South China Sea, the Sarrasins (Islam) came here so often that they converted the natives to believe in Muhammad, just only in the city and the people living in mountainous areas live primitive lives, cannibalize and worship natural spirits. (Marco Polo, 2008, p.255)

By the 13th century, an important event for global trade took place in the world: Mongolia, a newly emerging empire in Southeast Asia, destroyed the Arab Empire (1258), occupied Asia, part of Europe, and cut off the way to trade spices from East to West [66] of Muslim Arab merchants. To save the situation, a new road was opened by the Indians, not the Arabs. This road begins in the East through India, the Strait of Aden, the Red Sea, the port of Alexandria and goes north. Because the king of Egypt opened the port of Alexandria, large ports such as Cambay, Surat and Diu in the Gujerat region (India) flourished. In addition, Europe in this period prospered, the demand for goods and the expanding market made Gujerat occupy a prominent position in the market of flavorings.

In the 13th - 15th centuries, Muslim merchants came to the Malaya archipelago - Indonesia to trade, settle, and marry natives, creating very favorable conditions for Muslim monks to invade into this land for evangelizing. The native aristocracy, long coveted for Muslim wealth, gladly welcomed, befriended and adopted their religion. However, not only merchants in Gujerat, but also merchants in Malabar, Coromandel coast, Bengal... also contributed to spreading Islam into island Southeast Asia. As a result, in the 13th - 15th centuries, some countries in Southeast Asia such as Pasai (Indonesia) became Muslim countries. Malaysia was then converted later, in the XIV - XV [67] centuries. In the early 15th century, the king of Melaka, Parameswara (1403-1424), converted to Islam, taking the Islamic name Iskandar Shah. From here, Melaka was not only the center of international trade but also the largest center of religious propagation at that time. Following Melaka's example, other states in the north Demak, Terengganu, Kelantan… through marriage and trade, gradually established good relations with Melaka. From businesses, Islam from Melaka went to Terengganu, Pattani, Kelantan, Borneo. The Melaka Sultans, who saw Islam as a sharp weapon to expand their territory and spread their religion, vowed to help the minor states to escape the Majapahit rule on the condition that they have to follow Melaka's Islam. Meanwhile, the title "Sultan" strongly attracted the aristocracy of small states to convert to Islam, creating favorable conditions for Islam to flourish. During more than a century from 1403 until the Portuguese invasion (1511), Melaka was a wealthy country, a dynamic international trading center and the largest Islamic center in Southeast Asia and since here, Islam spread to most of Western Malaysia and had a profound influence on the spiritual and social life of Malaysia.

After infiltrating Melayu, Islam quickly developed and occupied an important position in Malaysia, which was understandable, because the process of Islamization here had many advantages:

First, Islam came to Malaysia at a time when the Majapahit Hindu empire was in crisis and disintegration. At this time, trade in Southeast Asia was caught up in the whirlpool

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[66] *The route that Arab Muslim merchants opened before the 13th century was from the East through the Persian Gulf, the Levantine coast and then to Northern Europe, which was very busy at that time.*

[67] *It is written that, before Parameswara followed Islam, there was an earlier country in Malaysia that followed Islam, typically Kedah. According to the Kedah Chronicle, at the beginning of the fourteenth century, the ninth king of Kedah, Ong Mahawangsa, converted to Islam and changed his name to Mudzaffar Shah I (1136-1179). Since then, there have been 27 Muslim kings ruling Kedah.*

of the international market vortex; The caste system of Hinduism is outdated, not suitable for the development needs of the market and society. The crisis of Hindu ideology has created an emptiness of belief, a big gap for Islam to enter and develop. Islam with the idea of freedom and equality, helps to liberate people from the harsh concepts of Hinduism and towards a large Muslim community.

Second, in Southeast Asia, at that time, there was an economic shift. From an early subsistence agrarian economy, it has now become an important center for spice trade, especially for developing Europe. Through the trade routes, Islam has gradually penetrated into Malaysia. The principles of equality and liberality of Islam are suitable for the people and aristocrats, so they have been warmly welcomed by them. In that context, Islam became the flag of the small states fighting against the Majapahit empire and gaining independence, typically Melaka. From a poor fishing village, Melaka has gradually risen to a powerful military country with great economic potential. It was the success of Melaka that encouraged the Majapahit countries to convert to Islam and participate in the international market.

Third, Islam came to Southeast Asia in peace, so it was suitable for local people's psychology, helping them easily integrate into this new religion. Tolerance and good adaptation to local beliefs reduced envy and hatred among indigenous people, making them easier to accept the new religion. In the Malaysian kingdoms, the Kings played an important role in spreading Islam in Malaysia. In Sejarah Melayu, the image of the king is considered the center of the kingdom, the subject for all subjects to be loyal and obedient. Without a king there would be no kingdom. If the king follows Islam, all the people will follow. A specific example in Melaka is that "the king, after converting to Islam, ordered his officials and subjects in Melaka, whether high or low, to become Muslims." (Milner, 1985, p.27). And another factor that also facilitates Islam to spread quickly to Southeast Asia is mysticism (Sufi). Many scholars believe that, when coming to India, Islam absorbed and transformed it into a feature of regional culture. When coming to Malaysia, Islam has a mixture of mystical elements that penetrate strongly into Malaysian residents while they are still heavily superstitious.

Fourth, the use of the Malay language made Islam spread faster on the peninsula. Before Islam came, this language was widely used by residents in communication and trade in the Malayu archipelago - Indonesia. When Islam entered, this language has become the national language widely used in political, economic and social aspects of Malaysia. And not only in Malaysia but in mainland Southeast Asia, Melayu is still spoken in religion in Southern Thailand, Cambodia and Vietnam.

3.2. The Role of Islam in Malaysian Politics

Islam is the second largest religion in the world with about 1.57 billion followers, accounting for 23% of the total world population. In the current globalization context, Islam, like any other religion, is experiencing changes in political, cultural and social life to find ways to adapt to new circumstances.

3.2.1. Unity between religious power and political power in Malaysia

Today, the relationship between religion and politics is considered a central issue in the history of modern Islam. It can be said that in Muslim countries in general or in Malaysia in particular, there is no separation between religion and government and it is difficult to distinguish between canon law and national law. Islam has become the lifestyle of people in all aspects. Although it is an international religion and has a religious center in Mecca, Islam does not have a unified "church", no hierarchy. The religious power therefore does not lie within the "church" but is determined by the followers. Therefore, separating religion from politics is not easy in the case of Islam. Leaders are also missionaries, exerting government influence through mosques.

During the 1970s and 1980s, many political leaders were seen identifying their regime and themselves with Islam. The union between religious power and political power is one of the important features of the Muslim world. When looking at the future of Islam, many scholars believe that it is necessary to separate these two powers to break down all barriers and pave the way for Islam to develop. However, as Islam has spent thirteen centuries maintaining the unity of religious power and political power, the separation is a challenge for the Muslim world and the rest of the world, especially the West.

In Malaysia, the Malay Muslim community makes up half of the country's population, while the Chinese community doing business in cities accounts for about 30% of the population, the Christian community and semi-dwellers on the island of Borneo account for 11%, and Indian descent take up 9%. Malaysia is a multi-ethnic, multi-religious country in which Islam has a special place in the political, cultural and social life of the country. The status of Islam is enhanced because it is the official religion of the Federation and also the religion of the indigenous Melayu community - the largest population, and throughout the history of Malaysia has always prevailed politically and legally. However, Malaysia not only has the Muslim Melayu community, but also has many communities following different religions and beliefs. Muslims account for over 60% of the population, but are concentrated mainly in the countryside, where the economy is weak and backward. Therefore, since independence, Malaysian leaders have been particularly interested in the ethnic community base of society and politics in a multi-ethnic country like Malaysia. They see the need to maintain the political dominance of the Muslim Melayu people, but also to find a way to reconcile with other communities to ensure political stability and security, to create a foundation for the country's construction and development. Therefore, they have classified ethnic and religious issues as "sensitive" issues that need proper attention.

In a multi-ethnic society, the complex relationship between ethnic groups is one of the factors that determine the political destiny of the country, especially when those ethnic community groups are aware that differences between them and other community groups is the difference in ethnicity, religion, language, socio-economic status...Malaysia is not an exception. Ethnic community groups in Malaysia have maintained their national character and in fact have become opposing political forces, fighting for the economic, political and socio-cultural rights of the people. In this complex political context, the national spirit of the Melayu people has risen dramatically and has become a determining factor in the character of Malaysian politics.

Melayu nationalism appeared at the beginning of the twentieth century, when the Chinese and Indians flocked to Malaysia to do business and live, creating a multi-ethnic, multi-cultural Malaysia. The policy "Divide and Rule" is intended to easily govern the natives at the same time. The complex context of Malaysian society is not only due to ethnic composition, but also due to differences in religion, customs, lifestyle, communication habits, rituals, and so on of different ethnic communities: Melayu, Chinese and Indian. The disparity in economic development level, socio-cultural difference and disparity in economic and political status of ethnic communities, in addition to the policy of "divide and rule" of colonialism made Malaysian communities not have the opportunity to stick together, but on the contrary, they also nurtured seeds of mutual hatred. Each ethnic community has its own parties that represent their community in the political arena. These are the Melayu Unified National Organization (UMNO) of the Melayu people, the Association of Overseas Chinese in Malaysia (MCA) of the Chinese and the Congress of Overseas Indians in Malaysia of the Indians. The conflict in community relations, especially between the two largest community groups, the Melayu community and the Chinese community, has in fact occupied all political, economic, and socio-cultural activities in the country.

Immigration has always been a major concern for the Melayu people. Nationalism against colonialism and the threat of immigrants, and especially the Chinese, made Melayu nationalism a silent but smoldering element in Malaysia society. During the colonial period, the national consciousness and the religious consciousness supported each other in the struggle to protect the national interests and also to protect Islam against the attack of colonialism and Christian thought. Islamists and Melayu nationalists stood side by side in the struggle for the country's independence. It was only in 1946, when the UMNO Party was born, that the relationship between Islam and the national consciousness of Melayu began to show signs of tension. The Melayu nationalists gained leadership in the struggle for national independence. They advocate building an independent, secular country while the Islamists advocate turning Malaysia into an Islamic country. However, in the race for political supremacy and the support of Melayu voters, nationalists still uphold the value of Islam and consider Islam as one of their top goals.

After Malaysia achieved political independence (1957), Islam did not occupy a prominent place in the political life of the country, although it was still respected by UMNO leaders. Islam is still used by UMNO to attract the votes of Melayu Islam in elections with the Islam PAS party. The Melayu nationalist leaders attempted to consolidate the traditional Melayu dominant position, seeking ways to elevate the Melayu to an equal and higher economic, cultural and educational status than other communities in the country. The constitution recognizes the "special rights" of the Melayu people as indigenous communities. A series of economic policies of the government create conditions for the Melayu people to participate in industrial production, especially business, giving priority to Melayu children in vocational training and employment.

In educational policy, the Malaysian government also prioritizes education and scholarships for the Melayu people and other indigenous residents. The state is also interested in developing agriculture and rural areas, where the Melayu community resides and works. Melayu language became the national language, Islamic spiritual values were recognized as an important part of the national culture. However, the Muslim Melayu did not make up the majority in the country. Therefore, while pursuing the goal of nationalism, the Malaysian government cannot fail to respond to the demands of other communities. The Malaysian Constitution declares freedom of belief and prohibits racial discrimination on the basis of religion.

State economic policies encourage and facilitate the active participation of the Melayu people in business activities to enhance their economic status and achieve social justice, but not by sharing economic benefits of other ethnic groups (Chinese, Indian) for the Melayu people. Thus, UMNO somewhat softened its previous nationalist views.

At the end of the 60s of the twentieth century, the political situation in Malaysia was very complicated, especially the ethnic issue facing the risk of crisis. Relations between the Chinese and the Melayu are increasingly strained. Disagreements between the leaders of UMNO and the ruling Coalition, were long suppressed, now threaten to explode. Some Chinese politicians have raised their voices to claim the rights of the Chinese. Many people are still afraid that the Association of Malaysian Overseas Chinese is not able to protect their interests and put their hope in a number of newly established political parties, including the established Democratic Action Party (DAP). In 1966, the Malaysian People's Movement Party (Gerakan rakyat Malaysia) was born in April 1986, the Progressive People's Party (PPP) was established in Perak. In addition, there is the Labor Party (Parti Buruh) which has ties to the Communist Party of Malaya… These political parties also voiced opposition to UMNO's policy of prioritizing the Melayu people and demanding equality in education, whether the medium of instruction is Melayu, English, Chinese or Hindu. They proposed to build Malaysia on the principle that "Malaysia belongs to the Malaysian people". Meanwhile, the UMNO party faces many difficulties in running the country because of conflicts and divisions within the party's leadership. This division, together with the strained relations between ethnic groups in the country, led to the political crisis of 1969.

After the crisis, the Malaysian government took many measures to stabilize the situation and maintain the unity of the country, especially the policy of administrative reform and economic development. In July 1969, the National Unification Commission was established to draft the "National Ideology and New Socio-Economic Programs". The government sets out economic development strategies, including the New Economic Policy

(NEP) and political goals to ensure the rights of the Melayu people in the economic field, especially with employment opportunities and high positions in modern and developed economic sectors.

In parallel with the implementation of the New Economic Policy, the Malaysian Government carried out political reforms in the country, consolidated the dominant power of the UMNO leadership organization, implemented parliamentary democracy, and eliminated the imbalance. ethnic equality in some areas of national life and towards national unity through constitutional amendments, passed by the House of Representatives (Dewan Rakyat) in February 1971.

The 1969 political crisis led to major changes in the Malaysian government's policy in favor of the Melayu community and created an opportunity for Islam to expand its influence. The Malaysian Government implemented the policy of "Islamizing" the country with two purposes.

First, strengthening the dominant position of the UMNO party, against the accusations of its strongest competitor, the PAS, attracted the political support of the Melayu Islam.

Second, strengthening the ability to manage Islamic activities in the country so that Malaysia, despite being a country with a large Muslim population, is still a progressive secular country. The government's pro-Islamic policy greatly enhanced the Muslim consciousness of the Melayu people and more than once they caused trouble for the Government in the implementation of its national policy.

Not only in domestic policy, in foreign policy, UMNO's government is increasingly leaning towards the Islamic world where in recent years Malaysia has been given a suitable place for itself, as an active member, wants to associate its name with the problems of the Islamic world *Islam* (Hussin Mitalib, 1980, tr.128). The Malaysian government has developed economic and commercial relations as well as political relations with Muslim countries, especially Arab countries. Economically, Malaysia reduces its exports to the West, increasing the proportion of trade with countries in the Middle East. Politically, Malaysia strongly supports the Palestine Liberation Front (PLO), affirming Malaysia's leading role in supporting Palestine against Israeli aggression.

Despite strongly supporting Muslim countries, the Government is also very sensitive to issues related to Malaysia's national interests and the country's situation. They fear the impact of the Islamic revolution in Iran on Malaysia's secular democracy. Malaysia's Islam-oriented foreign policy, in terms of religion, is understandable, because Malaysia's current Islamic movement cannot be separated from the development of world Islam, in other words, it is greatly influenced by major Islamic events in the world.

First, Islam in Malaysia was influenced by the international Islamic revival movement that began with the Arab-Israeli War in 197 and the oil crisis that followed, especially since the Islamic revolution in Iran in 1979. The above events contributed to promoting the Islamic revival movement to develop as a political force in the international arena, strongly influencing the spirit of Islam in Malaysia.

Second, the spirit of Islamic revival in Malaysia was heated by the complicated internal situation of a multi-ethnic and multi-religious country, especially after the political crisis in 1969. The relationship between Islam and Melayu (Melayu people and Melayu identity) is a reciprocal relationship. When the national spirit of Melayu was high, Islam became the link of the Melayu community against other communities. Islam and its culture are considered by the Melayu people as their national cultural feature, the solution to all the problems of the country. Therefore, Islam was promoted day by day and occupied an increasingly important position in society. In the context of Malaysia in the 70s-80s, the Islamic revival movement, specifically the Dakwah movement, had a strong impact on the development of the political situation in the country. This movement put great pressure on the existence and development of Malaysian political parties, especially PAS and UMNO. This explains why from the 70s to the 80s, the Malaysian Government attached great importance to the role of Islam, introduced many favorable policies for Islam, and enhanced Islam's position in the political and social life in Malaysia. It was also Islam that made Malaysia change its foreign policy in favor of the Islamic world.

Looking back at the development history of Islam, we can affirm that Islam from its birth until now has always been political. According to the principles of Islam, if a place is the land of true Islam (Da-ul Islam), then the head of the religious community will have to be the one holding the secular power, especially political power. Therefore, we should not be surprised to see that Islam has a great influence on the political life of Malaysia, where Islam is the state religion, but the real power rests with a nationalist party (UMNO), while the head of the Muslim community is only the nominal head of the country with certain powers. The Muslim forces in Malaysia represented by the PAS party have always opposed the UMNO government for political supremacy, with the aim of turning Malaysia into an Islamic state in its own right, although ultimately PAS is also a nationalist party, protecting the interests of the ethnic Melayu Islam community. So in the context of Malaysia - a multi-ethnic, multi-religious country - Islam has always been a factor promoting more conflicts between ethnic communities. In fact, the Islamic revival movement strongly influenced the activities and political trends of the Malaysian Government, making Malaysia more and more inclined towards the Muslim world. In contrast, the domestic and foreign policies favoring Islam of the government of this country further enhanced the role and status of Islam, of the Melayu Islam community in all areas of Malaysian social life by the end of the 80s of the twentieth century.

For Malaysia, the role of Islam in politics and ideology was clearly shown. In the state power structure, the nine states of Malaysia, Kelantan, Terengganu, Pahang, Kedah, Perak, Perlis, Selangor, Johor and Negeri Sembilan, were ruled by Muslim dynasties, headed by Sultanats. The states of Penang, Malacca, Sarawak and Sabah did not have any rulers, but the Agongs still acted as heads of Islam in each district in the state.

3.2.2. Parties in Islamic politics in Malaysia

After gaining independence, the people of the Malay peninsula were grateful and believed in their policy for helping to break the domination of British colonial rule and lead Malaysia to independence. Due to the need to promote the country's development after independence, the United Malays National Organization (UMNO) allied with other parties to form the United Malayan Front. The United Malaysian Front consists of 14 political parties: UMNO (United Malays National Organization), Democratic Action Party (Democratic Action Party), National Justice Party (Keadigan Party), party Islam Malaysia (Pan-Malayan Islamic Party), and the Spirit of 1946 Party. These Islamic parties represent the following wills and aspirations:

The United Malays National Organization (UMNO), which represents the Malays, is the largest party. Traditionally, the party's President and First Vice-President serve as Prime Minister and Deputy Prime Minister.

The Democratic Action Party (DAP), whose members are mostly Chinese, has ties to Singapore's People's Action Party. It is the second largest opposition party, with representatives in parliament.

The Malaysian Islamic Party (PAS), which broke away from UMNO in 1951, is made up of radical Muslim Malays who now control the state of Kelantan.

The National Justice Party (KP) was founded by the wife of former Deputy Prime Minister Anwar in April 1999 to fight for Anwar's freedom.

Spirit of 1946, which broke away from UMNO in 1987 after a general election defeat, was led by Mr. Razaleigh, the former Finance Minister.

The UMNO party, the mainstay of the United Front of Malaysia, has ruled since Malaysia's independence from Britain in 1957.

In addition, in Malaysia, there are: Chinese Ma Association (MCA) - the second largest party, representing the Chinese bourgeoisie, the economic force in Malaysia; The Malayan Association (MIC) is the third largest party representing the Indian community in Malaysia.

4. Discussion and Conclusion

It can be said that Islam is increasingly occupying an important position in the spiritual life of the Melayu people and has a strong impact on domestic and foreign policy of the Malaysian government.

Islam in Malaysia has been influenced by the international Islamic revival movement that began with the Arab-Israeli war in 1973 and the oil crisis that followed, especially since the Islamic revolution in Iran in 1979. The above events contributed to promoting the Islamic revival movement to develop as a political force in the international arena, strongly influencing the spirit of Islam in Malaysia.

Although not becoming the dominant religion in Malaysia, Islam has a special place in this country. Islam became the “way of life” for the Melayu and other Muslim indigenous populations.

The highlight of Malaysian political life is the relationship between Melayu nationalism and Islam represented by UMNO and PAS. Although they are fighting each other fiercely on the issue of Muslim Malaysia and the Melayu people, after all, the main purpose of these two parties is still to protect the interests of the Melayu people and the conflict between the two parties and the non-Melayu community is the key issue.

Ethnicity and religion are two sensitive issues, closely related to each other, especially when religion is considered a national cultural identity as in the case of Islam in Malaysia. By properly handling that complicated relationship, Malaysia avoids the development of Islamic separatism that countries in the region such as Thailand and the Philippines are facing.

5. References

1. Al – Attas, S. M. Naguib (1972). *Islam dalam Serajah dan Kebudayaan Melayu*. Kuala Lumpur. Malaysia.

2. Andaya, B.W. and Andaya L.Y. (1982). *A history of Malaysia*. Place of Publication: Macmillan Press Ltd., London.

3. Anh, H & Thinh, P. (translators). (2013), *Tun Dr Mahathir Mohamad - Political memoirs.* Place of Publication: Alpha Books and World Publishing House. Hanoi

4. Baaren, Th. (Translated by Trinh Huy Hoa). (2002). *Islam*. Place of Publication: Youth Publishing House. City. Ho Chi Minh.

5. Chau, P. M. (2016). *Cultural Personality Mahathir Mohamad*. Master's Thesis in Oriental Studies. University of Social Sciences and Humanities - Vietnam National University, Hanoi

6. Doanh, N. V. (2008). Islam and Southeast Asian culture in the pre-modern period. *Southeast Asian Studies*, no. 12.

7. Drewes, G. W. J. (1985). *New light on the Coming to Islam to Indonesia, in Ahmad Ibrahim*. Sharon Siddique and Yasmin Hussain. (complied). Reading on Isalm in Southeast Asia. Institute of Southeast Asia Studies Singapore.

8. Fatimi, S.Q. (1963). *Islam comes to Malaysia*. Malaysian Sociological Research Intitute LTD. Singapore.

9. Hamid, A. F. A. (2010). *Islamic education in Malaysia.* S. Ratjaratnam School International Studies.

10. Hoa, T. H. (2003). *Malaysia*. Place of Publication: Young Publishing House. City. Ho Chi Minh.

11. Huong, L. T. T. *(2002). About Melayu History*. Place of Publication: Social Sciences Publishing House. Hanoi.

12. Hussin Mitalib. (1980). Islam and Ethniciti in Malay Politics. Singapore. Oxford Universiti Press. Oxford New York.

13. Huyen, L. T. (2005). *Mahathir Mohamad on Malaysia's ethnic and religious issues*. Master's Thesis in Oriental Studies, University of Social Sciences and Humanities - Vietnam National University. Hanoi.

14. Institute of Southeast Asian Studies. (1998). *Federation of Malaysia: cultural history and current issues*. Place of Publication: Social Science Publishing House. Hanoi.

15. Marco Polo *(*Translated by Nguyen Thanh Thong). (2008). *Marco Polo Travel*. Place of Publication: Culture and Information Publishing House.

16. Milner, A. C. (1985). *Islam in Malay Kingship*. in Ahmad Ibrahim Sharon Siddique and Yasmin Hussain. (compiled). Reading or Islam in Southest Asia. Institute of Southest Asia Studies. Singapore.

17. Newitt, M. D. D. (2003). *The First Portugueses Colonial Empire*. Place of Publication: University of Exeter, Great Britain by Antony Rowe Ltd., Eastboume.

18. Tong, H. V. (1993). *History of Southeast Asia, volume 2*. Internal circulation. Place of Publication: Open University of Ho Chi Minh City. HCM.

19. Van, L. T. (2010). *About some Malaysian experiences in dealing with the relationship between ethnicity and religion*. published on the official website of the Vietnam Union of Science and Technology Associations (Vietnam Union of Science and Technology Associations).

20. Van, L. T. (2011). British educational policy towards the indigenous Malay community (from the second half of the nineteenth century to the beginning of the twentieth century). *Southeast Asian Studies, No. 5, May 2011.*

21. Vinh, P. T. (2008). *Islam in Malaysia*. Place of Publication: Social Science Publishing House. Hanoi.

THE IMPACT OF THE MARKET ECONOMY ON CIVIL SERVICE ETHICS IN VIETNAM TODAY

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Abstract

Civil service ethics is a form of professional ethics, an integral part of the social ethics system, closely related to politics and law, and has a profound influence on the political and social institutions in each country. Therefore, civil service ethics has a very important position and role for socio-economic development and the survival of the social system. Further improving public service ethics at all levels of government is one of the urgent tasks today. The article analyzes the positive and negative impacts of the market economy on the civil service ethics of civil servants; on that basis, identify a number of problems and solutions to prevent the negative effects of the market economy on civil service ethics, contributing to improving civil service ethics for civil servants in Vietnam to day.

Keywords: *Civil service ethics, market economy, impact.*

1. Introduction

In recent years, the issue of civil servants, and public service ethics has not only attracted the attention of the Party and State but also attracted the attention of society, especially researchers. There are many relevant documents and documents issued, many scientific research works have been published. All are towards the goal of building a clean and potent administration, a contingent of civil servants who are really "*public servants*" of the people, meeting the requirements of sustainable development of the country. The process of transforming the economic management mechanism to a market economy in Vietnam has affected many different areas of social life, including social ethics in general, public service ethics of public employees, or office in particular. Our market economy is still in the process of being perfect, especially the legal system, mechanisms, and policies; the level of development of different types of markets; effectiveness and efficiency of state management; discipline, etc. All of these have been having an impact on the economic and social development in general, and the transformation of civil service ethics of a section of civil servants in particular.

2. Method

To carry out the stated research purposes and tasks, the author uses a system of popular scientific research methods: Logical and historical methods (this method is used in the article for analysis, explaining the concepts of public service, public service ethics, market economy); Methods of analysis and synthesis (to develop and collect research contents); Statistical method (used in section 3.2 of the article to collect and evaluate the research situation related to the changing status of civil service ethics of civil servants under the influence of the market economy in Vietnam today). Now on); Scientific forecasting method (used mainly in section 3.3 of the article to forecast some basics solutions to devote to improve civil service ethics for civil servants in Vietnam today).

3. Results.

3.1. Bureaucrat, civil service ethics and market economy

The bureaucrat is a socio-historical term, referring to those who hold regular duties in state agencies and organizations. The name - function - was formed with the introduction of water maps. The content of the term bureaucrats is identified in many different ways, which depended on the socio-economic conditions of each country and each specific historical period. For many countries, a bureaucrat is understood as: "Those who hold regular jobs in state agencies, are classified into public ranks and ranks, and receive salaries from the state budget" [5]. In some other countries, the company is understood as: "those who hold regular jobs in the state agencies, are classified as civil servants, receive salaries from the state budget" and "those with similar in sign but working in organizations of organizations, socio-political organizations"[5]. In Vietnam, a bureaucrat is a person holding positions and titles in the Party, State agencies, socio-political organizations at all administrative status, in the regime, receiving salaries from the state budget classified according to the level of training and classified into the classification function. Therefore, bureaucrats must not only have professional qualifications but also have good moral qualities.

Any administrative system that wants to operate effectively, efficiently, and with high service quality needs a team of cadres and bureaucrats with civil service ethics (besides professional capacity). Civil service ethics is a system of standards, rules, and behaviors aimed at regulating attitudes, behaviors, conduct, responsibilities, and obligations of cadres and bureaucrats in civil service activities. Civil service ethics is often considered under two aspects: civic ethics and professional ethics. Civic ethics is the general social moral standards and values that exist as a citizen. As for professional ethics, besides social ethics, bureaucrats must conform to the principles, standards, and regulations on the behavior of bureaucrats in the performance of their official duties without ever violating the ethics of civil servants. Civil service ethics is a form of professional ethics, an integral part of the social ethics system, closely related to politics and law, and has a profound influence on the political and social institutions in each country. Therefore, civil servant ethics has an essential position and role in socio-economic development and the survival of the social regime.

Stemming from different historical conditions, political regimes, and cultures, each country has a different perspective on civil servant issues and the ethics of civil servants. In Vietnam, civil servant ethics are formed based on inheriting the good traditions of the nation, the cultural quintessence of humanity, and taking Marxism-Leninism and Ho Chi Minh's thought as the foundation. standards, striving for independence, peace, democracy, and social progress. Therefore, civil servant ethics do not only stop at the sense of morality but also manifest themselves through ethical behaviors. It is expressed in the practice of state management activities.

President Ho Chi Minh paid great attention to the ethics of cadres and civil servants, considering it a necessary minimum condition for cadres and civil servants to fulfill their duties. He wrote: "Just like a river, it has a source to have water, without a source, the river dries up. The tree must have a root. If there is no root, the tree will wither. A revolutionary must have morality, and without morality, even if he is talented, he can't lead the people ... Without morality, he is already evil, he can't do anything" [4]. In the process of building the national administrative system, Party and State also pay special attention to building civil service ethics for cadres and bureaucrats. The Law on Cadres and Civil Servants in 2008 has identified public service ethics as one of the most far-reaching qualities that cadres and civil servants must possess. Article 15 (Chapter II) stipulates: "Civilians and civil servants must exercise diligence, thrift, integrity, righteousness, and impartiality in public-duty activities." Article 16 (chapter II) stipulates: "1. In-office communication, cadres, and bureaucrats must have a polite and respectful attitude to colleagues; Communication language must be standard, clear and coherent. 2. Cadres and bureaucrats must listen to opinions of colleagues; fair, impartial, and objective when commenting and evaluating; democracy and internal solidarity. 3. When performing their official duties, cadres and bureaucrats must wear badges or civil servant cards; be polite; preserving prestige and honor for agencies, organizations, units, and colleagues". Article 17 (chapter II) stipulates: "1. Cadres and bureaucrats must be close to the people; have polite, serious and modest manners and attitudes; Communication language must be standard, clear and coherent. 2. Cadres and bureaucrats must not be bossy or authoritarian, causing difficulties or troubles for people when performing their official duties. Article 18 (chapter II) also stipulates what bureaucrats must not do related to public service ethics, including: "1. Evading responsibility, abdicating assigned tasks; causing factions and disunity; voluntarily quit work or join a strike. 2. Illegally using the property of the State and the people. 3. Abusing or abusing duties and powers; use information related to the public service for personal gain. 4. Discrimination and treatment of ethnicities, men and women, social classes, beliefs, and religions in any form".

The Anti-corruption Law also has provisions that reflect the standards of bureaucrats and civil servants, in which uniquely identifying cadres and bureaucrats as one of the subjects who have positions and powers. Corruption is illustrated as an act of a person with a position of power who takes advantage of this position or power to embezzle, bribe, or intentionally violate the law for self-seeking motives, causing damage to the property of The State, collectives, and individuals, infringe upon the proper operation of agencies and organizations. The identified corrupt acts are embezzlement of socialist property; Bribery; abusing their positions of power to give bribes or broker bribes; abusing positions and powers to use socialist property illegally.

Article 8, the 2013 Constitution stipulates: “State agencies, cadres, bauraucrats and public employees must respect the People, devote themselves to serving the People, stay in close contact with the People, and listen to their opinions. and subject to the People's supervision; resolutely fight against corruption, wastefulness and all manifestations of bureaucracy, bossiness, and authority". The requirements of the 2013 Constitution can be generalized on civil service ethics of cadres, bureaucrats, and public employees as follows: Firstly, to respect the people; second, serving the people; third, close contact with the people; fourth, listen to people's opinions; five is, subject to the supervision of the people; Sixth, must have a positive attitude to fight against violations of the law, bureaucracy, bossiness, authority, and corruption. These are the most necessary civil service ethical standards institutionalized in the Constitution, serving as the foundation for building and perfecting the law on public service ethics.

From that, it can be seen that Vietnamese civil servant ethics is a system of opinions, rules, and standards formed in revolutionary practice and state management activities, reflecting not only national traditions, cultural patterns of humanity that at the same time reflect the nature of the State as a state of the people, by the people and for the people. Therefore, the morality of Vietnamese civil servants is an expression of a new and revolutionary morality.

The transition from a centralized subsidy mechanism to a multi-sector commodity economy, operating under the socialist-oriented market economy, has fundamentally changed many aspects of social life, where has been a change in the civil service ethics of our country's civil servants. That transformation mainly takes place in two trends: positive and negative. The survey and analysis of the status of changes in civil service ethics among bureaucrats under the influence of the market economy and understanding the causes of that change to propose solutions to limit the negative changes. Building a contingent of bureaucrats who are both virtuous and talented, aiming to build a democratic, modern, professional, dynamic, effective, and efficient administration to serve the people is a vital issue urgent in our country today.

3.2. The situation of changing civil service ethics of bureaucrats under the impact of the market economy in Vietnam today

Under the impact of the market mechanism, the civil service ethics of our country's bureaucrats have been undergoing a definite change. That transformation takes place in two directions: positive and negative.

Basic standards of public service ethics, including loyalty to the Party and State; awareness, attitude, and behavior towards the work of civil servants; spirit and attitude of serving the people; the sense of self-cultivation and self-training of civil servants and the spirit of solidarity and cooperation with colleagues in performing official duties. These standards have shifted in both consciousness and behavior and moral relations. That change, first of all, is the innovation in public service activities and the attitude of civil servants has many changes to suit the requirements of the market economy and market mechanism.

Compared to the pre-renovation period, our country's bureaucrats now live, study, and work in a more favorable environment, with increasingly high economic development, and constant economic, cultural, and social institutions are complete. As a result, the public service ethics of bureaucrats have conditions to further promote their role in building a democratic, modern, professional, dynamic, effective, and efficient administration serving the people, serving the society. The figures in the 2018 Summary Report of the Ministry of Home Affairs on the contingent of cadres and bureaucrats in our country show that the quality of our country's bureaucrats is constantly improving, in which civil service ethics have changed. Positive change, people's satisfaction index of civil servants, and public service activities have been enhanced. To meet the requirements and tasks in the new context, the contingent of bureaucrats in our country, on the one hand, needs to strictly abide by the discipline and operating regulations, and respect the law; on the other hand, protect state secrets and people's secrets, promote loyalty to the State and the Socialist Fatherland, and take responsibility for the effective and economical exploitation of state resources, especially budget and resources. At work, the contingent of bureaucrats has promoted dynamism, creativity, self-discipline, self-responsibility, constantly innovates working methods and means to improve the quality of service to the people, and improve the efficiency and effectiveness of employees duty performance. Before the people, one must respect, listen to and learn from the people, consider the settlement of the people's legitimate needs and interests as their responsibility, consider the people's satisfaction as a measure, and evaluate the work.

The development of the market economy also places an increasing demand on human factors. Facing that pressure, the contingent of bureaucrats in our country has been invariably learning and improving professional skills and ethics. Accordingly, the majority of bureaucrats invariably upgrade their sense of self-cultivation, self-discipline, strictness with themselves, practice integrity and impartiality in performing official duties, instead of relying on and relying on collective, superior; each cadre and civil servant is increasingly trying to improve themselves in all aspects, including ethics. The spirit of cooperation and solidarity with colleagues in the contingent of bureaucrats is increasingly strengthened and valued. The connection of bureaucrats in administrative agencies at all levels, as well as between bureaucrats and partners and businesses, has not only demonstrated professionalism and specialization in public service activities but also made the operation more efficient. of civil servants is increasingly effective, meeting the development needs of the country, bringing satisfaction to the people.

However, the market economy that we are rebuilding is not yet complete, not fully established. It leads to negative impacts from the negative side of the market economy to social ethics, including public service ethics. The negative influence of the market economy is the deterioration, degradation, adverse changes in civil service ethics comprehended bureaucrats. Compared with the pre-renovation period, our country's bureaucrats have appeared a section of bureaucrats showing signs of violating loyalty to the Party and State, violating bureaucrats obligations, failing to abide by the principles of public activities service, loss of will to strive, no example in work, even words and deeds that go against the interests of the State and the people. Worryingly, a part of our country's bureaucrats tends to follow personal interests, get caught up in material desires, and run after the power of money. It leads to embezzlement, corruption at work, lack of self-discipline, lack of creativity, doing whatever is beneficial. Otherwise, pushing the responsibility or doing it over the counter without concern for efficiency; with the people, it is bureaucratic, far from the people, causing difficulties when dealing with the people's legitimate interests; with himself, he is afraid to practice, lazy to strive, frightened of obstacles, apprehensive of suffering; with colleagues, competition, trumpet, disunity, etc.

The limitations on public service ethics of cadres and civil servants above stem from the main reasons:

Firstly, the achievements made by the development of the market economy are enormous, but the negative side of the market economy tends to stimulate excessive personal consumption, creating a hedonistic thought. A part of cadres and civil servants came out of an underdeveloped small-scale agricultural economy, with insufficient awareness, so they were overwhelmed by changes, especially economic growth. They are caught up in economic growth without seeing its downside, appear prejudiced about traditional values , and excessively accept new things, leading to luxury and enjoyment. It is worth mentioning that the tendency to focus on material benefits and economic efficiency has obscured good moral concepts. An immoral lifestyle, a decline in morality have formed and developed.

Second, in the current market economy in our country, cadres and civil servants at all levels and branches still have the phenomenon of "running for office," "running for power," "running for crime"... in the phenomenon of "running" includes There is "buying and selling" in many different levels and forms. When the phenomenon of "buying and selling" in the organization of cadres appears, the selection, evaluation, promotion, training, retraining, inspection... cadres and civil servants are often just a formality. This phenomenon often leads to weakening of the state apparatus, disunity, factions, and loss of working efficiency of Party and State organizations. In work, they do not take quality and efficient completion of work as a goal to strive for but seek to wriggle around and handle it. Illegally managing relationships leads to sin, discredits the Party, and reduces people's trust in the Party and State.

Third, leaders of agencies and units are not exemplary in ethics, lifestyle, and responsibilities at work. Lack of role models in ethics, lifestyle, in performing official duties. Lack of proper attention in work and life for subordinates has negatively affected subordinates' thinking in performing tasks. Agencies and units have not paid due attention to responsibility education, as well as strictly handling responsibility for cases of violation of civil service ethics, so there is no deterrent and exemplary character.

Fourth, the promulgation of the State's policies and laws on public service ethics is slow and lacks drastic implementation, so the effectiveness is not high. Specific regulations in the units on the responsibilities of cadres and bureaucrats; the management, inspection, and supervision mechanism of organizations and heads of units as well as of the people for the activities of cadres, bureaucrats, and public employees is still limited, not regular, not significant and lacking in consensus the set.

Under the impact of the market mechanism, the civil service ethics of our country's bureaucrats have been undergoing an absolute change. That change is both positive, facilitating the process of perfecting the civil service, but there are also negative changes affecting the service efficiency of the bureaucrats, affecting the development of the bureaucrats of the economy and society in general.

3.3. Some primary solutions to contribute to improving civil service ethics for bureaucrats in Vietnam today

Firstly, raise awareness of public service ethics responsibilities for cadres and bureaucrats.

First of all, it is necessary to raise awareness and promote the role of party committees and authorities in leading and managing public service ethics. Party committees at all levels must be more aware of the importance of ethics in public service activities. The heads of specialized departments must have sensitive, dynamic and realistic thinking to identify, detect and evaluate positive, rights, or negative, wrong behaviors in public service activities. At the same time, regularly propagate and educate about political ideology, morality, and lifestyle for cadres and civil servants; thoroughly understand and disseminate the guidelines, guidelines, policies, and laws of the Party and the State to the contingent of cadres and civil servants... fostering a sense of patriotism, educating the revolutionary moral qualities for cadres, officer.

The level, results, and quality of public service activities depend on the cadres and bureaucrats themselves. Therefore, raising awareness of public service ethics responsibilities for cadres and civil servants will be very decisive. The level of awareness, awareness and deep understanding of the law, duties, and responsibilities will determine the attitude and behavior of civil servants when performing their official duties. Cadres and bureaucrats, when performing their official duties, must be aware of and must comply with the principles prescribed by law, including 1) Comply with the Constitution and the law; 2) To protect the interests of the State, the lawful rights and interests of organizations and citizens; 3) Publicity, transparency, proper authority, and inspection and supervision; 4) ensure administrative hierarchy and close coordination.

Secondly, perfecting the socialist-oriented market economy institution.

One of the objective reasons leading to the change in civil service ethics in a negative direction today is the negative impact of the market economy. Therefore, perfecting the socialist-oriented market economy institution must be one of the indispensable solutions to overcome that changing situation. To perfect the socialist-oriented market economy in our country today, it is necessary to perform well on the following key issues:

Firstly, continue to perfect the legal system, mechanisms, and policies to create a legal corridor for all economic sectors operating under the market mechanism, equality and competition under the law; make a decisive contribution to overcoming corruption and bureaucracy; ensure transparency in production and business activities as well as administrative transactions.

Second, continue to perfect the institution of ownership, develop economic sectors and types of enterprises; Improve institutional protection for investors; protect ownership and property rights; Continue to speed up the restructuring of state-owned enterprises, not allowing a functional department to have the right to hold a large number of State assets for corruption, personal and group benefit.

Third, strengthen the leadership role of the Party and the management role of the State, ensure that all kinds of markets are increasingly completed and operated smoothly, with the fair, equal, and anti-monopoly competition improving the investment and business environment, ensuring to maintain the socialist orientation of the economy. To associate economic growth with ensuring sustainable development, social progress, justice, national defense and security, environmental protection and response to climate change, promoting and improving the efficiency of economic integration world.vv

Third, anti-individualism and pragmatic style of living

Anti-individualism and pragmatic lifestyle needs a system of specific and synchronous solutions, but in the immediate future, it is necessary to perform well a number of specific tasks as follows: strengthening civil service ethics education for the team officer; promote the role of the elected bodies, the Fatherland Front, the mass organizations, the mass media and the people in supervising cadres and civil servants, and have a mechanism for the people to participate in the construction of the Party and the construction of the State administration; develop working regulations, clearly define the rights and responsibilities of each individual and organization; promote democracy, promote self-criticism and criticism; formulating and perfecting the law on public service ethics; Increasing publicity and transparency in the activities of agencies and organizations in the political system, comercial and transparency is an important measure to prevent corruption of power; Implement democracy, publicity and transparency in cadre work in the units, especially in the stages of recruitment, planning, appointment, mobilization, rotation, evaluation, reward and discipline; Strengthen democracy at the grassroots; prevent and combat corruption in relation to the overall program of state administrative reform in general and the reform and modernization of the local government system in particular.

Fourth, step up the fight against bureaucracy, corruption, and waste.

Bureaucracy, corruption, and waste are essentially the corruption of power of public authorities. As a change in civil service ethics in a negative direction, this alienation manifests mainly on the outside as the phenomenon of paperwork, cumbersome apparatus, many intermediaries, and inside is a mentality that only focuses on achievements, position, authority, and abuse of position and jurisdiction, taking advantage of loopholes in the management mechanism to seek personal benefits, leading to abuse of power and abuse of power. The process of operating the civil service in our country in recent years has appeared bureaucracy, away from the masses in a part of civil servants. This situation is happening more and more complicated, showing signs of spreading more and more widely. As the 4th Central Conference (term XII) of the Party has pointed out is a disease that exists quite widely and directly harms the revolutionary cause of the Party and the nation.

Preventing and combating bureaucracy and corruption among bureaucrats is an urgent task. It is necessary to focus on solutions such as disseminating propaganda, thoroughly grasping guidelines, policies, and laws on anti-corruption, creating a forceful, positive and unified change effectively from awareness to the action of cadres, bureaucrats, and public employees in the prevention and fight against corruption; continue to improve institutions on socio-economic management to prevent and combat corruption; continue to strictly implement mechanisms and policies on organizational and cadre work to contribute to anti-corruption; strengthen inspection, examination and supervision to improve the effectiveness of bureaucratic corruption prevention and combat; strengthen supervisory role in preventing and combating bureaucracy and corruption.

Fifth, strengthen the education of political ideology, morality, and lifestyle for the current contingent of bureaucrats in our country.

Education of political ideology, morality, and lifestyle for our current contingent of bureaucrats should be formed on Directive 05-CT/TW of the Politburo on the content of promoting the study and following Ho Chi Minh's thought, morality, and style. It is necessary to concretize the contents and forms of conduct with the basic principles: ensuring the multi-faceted, rich and diverse nature of the impact of education on the formation and development of moral qualities ethics of cadres and bureaucrats; ensure close coordination and dialectic unity of all educational and mutual support activities towards the goal of comprehensively perfecting the civil service ethical qualities for bureaucrats; based on ensuring the multifacetedness and organic unity of all educational impacts, focusing on solving important tasks and pressing issues emerging in specific historical periods. Overcoming the situation of spreading, easily falling into generality, abstraction, and lack of persuasion in educational activities.

Associating with the educational work of political ideology, morality, and lifestyle, each cadre and bureaucrats should be proactive and creative in overcoming the negative changes of civil service ethics. Self-education, self-improvement, and self-training in public service ethics is the self-discipline process of each civil servant to raise awareness, strengthen emotions, train the will to strive to improve the efficiency of the state administration. That is the process by which cadres and bureaucrats cultivate their knowledge, self-training political courage, public service ethics, determination to overcome all difficulties to study and train to meet the goals and requirements of administrative reform and perfecting the civil service.

Protect ethics in the agency by measures to inspect, prevent violations of ethical standards, not to violate them before handling them. At the same time, continue to find solutions and ways to reduce pressure, encourage dynamism and creativity of cadres and bureaucrats in public service activities by ensuring appropriate remuneration regimes and policies. Thereby, directing individuals to strive to become good experts in their professional fields, recognized and honored by the people.

To regularly and effectively coordinate with agencies and organizations in charge of inspection and supervision of the Party and agencies and organizations in charge of inspection and reduction of the State's staff to resolutely prepare to filter, dismissing, replacing, forcing the resignation of cadres and bureaucrats who work inefficiently, fail to fulfill their tasks, are weak incapacity, have poor moral qualities, and have low trust without waiting the end of term, end of working age, especially leaders, managers and heads of government at all levels. Strengthening the relationship between the State and the people and social organizations, thereby strengthening the voice of society on the issue of civil service ethics, creating a legitimate and honest criticism of the citizens. At the same time, there must be an effective mechanism for people to exercise their supervisory rights to limit the situation of officials and public servants pushing responsibilities or taking actions that harm social interests.

4. Conclusion

In the current process of national construction and development, we are constantly innovating cadres at all levels and branches from the central to local levels. Qualities of cadres and civil servants in the new era that we aim to be cadres and civil servants with good moral qualities, professional and professional skills, living and working following the Constitution and the law, serving the effectively serving the people and society, contributing to building a wealthy people, strong country, democracy, justice, and civilization.

To overcome the degradation of politics, morality, lifestyle, and to prevent the negative changes in public service ethics in a part of our country's civil servants today, it is necessary to implement some major solutions in the immediate future: perfecting the socialist-oriented market economy institution; anti-individualism and pragmatic lifestyle; combat bureaucracy and corruption; strengthen control of power; enhance political, moral and lifestyle education for cadres and civil servants; promote the positivity, initiative, and creativity of cadres and civil servants in overcoming negative changes in public service ethics of civil servants under the influence of the negative side of the market economy. With the correct leadership of the Party, with the state administrative reform program in the direction of building a democratic, modern, professional, dynamic administration, serving the people, operating effectively and efficiently fruit; We have a theoretical and practical basis to believe in that remedy. With the solutions proposed by the author, we hope that soon we will have a contingent of civil servants who are both talented and virtuous, wholeheartedly, wholeheartedly serving the people, serving the society, towards building a Vietnam with rich people, a strong country, fair, democratic and civilized humanity.

5. References

1. Online newspaper of the Communist Party of Vietnam (2014), *Resolution No. 33-NQ/TW dated June 9, 2014, of the 9th Central Conference of the XI session on building and developing Vietnamese culture and people to meet requirements of sustainable development of the country*, http://dangcongsanvietnam.vn
2. Communist Party of Vietnam (2011), *Document of the 13th National Congress of Deputies*, National Political Publishing House, p.94, Hanoi.

3. Ho Trong Hoai (Chairman) (2010), Civil Service Ethics of Vietnamese cadres and civil servants today - Current situation and solutions, Ministry-level key topic, Ho Chi Minh National Academy of Politics Minh, Hanoi.

4. Do Thi Ngoc Lan (2012), *Comparative study of public service ethics regulations of some countries and Vietnam*, National Political Publishing House, Hanoi.

5. Ho Chi Minh, Complete works (2011), Vol.1, National Political Publishing House, Hanoi, p.292-293.

6. Assoc. Dr. Pham Hong Thai (2004), *Civil Service, bureaucrats*, Judicial Publishing House, Hanoi, p.55.

7. Nguyen Dinh Tuong (2010), " *Some manifestations of changes in moral values in the market economy in Vietnam today and solutions to overcome them*", *Institute* of Philosophy (4), p. 24.

8. Nguyen Duy Quy (2006), *Social ethics in our country today - Problems and solutions*, National Political Publishing House, Hanoi.

9. Tran Sy Phan (2015), " Improving the civil service ethics of current civil servants", Journal of *Political Theory* (10), p.50.

10. Nguyen The Kiet (2012), *Issues of Marxist ethics and moral construction in the current market economy conditions in Vietnam*, National Political Publishing House, Hanoi.

HO CHI MINH WITH THE COMPREHENSIVE EDUCATION AND TRAINING FOR HUMAN IN VIETNAM

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Abstract

Ho Chi Minh, the national liberation hero, the great man of the Vietnamese revolution in the 20th century, had great consideration in the relation between education, training and human progress as the main driving force for historical development. In his sense, education and training aiming to comprehensive development for human in which all aspects of learners are concerned is truly not only meaningful for our current educational activities but also in line with the mainstream of the world nowadays. Therefore, firstly, this writing clarifies Ho Chi Minh's thought about the role of education and training in building human personality in Vietnam. Then, his viewpoint on fullfilling inclusively and coherently the schooling syllabus as well as the learning contents that is the key part of his educational ideas are also analysed profoundly.

Keywords: *Ho Chi Minh, education and training, comprehensive development, inclusive human progress.*

1. Introduction

Education and training is an important sector in the upper-structure of a nation. Appropriate education and training activities have great influence on shaping human personality as well as enhancing their competence to take the proactive role in the process of social development.

The rapid changes in modern society are addressing new demands on our education system in which "Lifelong learning" is a major global trend raised in many current education forums worldwide, especially in the context that learning process is supported by modern scientific and technological achievements. These things require education systems in all countries to have clearer, more specific and up-to-date answers for four questions: Teach what? Teach whom? What is the purpose of teaching? How to teach?

In such context, aiming to the sustainable development of the country, it is necessary for Vietnam to build a comprehensive education and training in order to solve the core problems with the ultimate question that "*what kind of people do we want to create for future society through education and traning*?", thereby shaping the educational methods, goals and contents of modern education in Vietnam today. With a radical and progressive vision, Ho Chi Minh raised the issue of "comprehensive development for people" in education which is currently consistent with the four pillars of education for the 21st century that UNESCO has pointed out as "Learning to know, learning to do, learning to live, learning to be". In a nutshell, learning to develop inclusively and harmoniously in terms of intelligence, skills, ethics, and lifestyle. Ho Chi Minh's viewpoint of an education toward building ful-developed people was shown via a number of his writings as well as his practical actions, both directly and indirectly.

2. Method

The paper has used a combination of research methods including method of logic - history, method of analysis – synthesis, method of structure – function in order to point out the basic thoughts of Ho Chi Minh on education and training due to his writings and the scientific materials on Ho Chi Minh of other researchers inside and outside Vietnam.

3. Results

3.1. The role of education and training in shaping human personality

When contructing a new society, according to Ho Chi Minh, first of all, we must enhance actively creating people with proper qualities for that society. Every society has people who represent it. The feudalism assumed the knights, the warriors, the sages who are the core factor building feudal society. Capitalism considered merchants and manufacturers as the elites building capitalist society. But according to President Ho Chi Minh, the goal of our revolution is socialism, so "socialism is able to become reality, first of all, we must have socialist people" (Ho, C.M., 2011k, p.66). Hence, Ho Chi Minh espressed the significance of education in the development of the country, "Whether the Vietnam can become prosperous or not, whether the Vietnamese peoples are able to have the equal position with others powers over the world, that depends on the young people's learning" (Ho, C.M., 2011b, p.32).

Education is one of the most fundamental methods that mankinds have used from generations to generations in order to build people who can meet the demands of the societies in each historical period. President Ho Chi Minh conceived that people and human personalities are both products of history and a motivation for the development of history, thereby social circumstances impact on people in the good or the evil way. In his thoughts, it's all about "for peoples" and so does education an trainning purpose. So, as a great educator, Ho Chi Minh said: "For the sake of ten-year-time, we can plant trees, for the benefit of hundred-year-time, we need educating people. We must building up good citizens and good officers for the country" (Ho, C.M., 2011h, p.528).

Nowadays, a number of scientific achievements in psychology and biology proved that people are born with certain abilities which usually exists in the form of potential. Then the basic conditions in terms of nature (nutrition) and society (health care, education, training…) make them a reality. In fact, there are children who are born with good natural qualities, showing an outstanding talent in one or more fields, however, due to lack of material conditions or lack of caring, nurturing, education and training, those talents are gradually crippled, even disappeared. On the contrary, there are people who are born with normal qualities in all aspects, but they are properly brought up, their hidden abilities are stimulated and well developed. Therefore, in any society, in order to have people with sufficient qualities and capabilities to meet the requirements the development of the country, it is necessary to pay attention to education and training, creating an advanced educational system. In other words, education activities directly impact to the development of all aspects of human beings and played a decisive role in forming the qualities and abilities of each individual.

Ho Chi Minh highly appreciated the role of education and training in "building people", shaping and developing the Vietnamese human personality. He wrote: "The mind of young people is as pure as white silk, if dyed green, definitely it turns green. If dyed red, it will be red obviously. Therefore, learning process at school has a great influence on the future of young people" (Ho, C.M., 2011c, p.102). Or "Personalities is not innate but due to educating" (Ho, C.M., 2011a, p.383).

Ho Chi Minh profoundly believes in the ability to pursue the good, "leaving the darkness to the light", along with the spirit of self-effort that "people truly desire to be more and more progressive in order to serve best for their Fatherland" (Ho, C.M., 2011e, p.214), especially to Vietnamese people who always have been standing together to fight against foreign invaders and defend the country throughout the nation history. It is also his belief in the power of radical education in creating comprehensively developed people in which from his perspectives, it is necessary to conduct an education and training progame in a thoughtful, scientific, and comprehensive way that can both "facilitate all learners' existing capacities improved completely" (Ho, C.M., 2011b, p.32) and build necessary characteristics according with the specific conditions and circumstances of the country. The end result of this educational performance is "ful-developed people" created.

On the basis of Ho Chi Minh ideology, aware of the importance of education and training to the nation's prosperity, the Communist Party of Vietnam has addressed "education and training is the leading national policy" of the country. The basic task of education is to prepare necessary things that human-to-be must have for learners by educating, training, promoting and enriching human qualities and capacities through a system of educational levels, i.e. from kindergarten to university and post-graduate, with many forms of learning such as face-to-face learning, distance learning, home shooling, supervised learning or even on-job-training, etc. The more modern and civilized the society becomes, the more important the education and training is. It is education that plays the role as "the key to open the door to the future" (The Communist Party of Vietnam, 1993, p.27). Therefore, first of all, seting out a truly scientific content and curriculum in which vocational training and human education must be balanced are considered as a top-priority. The United Nations Development Program (UNDP) has identified the potential stimulating factors of human development that increase the value of individuals in relation to the community including education and training, health and nutrition, environment, employment, human emancipation in all aspects. These factors joined together in unity and interact mutually in a dialectical way. Accordingly, education and training for people is not only the basis of all other sectors but also the fundamental premise for human development in those sectors.

With such right viewpoints, Vietnam has achieved great achievements in the field of education, particularly in the enhancement of Vietnamese people's abilities and skills as the output of educational process. Education and training, on the one hand, help each member of the community shorten the process of grasping knowledge, save time, energy and intelligence for creativity or finding new things. On the other hand, it is said that the main method to form ful-developed people who have inclusive personalities including physical strength, intellectual power, moral and aesthetic capacity, civic responsibility, etc. To put it another way, a proper, scientific and humane education includes all the above factors will create hight quality human resources for national defense and development.

3.2. Ensuring the comprehensiveness of educational and training progame and content

Ho Chi Minh approached the issue of ful-developed people from the elements constituting their qualities on physical strength, intelligence, aesthetics, and morality which is reflected in many of his speeches and writings such as: "The letter to students on the first day of the new regime" (September 1945) ;"The new life"; "The letter to Tran Quoc Tuan Army High School" (November 9th 1949); "To General Nguyen Son" (March 1948); "Duties of the General" (August 1948), "To the students" in the People's Newspaper (October 24th 1955); the last letter he wrote for the education sector of our country (November 15th 1968) and especially in his sacred will left to the entire Party, the entire People of Vietnam.

* *In terms of the educational purpose*, according to Ho Chi Minh, "educating people must have the purposes and criteria as clear as building a house. An architect have to figure out how the house is before using bricks, mortar, lime, sand, bamboo, wood to make it, and so do educators"((Ho, C.M., 2011i, p.551). Therefore, education and trainning system have to create "good and usefull citizens" (Ho, C.M., 2011b, p.32); "the heirs of nation-building career are both radical and professional" (Ho, C.M., 2011i, p.510) that will " enhance completely all existing potentials" (Ho, C.M., 2011b, p.32) in Vietnamere people in current time. This is an crucial preparation for young people to be able to take over "the role of future masters of the country" (Ho, C.M., 2011e, p.135). In his letter to students on the first day of school in the Democratic Republic of Vietnam in September 1945, Ho Chi Minh wrote: "... from this moment on, the children begin to receive a completely Vietnamese education..., an education that fully develops your available abilities" (Nguyen, N.Y., Nguyen, T. T., 2007, p.71-72)

In addition, education must aim to promote the sense of self-education and self-training of each young man. He regularly reminded that young people should promote self-study abilitiy to become a man who are able to receive and complete all assigned tasks. He said: "Young people is now a glorious generation, so they should voluntarily renovate their thoughts to be worthy of their duties" (Ho, C.M., 2011f, p.87). On June 1st 1955, he sent a letter to the children and officials of Southern schools, writing: "You should practice to get used to self-reliance"(Ho, C.M., 2011e, p.80). Therefore, nonstop studying is an important task for young people because "if they do not learn hard, they can not improve themselve. No progress is regressive. The higher a society moves to, the more work requirement is and the more sophisticated the machines are. If someone stop learning he starts falling behind and eliminating hisself" (Ho, C.M., 201fe, p.87). The issue of developing the qualities along with promoting the positiveness and reliant ability of learners are actually concerned in the renovation process of our country's education, especially in the reformation of educational programs and textbooks.

Ho Chi Minh clarified the meaning of the ful-eveloped people based on the concepts of morality, intelligence, physical strength and aesthetics, then set the requirements for education and training process aiming to create those qualities in learners. He wrote: "For children, education includes: Physical education: To make the body healthy; Intellectual education: Review what you have learned and learn new knowledge; Aesthetic education: To distinguish the beauty from the unbeauty; Moral education: Love of the Fatherland, love of the peoples, love of labor, love of science, love of the public property (five loves)" (Ho, C.M., 2011e, p.75). In "The report on the Amended Constitutional Draft" at the 11th meeting session of the 1st National Assembly (1959), he continously affirmed: "The Government pays special attention to educating young people in the fields of physical education, intellectual education, aesthetic education and moral education" (Ho, C.M., 2011f, p.593). Ho Chi Minh directed that the new educational development tendency is expanding the people's minds, raising the intellectual quality and enhancing political level for people. In other words, it is the education for the whole people in which no one is left behind. It is also an advanced and modern education with the purpose of creating new generations for new society in Vietnam.

Additionally, in fact, political and social institutions have great influence on the comprehensive development of human qualities and capacities because these impacts take place consciously and intentionaly. According to Ho Chi Minh, the ultimate goal of education is to build high quaility human resources for the country. "To make a revolution, you have to know how to do everything - if you know how to shoot a gun, you need to know how to repair it when it's damaged also" (Ho Chi Minh Museum, 2009). To achieve that goal, in education and training, "it is necessary to pay attention to the following aspects: revolutionary ethics, socialist enlightenment, culture, technology, labour and production" (Ho, C.M., 2011g, p.190). Ho Chi Minh profoundly understood that "new Vietnamese people" will not appear accidentally but are the product of all purposeful activities of our new regime. Furthermore, with socialist orientation of the country, Ho Chi Minh asserted that " Leninist - Marxist theory are main leading thought for all direction in the constructive proccess of new society in Vietnam. A right direction makes the right action" (Ho, C.M., 2011e, p.138). It is the manipulation of the fundamental Marxist - Leninist principals in Vietnam practice that have created a radical scientific outlook for young people that give a hand in building necessary qualities for Vietnamese people in general. In simpler terms, in his sense, political education is an important activity, deciding the success of the revolutionary career throughout all periods of Vietnam history. If our thoughts are not unified, we're not going to be unified, our actions certainly become inconsistent, of "ununified thoughts make actions chaotic. In an illustrative way, Ho Chi Minh also said: “Politics is the soul, speciality is the body. Having speciality without politics is just a soulless body. It's got to be political first to have speciality” (Ho, C.M., 2011f, p.492).

* *In terms of educational progame and its content*, an inclusive education need to be implemented. The President Ho emphasized the purpose of education must be associated with the educational content. In short, education must be comprehensive. "In teaching and learning, it is necessary that we must focus on the following aspects: revolutionary ethics, socialist enlightenment, culture, technique, labour and production” (Ho, C.M., 2011i, p.647). Specifically, in “The letter to teachers, teachers, students, youth cadres, and children” on October 31st 1955, Ho Chi Minh wrote: "University level syllabus should focus on combining scientific theories with practice, acquiring international contemporary knowledge in line with appropriatly applying to Vietnam's practice. high school level have to guarantee students’ general knowledge suitable to the needs of the country even in the future, but leaving out the parts that are not necessary for real life. In elementary school, it is necessary to educate children: love of the country, love of the peoples, love of labour, love of science and respecting public properity. The teaching method must be gentle and cheerful. Don't force children into adults’ framework. The health of the children must be concerned appropriately" (Ho, C.M., 2011e, p.81). As the result, Vietnamese students have been equiped systmatically modern, radical and scientific knowledge or trained practical working skills as well as forming proper emotional states and attidude that make a harmonious development for Vietnamese people.

Education firstly provides knowledge of natural science, social sciences and humanities comprehensively. It can be said that this is the main path for students to be able to absorb scientific knowledge in order to improve their awareness and actions constantly. Therefore, Ho Chi Minh said, "Attempt to improve the knowledge of culture and techniques" (Ho, C.M., 2011e, p.364); "learning politics, culture and techniques to improve understanding" (Ho, C.M., 2011e, p.413); "a person who does not know how to count or write is half-blind. Someone who has knowledge moves forward faster. The more you learn, the more progressive you are" (Ho, C.M., 2011c, p.99). In fact, when a person is uneducated, their ability to grasp scientific knowledge will be onesided and extremely difficult. Moreover, the more society develops, the more important the role of education in equipping knowledge and professional skills for members of society becomes more important. “On the basis of political education, it is necessary to improve the quality of culture and speciality in order to solve the practical problems set by the revolution of our country and, in a short time, reaching the peaks of science and technology" (Ho, C.M., 2011i, p.403). “To increase production capacity, there must be improved techniques. If you want to use technology, you have to have knowledge” (Ho, C.M., 2011i, p.361). Hence, conducting an comprehensive education is the prerequisite for gaining fulfilled cognition in all aspects to promote Vietnamese people as the driving force in the process of building the country.

Additionally, also through comprehensive education and training, Vietnamese people are equipped scientific backgrounds on daily activities such as hygiene, disease prevention, physical training to build a healthy lifestyle to constantly enhance both physical and mental health, an important part making the comprehensiveness of human development. “Healthy person have a life as good as the gods” - it is the words of President Ho Chi Minh that asserted the importance of health as a precious asset or the happiness of each individual. Likewise, a body which is unhealthy in terms of physical organs will have to endures a lot of difficulties in intellectual activities as well as practical behaviours.

Besides, by the right way of education and training, learners are educated in terms of civil responsibility, human morality, revolutionary spirit, international reponsiblity contributing to the formation of new moral qualities called “revolutionary ethics”. Along with other educational contents, “doing well in aesthetic education will promote strongly the formation of personalities including the truth, the good and the beauty values that guiding people’s behaviours to contribute to society (Ho, C.M., 2011g, p.175). On that basis, they become willing to wholeheartedly serve the peoples, serve the Fatherland in order to bring freedom and happiness to the whole community.

Commenting on the content and programe of education and trainning leading to build ful-developed people in Ho Chi Minh’s thought, Professor Do Huy wrote: "Under the leadership of the Party and President Ho Chi Minh, the revolutionary education while re-establishing the schooling time for the youth and teenagers from the primary school to higher levels along with reforming constantly education and training contents simultaneously. In the new system, the viewpoint of general technical education is conducted. Beside the teaching of scientific knowledge, in Ho Chi Minh’s educational thought, ethical education, physical education, labor education, aesthetic education and political education need teaching at all levels of schooling" (Do, H., 2000, p.93).

3.3. Some principles in education and training proccess to create inclusive people

** Inclusive combination of school, family and social education*

Educational impacts from schools, families and society are considered as a principal matter facilitating for all educational activities to attain best consequenses. According to Ho Chi Minh, schooling education has to cooperatte with family an social education to insrease the effectiveness of education in schools. "No matter how good the education in the school is, without education in the family and society, the educational results are not completed" (Ho, C.M., 2011e, p.87). In other words, the tightened unification of three sectors as family, school and community will certainly create a combined force in which ful-developed people are formed as the ultimate purpose of education and trainning. Because when three above educational environments come together and plan for common action, it is certain that there is the unity in both awareness and actions. For example, on the one hand, all educational activites follow one direction, one trategy which motivate the development process of personality of learners; on the other hand, avoiding conflicts or nationtion mutally that make learners become suspected and confused when choosing the living values. The coordination of families, schools and society can take place in many forms. The top fundamental problem is that all educational forces must actively promote responsible spirit in cooperation for the purpose of educating young generation to become useful citizens for the country.

** The principle of unity between learning and practising, theory and reality, eduation and production*

Ho Chi Minh advocates to combine "learning with practice", "theories must be related to reality" (Ho, C.M., 2011e, p.496); "learning in combination with production" (Ho, C.M., 2011f, p.174); "schools, organisations, families, communities all must come together" (Ho, C.M., 2011f, p.330). He always emphasized the role of practical activities in the formation of personality and considered practical activities as the standard for the examination and assessment of human awareness in all aspects. The educational purpose of all time not only helps students master knowledge but also applies knowledge into practice, forming skills, learning to know and learn to do. "There is no point having knowledge without practising. But practising without knowledge is as same as moving in the dark, slowly and stumblingly"(Ho, C.M., 2011d, p.86). Hence, the consistent principle that Ho Chi Minh outlined in the strategy of "developing people" of "re-educating the people" (Ho, C.M., 2011b, p.8) to form ful-developed people in Vietnam is: "The method of combining theory with practice means turning what has been learned into action. Learning must go along with practice, not just on the tip of the tongue" (Ho, C.M., 2011i, p.249); “Studying in all other disciplines must be: learning with practice, studying with labouring” (Ho, C.M., 2011f, p.174).

Ho Chi Minh believed that this educational content and method not only overcomes the limitations of the onesided and theoretical study which existed quite popular in the old society with the purpose that "taking a degree to have high ranking position in the society"; "learning a way but doing another way" (Ho, C.M., 2011c, p.60) but also creates the new generations of the new society "both radical and specialized"; "to be loyal to the country as well as to the peoples"; "Every task is completed, every difficulty is overcomed, every enemy is defeated". The tightened combinations between theorerical awareness and practical activities, between scientific knowledge and labour activities, between learning and practice help learners attain a deep understanding on many the fields of social life as well as have enough capacity to actively participate in the process of protecting and developing the country.

In the context of glolisation nowadyas, tt is required that the education of Vietnam also needs to make a breakthrough change from a traditional approach - a content approach which provided knowledge mainly but paid less attention to the demand applying the knowledge in solving practical problems into new approach - access to capacity in which the qualities and abilities of learners are formed through the need to conduct dialectically all knowledge, skills, attitudes, behaviors. To put it differently, the ability to apply knowledge, practical skills, ability to perform other life skills are high appreciated. Regarding the qualities must-have for learners in many recent studies, educators say that with the new general education program, students need the following abilities: self-study, problem solving, critical thinking, self-management, communication, cooperation, using of information and communication technology, using language, calculation. And the result is a new generation of Vietnamese people with inclusive development of quality meeting the demand of modern society is born.

** Building equal and democratic environment in education for young people to develop their talents*

“Everyone have opportunity to study" (Ho, C.M., 2011b, p.161) is one of the most important thoughts in the Ho Chi Minh’s thought on education that expresses his desire for general education for both boys and girls, rich and poor, old and young .

Democray in education is also an basic principle that Presiden Ho Chi Minh concerned seriously. Because from his perspectives, people have to understand about their democratic right as well as their responsibility in democratic operating before excercising that right in practice. One of the top important factors to conduct demecratic right is in the field of human education expressed by the right and obligation to learn.

In the current context, in the industrial revolution 4.0, applying scientific and technical factors are becoming an indispensable element in education that is changing the traditional way of learning from direct to indirect, shortening geographical distances, narrowing social gaps as well as expanding opportunities for lifelong learning of each person. These changes have facilitated people in many countries, in many fields and in different social groups to have access to a similar educational platform, equally. On the basis of Ho Chi Minh's ideology, it is clear that one of the top priorities in education is equipping technical facilities and creating a lifelong learning ecosystem which are immediately able to catch up with the development trend of the world as well as adapt to accidentally unpredicted sittuation such as the Covid-19 pandemic outbreak in recent years.

4. Discussion and Conclusions

It can be said that human beings are the central factor that determines all social processes, while education and training are the most basic and direct tools to form human qualities and abilities. Ho Chi Minh’s thought on education and training to building ful-developed people still remain its values in contemporary context that demonstrates the proactiveness of countries and political institutions in defining sustainable development strategy. Those ideas also contain the great aspirations of the Vietnamese peoples particularly and of the mankinds generally in which everyone has opportunities to go to school and have facilities to enhance inclusively. UNESCO has appreciated President Ho Chi Minh's important contribution in many aspects of culture, education and the arts which is the convergence of the precious tradition of the Vietnamese people throughout the history and the aspirations of all peoples worldwide in affirming their national identity. Ho Chi Minh is a typical symbol in inheriting selectively the positive aspects of traditional education and absorbing the quintessence of modern education. His thoughts on education and training have become the fundamental methodology for the strategy of building Vietnamese people in the new era – inclusively developed people meeting the requirements of the comprehensive renovation process.

5. References

1. Do, H. (2000). Ho Chi Minh Ho Chi Minh ideology on building and developing a new culture in Vietnam. Hanoi, Vietnam: Social Science Publisher.
2. Ho, C.M. (2011a). Full Volume. Vol.3. Hanoi, Vietnam: Political National Publishing House.
3. Ho, C. M. (2011b). Full Volume. Vol.4. Hanoi, Vietnam: Political National Publishing House.
4. Ho, C. M.. (2011c). Full Volume. Vol.5. Hanoi, Vietnam: Political National Publishing House.
5. Ho, C. M. (2011d). Full Volume. Vol.6. Hanoi, Vietnam: Political National Publishing House.
6. Ho, C. M.. (2011e). Full Volume. Vol.8. Hanoi, Vietnam: Political National Publishing House.
7. Ho, C. M. (2011f). Full Volume. Vol.9. Hanoi, Vietnam: Political National Publishing House.
8. Ho, C. M. (2011g). Full Volume. Vol.10. Hanoi, Vietnam: Political National Publishing House.
9. Ho, C. M. (2011h). Full Volume. Vol.11. Hanoi, Vietnam: Political National Publishing House.
10. Ho, C. M. (2011i). Full Volume. Vol.12. Hanoi, Vietnam: Political National Publishing House.
11. Ho, C. M. (2011k). Full Volume. Vol.13. Hanoi, Vietnam: Political National Publishing House.
12. Ho Chi Minh Museum. (2009). Documents on Ho Chi Minh’s life and career. No. A25- C5. Hanoi, Vietnam: Author.
13. Nguyen, N.Y., Nguyen, T. T. (2007). Uncle Ho with education. Hanoi, Vietnam: Education Publishing House.
14. The Communist Party of Vietnam. (1993). Resolution of the 4th Central Conference. Session VII. Hanoi, Vietnam: Political National Publishing House.

ISSUES OF IMPROVING QUALITY OF HUMAN RESOURCE IN MILITARY ENTERPRISES TODAY

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Abstract

Among resources for development, human resource is considered as the most important asset, holding the role of determining the socio-economic development of each countries, as well as the sustainable development of enterprises in general, and military enterprises in particular. The increasingly deep impact of globalization and international integration, especially the impact of the Fourth Industrial Revolution, has been changing fundamentally and comprehensively the economic structure as well as labor market at national and enterprise levels, including military enterprises. In such context, in order to develop sustainably, it is necessary for our country and Army to have solutions to improve quality of human resource. How to improve quality of human resource in military enterprises is the content of this article.

Keywords: *human resource; quality of human resource; military enterprise*

1. Introduction

Since the 2000s, the Fourth Industrial Revolution (the 4.0 Revolution) has fundamentally changed the way the world operates, from models of socio-economic structuring to method of national governing and administering. That brings about comprehensive economic, social, and environmental changes in all levels, from global to regional, and in all countries and territories. Together with opportunities created by the 4.0 revolution, there has been a variety of challenges that are hard to overcome, requiring countries and territories to both change their mindset and develop and improve the administration model to adapt to the continuous development of the 4.0 revolution. Developing countries, including Viet Nam, shall find it hard to avoid negative impacts of the 4.0 revolution.

Facing increasingly high requirements related to quality of human resource under the impacts of the 4.0 revolution, enterprises in general and military enterprises in particular must have synchronous measures to improve their quality of human resource to be industrial and modern in order to keep up with the development of sciences and technologies. The force of highly skilled workers, the rate of trained workers having high qualifications and professional working skills have brought about success and and brand recognitions for military enterprises, such as: Army Telecommunication Industry Corporation, Military Commercial Joint Stock Bank, Saigon Newport Corporation, etc. However, the number of scientific cadres and experts of all fields are small, professional qualifications of a portion of workers of military enterprises do not fully meet work requirements; activeness and responsibilities are not high; capabilities of management and governance in the digital transformation conditions are limited, etc. If these limitations and weaknesses are not remedied, military enterprises may encounter difficulties in meeting task requirements in the current context. Therefore, clarification of theoretical and practical issues of improving quality of human resource in military enterprises is of remarkable importance.

2. Method

To accomplish the research objective, the article uses logical and historical methods, statistical-comparative, analytical-synthetic and specific economic methods:

On-the-spot method: Interpreting and synthesizing studies on improving the quality of human resources in Vietnam and in the military enterprises.

The author surveys a number of military enterprises accurately assessing human resources in recent times. From there, the author proposes solutions to improve the quality of human resources of military enterprises in the coming time.

The author would love to consult experts through seminars.

3. Results

3.1. Theoretical and practical issues of improving quality of human resource in military enterprises

3.1.1. Concepts of human resource and improving quality of human resource in military enterprises

* Concept of human resource

According to Organization for Economic Cooperation and Development, human resource is the whole of knowledge, skills and capability of people related to the socio-economic development of a country.

International Labour Organization considers that human resource is the whole of workforce. That is the whole of labor potentials of the people being in working ages, having the capacity to work of a country, being prepared to a certain extent and being capable of mobilized into the process of socio-economic development. These potentials include the stock of physical, intellectual and personal factors of the people of a country to meet a certain structure required by the economy.

In addition, there is another concept that: “human resource is construed as the population and quality of people, including physical and mental conditions, health and intellect, capabilities, qualities and ethics of the workers. It is the stock of actual and potential human resource which are prepared to engage in socio-economic development of a country or a locality ...” [17, tr. 13].

These concepts presents different aspects of human resource, however they share the following point: To mention quantity and quality (physical, psychological and intellectual potentials) and structure of human resource, including existing and potential portions. The existing portion is the population in working ages and having working capabilities; the potential portion is the population out of working ages as specified by laws, having work capabilities and desires to work.

From the aforesaid concepts, the author considers that: human resource is the stock of physical, intellectual and psychological potentials existing in social work resources with an appropriate structure, to be mobilized and used for creating material and mental products to meet present and future demands of the society.

From the aforesaid consideration, it can be seen that human resource includes potentials of each individual, such as physical, intellectual and psychological potentials and the coordination between individuals in implementing tasks of their organization.

** Concepts of improving quality of human resource in military enterprises*

The term *improving quality* means conducting certain activity leading to an upward change in quality as compared to the current quality. Improving quality of human resource is construed in the same way. Improving quality of human resource is the manifestation of new values of factors constituting quality of human resource, including: Intellectual, physical and mental strengths of each individual. In other words, improving quality of human resource, in essence, is to to create a human resource having quality higher than the existing one. In a more generalized way of description, improving quality of human resource is the process of improving human values, including both material and mental values, and intellect and mind and professional skills, to make a person be a worker having higher new capabilities and qualities.

From the above analysis and discussion, it can be argued that: *Improving quality of human resource is the activities of actors using systems of mechanisms, policies and measures to enhance quality of components of quality of human resource, including physical, psychological and intellectual potentials, to meet demands of labor market.*

Quality of human resource is the primary factor that reflects the strength, potentials and capacities to complete assigned tasks of military enterprises, manifesting in qualities, qualifications, creativity, prestige and positions of human resource in the enterprises. Quality of human resource in military enterprises includes: Political quality; cognitive and creative capacity; educational and professional qualifications; capacity to perform tasks; ethical qualities (shown in the quality and effectiveness of performing tasks according to positions, duties and expertise). Therefore, improving quality of human resource in military enterprises, in essence, means improving quality of components of this resource.

Quality and improving quality of human resource in military enterprises are the results of the process of building and developing this human resource in long periods of time, in line with the process of building and developing the military enterprises. Due to the increasingly diversified development of tasks and the specificity of human resource of military enterprises, it is necessary to clarify the issues of improving quality of human resource in the new period.

According to Tran Dang Bo "military enterprises constitute an important component of state owned enterprises, being under management of the Ministry of National Defense, having registered their operations in various sectors and fields, and being organized into two types of: national defense and security enterprises, and national defense economic enterprises" [2, p.32]. As defined by this concept, military enterprises operates in a wide range of different sectors and fields of the national economy, including industrial, agricultural, and service ones.

Article 3 of Decree 93/2015/ND-CP dated 15/10/2015 of the Government on management and operation of enterprises in national defense and security specifies that: "Enterprises which are categorized as enterprises in national defense and security must fulfill following conditions: Being state owned enterprises of the Ministry of National Defense or Ministry of Public Security; having business lines and fields specified in the Appendix of List of sectors, fields or areas directly supporting national defense and security promulgated under this Decree; being assigned by competent authorities to produce and provide national defense and security products and services or perform national defense and security tasks in a regular and permanent basis using assets of the State or assets of the enterprises in accordance with investment and incorporation objectives of the enterprises" [7, tr.15].

From aforesaid analysis, the author considers that: *Military enterprises constitute a portion of State owned enterprises, which are managed by the Ministry of National Defense, assigned with tasks of producing, repairing, and improving weapons, technical materiel, and specialized equipment to meet demands of national defense consumption and socio-economic development.*

This concept clearly defines type, business fields, functions and tasks of military enterprises.

Firstly, military enterprises constitute a portion of State-owned enterprises. According to paragraph 11, Article 4 of the Law on Enterprises "*State-owned enterprises* include enterprises in which the State owns more than 50% of charter capital or of shares with voting rights"[20, tr. 53, 54]. Currently, military enterprises are enterprises in which the State owns more than 50% of charter capital or of shares with voting rights as specified by the current Law on Enterprises.

Secondly, military enterprises have two major types of enterprises in national defense and security and economic enterprises. Of which: Enterprises in national defense and security are State-owned enterprises including enterprises in national defense and security, and enterprises operating in crucial areas of national defense and security simultaneously performing national defense and economic tasks. The economic enterprises are gradually being transformed into the model of joint stock enterprises in accordance with the program of enterprise equitization of the Government. The Ministry of National Defense is currently managing 104 enterprises operating in various fields, such as: Banking, telecommunications, textiles and garments, footwear, pharmaceuticals, real property, etc.

As such, from the concepts of human resource, improving quality of human resource, and military enterprises, the author argues that: *Improving quality of human resource in military enterprises is the activity of the actors using systems of mechanisms, policies and measures to transform the quality of this resource in the direction of increasing values of components constituting quality of human resource, including physical, psychological and mental potentials, to better meet task requirements of military enterprises in each period.*

This concept comprises issues constituting the action of building, reflects objectives, contents and tasks of improving quality of human resource in military enterprises. It is an deliberate, purposeful and well-organized action, comprising following contents:

Purpose of improving quality of human resource in military enterprises is to transform the quality of this resource in the direction of increasing values of components constituting quality of human resource, including physical, psychological and intellectual potentials, to better meet task requirements of military enterprises in each period.

Actors of governance and management of improving quality of human resource in military enterprises are the system of Party organizations and the system of command and management of all levels in the Army as determined by the Ministry of National Defence and specified by laws.

Forces directly participating in the process of improving quality of human resource comprise all organizations and individuals in the Army, including military officers, professional servicepersons, national defense workers and other workers, and Union organizations, Youth Union, Women' associations of all levels in military enterprises.

Forms and measures to improve quality of human resource in military enterprises are diversified, including systems of mechanisms, policies and measures to impact on human resource to transform the quality of this resource in the direction of increasing values of components constituting quality of human resource.

3.1.2. Contents of improving quality of human resource in military enterprises

Improving quality of human resource in military enterprises is the process of supplementing and improving components of quality of human resource, including: Political quality; educational and professional qualifications; cognitive and creative capacity; capacity to perform and complete tasks; ethical qualities, lifestyle and working style.

Components of quality reflect degrees of task completion according to positions, tasks and professions of each individual and organization. Components of quality of human resource are constantly changing and developing due to the development of the tasks of Homeland construction and protection in each period. As such, improving quality of human resource in military enterprises is the process of improving quality of the components constituting quality of human resource. From the approach on researching improving *quality of human resource, it is possible to determine contents of improving quality of human resource, serving as criteria for assessing status quo of improving quality of human resource in military enterprises, including:*

Firstly, improving physical and mental strengths

Improving physical and mental strengths is an objective requirement aimed at meeting high demands of quality of human resource in military enterprises. This is especially important due to the fact that the nature and scope of tasks being assigned to human resource in military enterprises are increasingly difficult, complicated and stressful. As such, the human resource must have good physical and mental strengths, which include the strength of the body, agility, flexibility, resistance to disease-causing factors, along with the ability to withstand harsh environmental conditions and factors that affect human health; especially the ability to be confident to cope with stress while maintaining comfortable relationships and independent lives, to easily recover from difficult situations. This process requires regular and frequent training, so as to form habits of training physical and mental strengths.

Secondly, improving psychological strength

Improving quality of psychological strength of human resource in military enterprises, in essence, means improving political consciousness, sense of responsibility, work efficacy, sense of discipline, etc., of the human resource while working in accordance with assigned duties and tasks of each job position. Improving psychological strength is assessed by following criteria: Improving political virtues; improving ethical qualities and working style.

Thirdly, improving professional capacity and qualifications (intellectual potential)

This is an important content to improve quality of human resource in military enterprises nowadays. Contents of improving professional capacity, qualifications and expertise must be comprehensive and appropriate for each work division and individual worker in accordance with specific duties and tasks of each job position. In addition to general requirements of educational degrees, professional training qualifications, etc., for each work division and individual worker, there are other specific requirements related to capacity, profession and expertise of each job position. Improving capacity, professional qualifications and expertise of human resource in military enterprises are assessed by following criteria: Improving intellectual and professional capacity; improving qualifications.

3.1.3. Status quo of quality of human resource in military enterprises

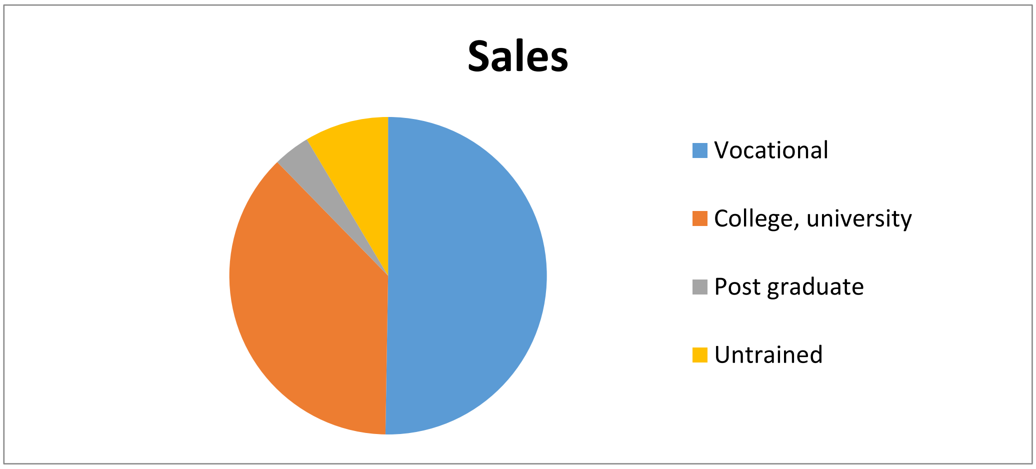
According to data of Department of Economics, Ministry of National Defense, military enterprises have made important contributions to the socio-economic development, been important material assets of the State economy and guaranteed socialist orientation in developing market economy in Viet Nam. The data shows that revenue in 2019 of military enterprises reached more than 383 trillion VND, being 19% higher than that in 2018; profit before tax reached 61 trillion VND, being 15% higher than that in 2018; and contribution to

State budget reached nearly 46 trillion VND, an being 13.23% higher than that in 2018 [9, tr.13]. In which, a number of military enterprises have achieved remarkable profits and State budget contributions, for examples: Army Telecommunication Industry Corporation, Military Commercial Joint Stock Bank, Saigon Newport Corporation. These significant and important contributions are due to the fact that military enterprises have human resources and policies of developing human resources being proper and appropriate to task requirements in each period.

Regarding physical potential, most of military officers, professional servicepersons, national defense workers and other workers have been selected carefully in terms of health, having good physical strength, flexibility, capability of withstanding all work pressure, especially that of heavy jobs or jobs that require employees to have good health, such as: Mining, construction, transportation, etc., Annually, the number of workers being dismissed due to health conditions is low, approximately 0,87% of the total of 181.339 workers in military enterprises [9, tr.15].

Regarding intellectual potential, according to statistics, most of the human resource in military enterprises have received fundamental training. Of which: The percentage of workers having postgraduate qualification is 3,5%; college and university qualifications 35%, vocational degrees 47%, primary level 6.5% and untrained 8% (Chart 3.1). 100% of managers (military officers, professional servicepersons) of all levels have bachelor, master and doctor degrees; a portion of technical cadres have been trained in foreign countries. Most of the workers are permanent staff as specified by the Ministry of National Defense or work under long-term contracts, with the percentage of short-term contract workers being 24,1%.

Figure 3.1. Qualifications of workers in military enterprises in 2019, sorted by educational levels



Sources: Enterprise Management Office, Department of Economics

A number of military enterprises operating in technological, banking and other service fields have relatively high quality human resource, for examples, Army Telecommunication Industry Corporation, Military Commercial Joint Stock Bank, and Saigon Newport Corporation. To be specific, of the 15.932 cadres, national defense workers and other workers of the Military

Commercial Joint Stock Bank, 9.326 workers have bachelor, master and doctor degrees, accounting for 58,5%. Most of managers and technicians have been trained in prestige universities and academies in Viet Nam and other countries.

Table 3.1. Labor structure in military enterprises, sorted by management categories

No.	Category:	Number (worker)	Percentage (%)
1	Military officer	4.720	2.6
2	Professional serviceperson	11.673	6.4
3	National defense worker	32.412	17.9
4	Long-term contract worker	88.711	49
5	Short-term contract worker	43.823	24,1
Sum		**181.339**	**100**

Sources: Enterprise Management Office, Department of Economics

According to the data (in Table 3.1), the total number of workers in military enterprises is 181.339, of which: Military officers holding management positions of all levels is 4.720, accounting for 2,6%; professional servicepersons 11.673, accounting for 6,4%; national defense workers 32.412, accounting for 17,9%; long-term contract workers 8.711, accounting for 49%; and short-term contract workers 43.823, accounting for 24,1%. Due to the guideline of equitization and divestment in State-owned enterprises, in the recent years, the number of long-term and short-term contract workers has been increasing, and military enterprises strongly switching to business accounting mechanism.

Regarding psychological potential: Human resource in military enterprises are carefully selected in terms of political stance, sense of responsibility in conducting assigned tasks, having high work efficacy and high sense of discipline. Results of annual quality assessment of managers and workers show that: 100% of cadres, military officers, national defense workers and other workers have good political virtues, ethical qualities and political awareness, and continuously improving working style.

However, apart from achievements related to human resource of military enterprises in the recent years, there have been a number of limitations, as elaborated below. While the number of workers in military enterprises is 181.339, the number of workers having vocational qualification is still high, accounting for 47% of the total number of the workforce; annually, the number of workers being dismissed due to health conditions accounts for approximately 0,87% of the total number of the workforce [9, tr.13].. In a number of enterprises, there have been cases of military officers, professional servicepersons, national defense workers and other workers violating regulations and laws. Workers are still slow to adapt to scientific and technological advances, especially the impacts of the 4.0 revolution. Therefore, in order to help military enterprises develop and be strong in competition and meet requirements set forth in the current context, improving quality of human resource is an issue to be solved.

3.2. Measures to improve quality of human resource in military enterprises

3.2.1. Changing mindset and perception of the actors of the importance of improving quality of human resource

Human resource, of which high quality human resource is the core, is the force that grasps and applies achievements of the 4.0 Revolution. Therefore, the actors of leadership and management of the Ministry of National Defense, and especially the actors of leadership and management in military enterprises, must change their mindset in order to have proper and comprehensive perception of positions and roles of human resource in sustainable development, and on that basis to improve their perception of the importance of improving quality of human resource. Such changed mindset and perception shall be the foundation for preparing schemes and plans of training for improving quality of human resource to match with situations and conditions, meeting requirements of the tasks of Homeland construction and protection of the Army, contributing to socio-economic development.

3.2.2. Improving quality of training human resource in military enterprises

In order to meet requirements and tasks of production and trade of military enterprises in the current context, the staff of military officers, professional servicepersons, national defense workers and other workers must be trained and fostered to improve comprehensive quality, including physical, intellectual and psychological potentials. The focuses of training and fostering are political consistency, capacity of corporate leading and managing, and professional expertise. Management cadres must be equipped with comprehensive knowledge; professional cadres must have deep expertise, combining improving theoretical reasoning capacity with fostering practical capacity. Priorities of training should be placed on specialized technical and technological fields, especially high-tech ones, matching with development trends of the 4.0 Revolution, such as fields related to information technology, automation, artificial intelligence, digital transformation, etc., in order to adapt to the era of digital technology, to quickly apply technological solutions, such a cloud computing, Cloud Drive, ProMail, etc., to overcome challenges and develop in a faster and more sustainable manner.

On the other hand, it is necessary to diversify types of training with appropriate number and structure. Emphasis must be placed on training from technical workers to graduate and postgraduate workers; linking training with planning and employing. Another work to be done is to apply segmentation of training specialization between military educational institutions and national educational institutions. It is also necessary to boost the application of information technology in training and teaching foreign languages and adaptation skills in international competitive environment. It is a must to have plans for training and fostering to improve comprehensive capacity of leading experts to be capable of approaching advanced scientific and technological development in their fields of expertise, to have creativity in researching and applying scientific and technological achievements; to promote initiatives and innovations to improve labor efficiency and product quality. At the same time, attention must be paid to training skillful workforce, including technicians and engineers capable of operating high-tech and automated equipment.

3.2.3. Reforming and improving mechanism of management, and policies of mobilizing investments in improving quality of human resource

Firstly, it is necessary to reform governance methods, improve capacity and efficacy of human resource development management for military enterprises. It is a must to research and add schemes and policies to guarantee material and mental benefits for the staff of leaders, managers, scientists, technical workers and other workers in military enterprises. Human resource should be used in the direction of: Attracting talents; reasonably allocating assignments; creating favorable working conditions and guaranteeing benefits for them to work. For the staff conducting scientific and technological researches, there must be favorable and respectful working policies, environment, and opportunities for them to contribute and promote their talents. If this issue is properly dealt with, it is possible to promote capabilities of the existing staff, contributing to preventing human capital flight in military enterprises nowadays. In order to achieve effective implementation, mechanisms and policies must ensure fairness and equality between contribution and benefits, and avoid equalitarianism-based distribution. Material encouragement should be closely combined with mental encouragement, to create motivation for each individual as well as organization. Investment from the State budget should be increased and resources from in and out of the country should be mobilized, even from private investment, in order to develop high quality human resource for military enterprises in the time to come. Investments in the system of educational institutions and research institutes in the Army should be increased in order to enhance capability and quality of training military human resource in general, and human resource for military enterprises in particular.

3.2.4. Expanding cooperation and coordination with universities in Viet Nam and in the world to improving quality of human resource in military enterprises

In order to improve quality of human resource in military enterprises nowadays, one of the indispensable measures is that the military enterprises must rely on their own functions, duties and business fields to forecast their need of human resource. Therefore, it is absolutely necessary to link training processes in universities with human resource demands of military enterprises. As such, Party committees, commanders and leaders of military enterprises must actively prepare plans for training cooperation and coordination with prestige universities in fields of: Financing, banking, business administration, information technology, automation, transportation, etc., for the purpose of training cooperation and coordination, so as to gradually improving quality of human resource in military enterprises. In addition, in the trend of increasingly intensive integration in various field, it is necessary to expand and effectively implement training and fostering cooperation and coordination programs for improving quality of human resource and management cadres, focusing on fields in which military enterprises do not have sufficient capabilities, especially in high-tech and economic fields related to digital transformation; to encourage cooperation models that link training and fostering with researching and technology transferring; and to promote training cooperation and coordination between military educational institutions and foreign entities to meet development needs of military enterprises. Favorable environments and conditions should be created in order to attract the pool of trainers and scientists experienced in international cooperation and overseas Vietnamese people to participate in the process of training and fostering high quality human resource for economic sectors in Viet Nam in general and for military enterprises in particular to meet task requirements.

4. Conclusions

Improving quality of human resource in military enterprises nowadays is an urgent task that requires appropriate measures. Therefore, it is necessary to have attention of leaders and commanders at all levels and to add and adjust mechanisms to attract and promote creativity of the staff of cadres, scientists, experts, skillful workers to meet requirements and tasks of building and developing of military enterprises in the new period. In order to improve quality of human resource in military enterprises to meet requirements of the Industry 4.0 in the time to come, it is necessary to focus on following essential solutions: Changing mindset and perception of the actors of the importance of improving quality of human resource; Improving quality of training human resource in military enterprises; Reforming and improving mechanism of management, and policies of mobilizing investments in improving quality of human resource; Expanding cooperation and coordination with universities in Viet Nam and in the world./.

5. References

1. Duong Hoang Anh (2012), *Developing human resource for industrialization and modernization in Danang City*, Doctoral thesis in Political Economy, Ho Chi Minh National Academy of Politics, Hanoi.

2. Tran Dang Bo (2017), *Arrangement of military enterprises should take into account specificity of national defense and security tasks*, Defense Industries and Economy Journal, Issue 1, 1&2/2017.

3. Marx, K. and Engels, F., (1993), *The sale and purchase of labor power,* Complete Works, Vol. 23, National Political Publishing House, Hanoi.

4. Chu Van Cap (2012), *Education and training with developing human resource of Viet Nam*, Journal of development and integration, Issue 6.

5. Mai Quoc Chanh (1999), *Improving quality of human resource to meet demands of national industrialization and modernization*, National Political Publishing House, Hanoi.

6. Hoang Van Chau (2009), *Developing highr quality human resource for economic integration - Urgent issue after crisis*, *Journal of Foreign Economic Relations*, Issue 38.

7. Government of the Socialist Republic of Viet Nam (2015), *Decree 93/2015/ND-CP dated 15/10/2015 of the Government on management and operation of enterprises in national defense and security*, Hanoi.

8. Nguyen Cuc (2013), Developing human resource: the need of linkage in planning strategy and policy, *Communist Review*, Issue 9/2013.

9. Department of Economics, Ministry of National Defense (2019), *Major economic indicators in 2019 of military enterprises*, Hanoi.

10. Nguyen Sinh Cuc (2014), *Human resource and developing human resource*, Journal of Political Reasoning, Issue 2/2014.

11. Đo Minh Cuong, Nguyen Thi Loan (2001), *Developing human resource of university education of Viet Nam*, National Political Publishing House, Hanoi.

12. Nguyen Huu Dung (2003), *Effectively using human capital in Viet Nam*, Labour and Social Publisher, Hanoi.

13. Communist Party of Vietnam, *Documents of the 10th National Congress*, National Political Publishing House, Hanoi, 2016.

14. Thai son Group Party committee (2020), *Political Report of Executive Committee of Thaison Group Party committee at the 9th Congress of 2015 - 2020 term,* Ho Chi Minh City.

15. Le Thi Hong Điep (2011), *Developing high quality human resource to form knowledge economy in Viet Nam*, Doctor thesis in economics, Viet Nam National University, Hanoi.

16. Tran Khanh Đuc (2010), *Education and development of human resource in the 21st century*, Viet Nam Education Publishing House, Hanoi.

17. Pham Minh Hac (2001), *Research on human and human resource: into industrialization and modernization,* National Political Publishing House, Hanoi.

18. Pham Minh Hac (1996), *Human issue in the cause of industrialization and modernization*, National Political Publishing House, Hanoi.

19. Tran Kim Hai (1998), *Using human resource in the process of industrialization and modernization in our country*, Doctoral thesis in Political economy, Ho Chi Minh National Academy of Politics, Hanoi.

20. National Assembly of the Social Republic of Vietnam, Law on Enterprises No. 59/2020/QH14 dated 17/06/2020.

BUILDING THE VIETNAMESE PEOPLE ACCORDING TO GOAL-ACTION APPROACH TO REALIZING THE PATH TOWARD SOCIALISM IN OUR COUNTRY AT PRESENT

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Abstract

Building the Vietnamese people to develop comprehensively is an important goal and task, one of the factors that determines the success of building socialism in our country. Carrying out this task according to the goal-to-action approach ensures the correct orientation of the Communist Party of Vietnam (CPV) and creates a unity of action of the whole political system to achieve the goals. It requires fully grasping the CPV's viewpoint on the quality of Vietnamese people in the new period, and concretizing it into specific, clear and detailed goals and corresponding actions that feasibility, measurable, and evaluation results in order to ensure the realization of the defined objectives.

Keywords: *Build Vietnamese people, goals - actions approach, socialism*

1. Introduction

Like other tasks, in order to successfully build a socialist Vietnamese people, it is necessary to clearly define specific goals. In other words, what qualities of Vietnamese people need to be built, from which clearly define the task to achieve this goal. The required qualities of Vietnamese people can be described in the most general and general way to guide action for all fields. However, in order to act effectively, the general qualities must be concretized and detailed into smaller, clearly defined qualities to facilitate each specific field in building new human qualities. With a goal-to-action approach, the article wants to provide a view of Vietnamese human qualities in a dialectical relationship with practical actions to turn goals into reality.

2. Method

The article mainly uses the method of analysis and synthesis to study secondary documents such as documents of Communist Party of Vietnam and information on the mass media.

In addition, the article also uses analytical and systematization methods to analyze in detail the necessary qualities of Vietnamese people, and at the same time, systemize them into a unified whole.

3. Result

Approaching mecthod from goal to action in building socialist Vietnamese people.

President Ho Chi Minh once taught: "To build socialism, first of all, socialist people are needed."[68] Following his teachings, the Communist Party of Vietnam during the revolutionary leadership has always cared about building the Vietnamese people to meet the requirements and tasks of the new situation. Our Party affirms: "Building the Vietnamese people for comprehensive development must become an objective of the development strategy."[69] In that spirit, the building and perfecting of the Vietnamese people has been thoroughly grasped and implemented in all areas of social life, in which the most important fields are Culture, Health, Education and training... Each field play its own role and performs its own function, but all work together to create the qualities of Vietnamese people in the new era.

In particular, the field of education and training has the task of "comprehensive quality education of Vietnamese people to develop comprehensively and to bring out the best potential and creative ability of each individual; love family, love motherland, patriotism, love compatriots; live well and work productively."[70]

The health sector contributes to "improving the physical and mental health, stature, longevity and quality of life of Vietnamese people."[71]

The field of culture"focus on taking care of building people has good character and lifestyle with the basic characteristics: patriotism, compassion, love, honesty, solidarity, industriousnes and creativity"[72]

Those leadership and guidelines of the CPV have been orienting the activities of the whole CPV and our people on the path toward socialism, including the task of building a socialist Vietnamese people.

In order to turn the CPV's wise theories and orientations into concrete actions to successfully build socialism, it is necessary to further promote theoretical research activities

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[68] Ho Chi Minh: *Complete Works, vol.13,* National Political Publishing House, Hanoi, 2011, p.66

[69] Communist Party of Vietnam (2016), *Document of the 12th National Congress*, Office of the Party Central Committee, pp.126

[70] Communist Party of Vietnam (2013, Resolution of the 8th Conference of the Party Central Committee (11th tenure) on fundamental and comprehensive renovation of education and training, meeting the requirements of industrialization and modernization in the context of market economy with a socialist orientation and international integration, http://tulieuvankien.dangcongsan.vn/he-thong-van-ban/van-ban-cua-dang/nghi-quyet-hoi-nghi-lan-thu-tam-ban-chap-hanh-trung-uong-dang-khoa-xi-ve-doi-moi-can-ban-toan-dien-giao-duc-va-2506, internet access on May 20, 2021

[71] Communist Party of Vietnam (2017), Resolution No 20-NQ/TW, october 25, 2017, the sixth Conference of the 12th Party Central Committee on strengthening protection, care and advance people's health in the new situation, http://tulieuvankien.dangcongsan.vn/he-thong-van-ban/van-ban-cua-dang/nghi-quyet-so-20-nqtw-ngay-25102017-hoi-nghi-lan-thu-sau-ban-chap-hanh-trung-uong-dang-khoa-xii-ve-tang-cuong-cong-tac-bao-3636, internet access on May 21, 2021

[72] Communist Party of Vietnam (2014), Resolution of the 9th Conference of the 12th Party Central Committee on building and developing Vietnamese culture and people to meet the requirements of sustainable development of the country, http://dangcongsan.vn/thoi-su/nghi-quyet-hoi-nghi-trung-uong-9-khoa-xi-ve-xay-dung-va-phat-trien-van-hoa-con-nguoi-viet-nam-dap-ung-yeu-cau-phat-trien-ben-vung-dat-nuoc-251604.html, internet access on May 22, 2021

to concretize and detail the general and condensed goals and orientations that our Party has determined into more specific and detailed contents and goals, and at the same time outlines specific actions to achieve these goals.

This is really necessary in all the goals, guidelines and orientations of the CPV. If generalized goals and orientations of CPV not be fully grasped, not be clarified, concretized, it is very difficult to implement in real life, and may even lead to wrongdoing, deviate. It is the same for the goals and orientations in building the socialist Vietnamese people. It is also necessary to have specific and detailed steps corresponding to it, which are specific programs and action plans to achieve the goal. This is a goal-to-action approach.

This approach requires of definition goals is clear and specific. Each goal must define specific, appropriate, corresponding activities to achieve that goal. These activities must be feasible and can be implemented in practice; axamine, measure and evaluate actual results. Defining goals without identifying specific activities or activities are not feasible, cannot be organized in practice, cannot measure, examine and evaluate results is considered a failure. It happen when defining goals that are too large, inappropriate, or too general, vague, or unclear. It is easy to happen in case of the goals are abstract and qualitative like goals of building people, especially those in building personality, ideals, morals...

This is common in many Vietnamese educational institutions today. When developing educational and training programs, most of educational institutions have defined goals and Program Outcome Standards with content related to the personality, ideals and morals of learners. But specific action plans to achieve this goal are few or unclear, often mixed with other activities. It make measurement, examination and evaluation of the results difficult and unclear, inaccurate, making many people skeptical, lacking confidence in the development of goals as well as implementation activities. Therefore, fully and properly grasping the CPV's goals and orientations in building the socialist Vietnamese people, and at the same time concretizing them into more detailed, more specific and clearer goals, reasonable and feasible, and at the same time, setting out corresponding specific actions to achieve the goals is very necessary today. It contributes to unifying actions from all branches and levels, unifying educational goals from low to high, non overlapping, repeating...

Applying the goal to action approach in building the socialist Vietnamese people today.

To effectively apply this approach, it is necessary to perform the following tasks synchronously:

Firstly, fully and properly grasp the CPV's goals and orientations in building the socialist Vietnamese people.The CPV's viewpoints and orientations in building the socialist Vietnamese people have been drawn from the practice of leading the Vietnamese revolution for more than 90 years. It is always supplemented and perfected to meet the requirements of human quality in the new era. This is the process of summarizing, distilling and inheriting the noble qualities of the Vietnamese people in history, and at the same time absorbing the progressive values of mankind to meet the requirements of the mission in the new era . That is the "comprehensive development of Vietnamese people". In which there are typical qualities such as: patriotism, national pride, sense of respect for the law, ability to perceive aesthetics, scientific worldview; have a good physically, mentally and intellectually capable for meeting the requirements of the times; have a good moral and lifestyle; have a sense of self-respect, self-control, diligence, kindness; be responsible for themselves, their familly and society; know how to protect the good and fight the bad...

The above comprehensive qualities are both the goal and the orientation of the CPV in building the socialist Vietnamese person. It is general, succinct, and is the basis for the entire political system to carry out the tasks for developing human in the new era. Depending on the functions and tasks of each part constituting of the political system, it performs different tasks and goals, fostering different qualities of the new man. But no matter what task is performed, fully and properly grasping the goals and orientation of the CPV is the first important thing. It ensures the highest leadership of the CPV, and ensures the unity of action of the entire political system in building and developing the socialist Vietnamese people.

Second, concretize the CPV's goals and orientations into specific goals and actions in building the socialist Vietnamese people.

This concretization makes the CPV's goals and orientations closer to the requirements of reality; makes the implementation of those goals and orientations easier and more convenient. The goal is more specific, detailed and closely to reality, the more convenient implementation will be. Therefore, on the basis of the CPV's orientations, it is possible to divide and concretize and detail the qualities of Vietnamese people according to the three basic groups:

The group of qualities in terms of capacity and intelligence, including cognitive ability, understanding, workmanship level, labor skills (hard and soft), creative capacity, scientific worldview, aesthetic sensibility…

Concretizing and detailing this group of qualities requires building the specific goals about abilities and intelligence for each education level (general knowledge, basic knowledge, advanced knowledge, etc.). ...); building goals for each specific object according to the requirements of each job, each industry, specialty, specific field of expertise... These qualities need to be divided into stepped achievement according to levels from low to high to easily measure and evaluate results.

The group of healthiness qualities, including physical and mental health, stature, longevity, quality of life…

To concretize and detail this group of qualities, on the one hand, it is necessary to determine common goals in each aspect such as: goals on life expectancy, stature, birth and death rates, infection status, accident, injury rates, quality of life... On the other hand, it is necessary to concretize and detail healthiness goals for each subject such as: healthiness by age, gender, healthiness for specific subjects who doing specific jobs such as athletes, policemen, military, pilots, miners, sailors, drivers, teachers, doctors...

A group of moral and lifestyle qualities, including patriotism, national pride, sense of respect for the law; have a good moral and lifestyle; have a sense of self-respect, self-control, diligence, kindness; be responsible for themselves, their familly and society; know how to protect the good and fight the bad...

This group of qualities is highly abstract and qualitative, so concretizing and detailing is defficult and controversial. Moreover, the constituent parts of this group of qualities are very close to each other, bordering on, even merging into each other and it is difficult to separate them. Patriotism and national pride always go hand in hand. Social responsibility is always associated with a sense of respect for the law. Moral qualities can be devided into many different qualities. This division seems to be endless. It is not easy to clearly describe the requirements of each quality. How is national pride, sense of self-respect, self-control, industrious, and kindness expressed? These difficulties will inevitably lead to difficulties in determining specific tasks and action programs to achieve goals; Difficulty in measuring and evaluating the achieved results. In fact, most of the moral and lifestyle education programs in all educational levels in Vietnam for many years have been very general, without specific measurement and evaluation tools. Ethical and behavioral classification of learners is mainly based on the sense of law implementation, the sense of implementing the rules and regulations of the educational institution and the subjective judgment of the evaluator, so it is difficult to get the exact results.

Face to face with the above specific difficulties, in order to concretize and detail this group of qualities, on the one hand, it is necessary to select and list the required moral qualities. On the other hand, describe in detail the manifestations, requirements of each of those according to each specific object, each working position, each age, each level of education... About moral qualities, lifestyle, must have the following basic qualities:

- Having a sense of law enforcement, including the sense of implementing the State's regulations, the legal regulations of organizations and the community.

- Having national pride, expressed in understanding, aspiration to learn, honor, propagate and protect the noble values of the nation.

- Have great aspirations and ambitions: Know how to build and nurture great aspirations and ambitions for myself, family and the country.

- Having courage: bravely fighting evil, protecting the good values of oneself, family, country and humanity; bravely face difficulties and challenges, not afraid of sacrifices, hardships, fearless, faltering before evil forces, difficulties and challenges.

- Persistence, industrious: Persistence, industrious in action, persistently pursuing goals and ideals of oneself, family and country. Do not be hasty, discouraged, never give up when face of difficulties and challenges.

- Ability to endure difficulties and hardships: Recognizing and anticipating difficulties and hardships of oneself, family and the country in pursuit of goals and ideals. Ready to face with difficulties and hardships when encountered, without resentment, blame for the others.

- Community service spirit: Having the consciousness and necessary skills to serve members of the family, community, society and the country, including serving in study, at work, entertainment, living; serving the common requirements of the country…

- Creative spirit: Having the consciousness, motivation and skills to find new things that are useful for study, work, entertainment, living of oneself, family, society and the country.

- Solidarity: Having the consciousness and skills with low to high level to coordinate, associate and cooperate with members of the family, community and society in order to perform the tasks more effectively.

The above ethical qualities quite fully cover the ethical requirements of Vietnamese people according to the CPV's orientation, and reflect the patriotic spirit of Vietnamese people in the new era. Although it is possible to list and detail into many other moral qualities, however, to the extent possible, it is necessary to emphasize on the most basic and indispensable qualities above, turning it into a red thread that throughout the activities of all individuals and organizations in order to build the moral qualities of Vietnamese people in the new era. On the basis of these most basic, indispensable and mandatory qualities, in the process of building moral qualities and lifestyles, depending on their ability to perform, each individual and organization can add other qualities appropriately. However, when adding other qualities, it is necessary to ensure that the most basic moral qualities above are fully implemented, and at the same time, the added moral qualities must be done in practice. Do not show general, big, formalistic slogans but cannot be implemented in practice.

When determining those ethical qualities as an indispensable content in all activities to build morality and lifestyle of Vietnamese people, it is necessary to concretize, setting requirements for each specific objects, conditions and circumstances. How can be shown the moral qualities, lifestyle for pupils, students, jobholders, officers and the other..? what are the requirements for them? what they need to do to get those qualities? How is the measure achieved results?.. This is an indispensable work in building morality and lifestyle of Vietnamese people today. This work can help train moral qualities and lifestyle that is both suitable for each subject, each condition, not be repeated, overlapping, and at the same time guarantee for feasibility, not be general and unrealistic.

Third, develop specific plans and action programs to actualize the goals in building socialist Vietnamese people.

This plans and action programs is built base on the identified goals of the quality of the socialist Vietnamese people, with the motto of certainty and effectiveness. No impatience, no haste, no unrealistic illusions. The general, directional qualities correspond with development of common plans and action programs. Specific, detailed goals and qualities will build detailed action plans. Each agency or organization, depending on its functions and tasks, and depending on actual conditions, develops appropriate programs and activities to build one or some necessary qualities of Vietnamese people. Programs and action plans must be clear, deployable in practice, suitable for specific goals and objects, and must be able to test, evaluate and measure results. Do not develop specific programs for general goals. On the contrary, do not build a general program for a specific goal. Do not build an action plan if it is not possible to measure and evaluate the performance results and do not measure and evaluate if the measurement or evaluation results are inaccurate. With this, the noble qualities of socialist Vietnamese people will be gradually created and gradually perfected. Although it takes a long time to perfect, but with the right approach, with a firm and appropriate steps, it will create belief for the Vietnamese people about a good future of realistic socialism.

4. Discussion and Conclusion

Building and comprehensively developing the Vietnamese people is a long-term, regular and continuous task. It requires the participation of the whole society, under the leadership of the Communist Party of Vietnam. However, the desire for a perfect Vietnamese people is great, but actions to achieve that desire are not always met. Therefore, in each time and specific circumstances, it is necessary to identify the goals and tasks that are necessary, key and feasible for prioritizing implementation. The goal-to-action approach in building Vietnamese people is an important solution that helps to resolve the contradictions between the big goals and the limitations of execution capacity at present. It is the unification between comprehensive and specific, the general and the particular, in the immediate and long term in both goals and actions to make Vietnamese people develop comprehensively in the new era.

5. References

1. Ho Chi Minh: *Complete Works, vol.13*, National Political Publishing House, Hanoi, 2011

2. Communist Party of Vietnam (2016), *Document of the 12th National Congress*, Office of the Party Central Committee

3.Communist Party of Vietnam (2013, *Resolution of the 8th Conference of the Party Central Committee (11th tenure) on fundamental and comprehensive renovation of education and training, meeting the requirements of industrialization and modernization in the context of market economy with a socialist orientation and international integration*, http://tulieuvankien.dangcongsan.vn/he-thong-van-ban/van-ban-cua-dang/nghi-quyet-question-and-tape-chap-hanh-trung-uong-dang-khoa-xi-ve-doi-moi-can-ban-toan-dien-gia-duc-va-2506

4.Communist Party of Vietnam (2017), *Resolution No 20-NQ/TW, october 25, 2017, the sixth Conference of the 12th Party Central Committee on strengthening protection, care and advance people's health in the new situation,* http://tulieuvankien.dangcongsan.vn/he-thong-van-ban/van-ban-cua-dang/nghi-quyet-so-20-nqtw-ngay-25102017-hoi-nghi-lan-thu-sau- ban-chap-hanh-trung-uong-dang-khoa-xii-ve-tang-cuong-cong-tac-bao-3636,

5.Communist Party of Vietnam (2014), *Resolution of the 9th Conference of the 12th Party Central Committee* on building and developing Vietnamese culture and people to meet the requirements of sustainable development of the country, http://dangcongsan.vn /thoi-su/yi-quyet-hoi-hi-trung-uong-9-khoa-xi-vexay-dung-va-phat-trien-van-hoa-con-people-viet-nam-dap-ung -yeu-cau-phat-trien-ben-vung-dat-nuoc-251604.html

GRATITUDE EDUCATION FOR CHILDREN THROUGH GRATITUDE BIRTHDAY ACTIVITIES

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Abstract

Gratitude is extremely important for the perfection and development of children's personality. Gratitude education for children through the gratitude birthday activities needs to be expressed through awareness, attitude and behavior based on many indicators such as feeling care, love, responding to positive emotions about gifts, being reinforced the good behaviors, enjoying the event, feeling the thoughtfulness, feeling grateful, happy and understanding the meaning of birthdays, the close connection. The article is based on the qualitative research (review, document analysis) and the quantitative research through a survey of 138 teachers in three kindergartens in order to answer two main research questions: 1) What is the current status of gratitude education for children through the gratitude birthday activities? 2) Evaluating the effectiveness of integrating the gratitude into children education through gratitude birthday activities? Research results show that gratitude education plays an important role; and is expressed through many indicators such as children's awareness, attitudes and behaviors of gratitude through birthday activities.

Key words: *Gratitude, gratitude education, gratitude birthday activities*

1. Introduction

Gratitude has been identified as “one of the most neglected emotions and one of the most underestimated virtues” (Solomon, 2004). Several religions of the world also teach the importance of gratitude (Emmons & Crumpler, 2000), and many claim that grateful expression makes themselves happy (Gallup, 1998). To date, many researchers have emphasized that gratitude should be considered as a moral virtue, an attitude, an emotion, a habit, a personality trait, or a coping response. (Emmons, McCullough, & Tsang, 2003). Sometimes, gratitude is simply the recognition of one person as the beneficiary of another's act of kindness. Emmons (2004) defines gratitude as the awareness of a gift from another person. However, many other researchers have gone beyond seeing gratitude as a mere recognition of kindness, such as Simmel (1950) emphasized that gratitude is also a cognitive-emotional reminder to people of their need to reciprocate. Similarly, Fitzgerald (1998) identified three important components of gratitude, including: 1) A sense of appreciation for something or someone, 2) A sense of good will towards that person or thing, 3) A disposition to act positively towards that person or object. More specifically, gratitude may be an important component of happiness (McCullough et al., 2001; Watkins, 2004). A recent study has found that gratitude could predict 8% of the individual differences in satisfaction with life (Wood, Joseph et al., 2008), and between 2% and 6% in personal growth, positive relationships with others, purposes in life, and self-acceptance (Wood, Joseph, & Maltby, 2009). Gratitude seems to strengthen relationships and promote the relationship formation and maintenance, as well as relationship connection and satisfaction (Algoe, Gable, & Maisel, 2008), and experimental evidence suggests that gratitude maypromote the conflict resolution and increase reciprocally helpful behavior (Baron, 1984). Adler and Fagley (2005) also discuss gratitude in a greater sense but called appreciation. This means "acknowledging the value and meaning of something— an event, a person, a behavior, an object—and feeling a positive emotional connection to it". This approach to definition is used in the present study of gratitude education through gratitude birthday events for kindergarten children.

Jacqueline Woolley, PhD in psychology, Department of Developmental Psychology, University of Texas (USA) emphasizes advocating the significance of children's birthdays in a meaningful way, because children, just like adults, always seek explanations for private occasions. Especially, for children of kindergarten age, birthday is a milestone that marks the day when a child moves from one age to another. Therefore, the birthday party is an important event, reminding children that they have grown one year older; thereby improving children's self-esteem; increasing the emotional bond between parents and children; helping children establish social relationships; creating beautiful memories and helping children perceive time.

In particular, gratitude needs to be considered an important emotion and through the birthday celebration, it can be effectively integrated into children's education. However, the current situation of kindergartens shows that most young parents still misunderstand the issue of celebrating children's birthdays when they buy a lot of food to bring to school and thanks to teachers to organize their children's birthdays. The teacher and mother prepare everything, the children just need to rot the candles and wait for people to give gifts, congratulations...Those emotions do not leave children with many emotions and meaningful lessons. Besides, children have a default perception that it's their birthday, everyone is responsible for making them happy, which leads to wrong perceptions, attitudes and behaviors in children. If they continue to maintain the current form of birthday celebrations, children will not fully understand the meaning of birthdays; and through that activity, they will not be able to educate children about gratitude for the people who born and raised them.

Therefore, the article “***Gratitude education for children through gratitude birthday activities***” is conducted to answer two questions: What is the current status of gratitude education for children through gratitude birthday activities? Evaluating the effectiveness of integrating gratitude into children education through gratitude birthday activities?

2. Method

2.1. Demographic characteristics and sampling

In addition to qualitative research methods including document analysis, in-depth interviews, this study uses a quantitative method which is a survey by questionnaire to obtain numerical data to collect information. Quantitative research method through surveying teachers at Dai Mo A Kindergarten (Hanoi), Dich Vong Hau Kindergarten (Hanoi) and Thanh Lam Kindergarten (Bac Giang). . The data collection technique used is a semi-structured questionnaire sent to managers and teachers at 3 kindergartens. The mean age of the participants is 33.51 years old (SD = 5.61, range = 20 - 47). Teachers have an average of 10.82 years of the teaching experience in kindergarten (SD = 4.01, group of 1 - 23 years of experience). The sample size of the study is all kindergarten teachers selected with 138 participants who answer the questionnaire

2.2. Tools and data collection

Data are collected by using a questionnaire which has the fixed-question combination with a Likert scale running from 0 to 4 (0= Lowest, 4=Highest). The questionnaire is divided into three main parts including (1) information of survey respondents: mainly provides information about the purpose and meaning of the survey form, basic information about the survey respondents; (2) main information of survey responses including questions and choice of answer options according to different levels of gratitude value indicators through gratitude birthday activities and (3) the quality assessment information of effectively integrating the gratitude value indicators through gratitude birthday activities. After collecting the questionnaires, the research conducted to clean information, filter the questionnaires and encode necessary information in the questionnaires, import information and analyze data by using SPSS statistical software - version 22.

3. Results

3.1. Descriptive statistics

Gratitude is a grateful heart, always remembers people's merits of raising and helping for us; or expressed in both thoughts and actions from the concrete to the great. That is the awareness, the attitude of respect, esteem, and the action of oneself towards those who are grateful to us. The results are partly shown through the survey when up to 72.5% of teachers rated the gratitude education for children through the activities of celebrating gratitude birthdays. Of which, 89.1% of teachers highly appreciated the effectiveness of the implementation plan of the Board of Directors on gratitude education for children; 89.1% of teachers think that it is necessary to raise teachers' awareness about gratitude education for children and 86.1% of teachers highly appreciate the effectiveness of integrating the gratitude into education for children. Gratitude here has been concretized through indicators and partly affirms gratitude as aspects of awareness, attitude, emotion, and personality and behavioral traits.

Table 3.1: Children's awareness, attitudes and behaviors of gratitude through gratitude birthday activities

Variables on the gratitude value	Likert scale				
	0	**1**	**2**	**3**	**4**
B1. Understanding the efforts and merits of parents	2.9	1.4	21.0	33.3	41.3
B2. Understanding the meaning of birthdays	1.4	2.9	19.6	23.2	52.9
B3. Understanding emotional values, the close connection	2.9	2.9	18.8	25.4	50.0
B4. Feeling the love, care, happiness	-	-	13.0	31.9	55.1
B5. Feeling Appreciated, Modest	-	-	10.1	38.4	51.4
B6. Feeling Satisfied, Grateful, Acknowledged	-	-	10.1	37.0	52.9
B7. Appreciating the birthday event	-	9.4	18.8	29.7	42.0
B8. Evaluating gifts positively	-	10.9	18.1	29.0	42.0
B9. Being reinforced the positive behaviors	-	8.1	15.9	34.8	41.3

Research results in Table 3.1 show three groups of factors named F1 - Awareness of gratitude including Understanding the efforts and merits of parents (B1), Understanding the meaning of birthdays (B2); Understanding emotional values, close connection (B3); F2 - Attitudes of gratitude include Feeling love, care, happiness (B4), Feeling appreciated, modest (B5), Feeling satisfied, grateful, acknowledged (B6); and F3 - Behaviors of Gratitude include Appreciating the gratitude birthday event (B7), Evaluating gifts positively (B8), Being reinforced the positive behaviors (B9). The survey results show that the majority of children achieve gratitude indicators of approximately over 71% in terms of awareness, attitude, and behavior of gratitude through aspects such as feeling care, love, responding to positive emotions about gifts, being reinforced good behaviors, enjoying event, feeling thoughtful, feeling grateful, happy; understanding the meaning of birthday, the close connection. At the same time, the results also show a small difference between the three groups assessing children's awareness, attitude and behavior of gratitude through gratitude birthday activities.

Table 3.2. Awareness, attitude and behavior of gratitude

Awareness, attitude and behavior of gratitude	**Number (N)**	**Min**	**Max**	**Mean**	**SD**
F1. Awareness of Gratitude	138	0	4	3.16	.94
F2. Attitude of Gratitude	138	2	4	3.42	.38
F3. Behaviors of Gratitude	138	1	4	3.05	.78

Specifically, the mean score of the variable on gratitude attitude F2 (B4, B5, B6) is the highest (M=3.42, SD=0.38); next is the perception of gratitude F1 (B1, B2, B3) (M=3.16, SD = 0.94); and finally is the gratitude behavior F3 (B7, B8, B9) (M=3.05, SD=0.78). This means that there are many factors that show children's gratitude through gratitude birthday activities, but the most obvious factor is the attitude of gratitude, the awareness of gratitude and the lowest factor is the behavior of gratitude. From the achieved results, it partly reflects the plan to implement the children's gratitude education through the gratitude birthday celebration. Gratitude shows to be positively associated with reciprocal care, emotional and material support, and satisfaction with school, family, friends, community, and self. In addition, gratitude seems to be associated with a range of social outcomes and positive relationship; the awareness quality of the relationships through the achieved indicators Therefore, gratitude education for children through gratitude birthday activities is very important and has a high human value.

3.2. Analysis of Reliability and Exploratory Factor

The statistical method used to test the reliability of the scale is Cronbach's Alpha coefficient. The results of testing the reliability of the scale show that all Cronbach's Alpha values reach 0.828 and are greater than the required value, and the Cronbach's Alpha of Ttem Deleted values are lower than Cronbach's Alpha values and the value of Correted Item-Total Correlation are all greater than 0.3. Therefore, the scales in this study have high reliability and the items of each group of factors are kept in the research model. Table 1 summarizes the results of analyzing the reliability of the scales of the variables.

Table 3.3: Cronbach's Alpha analysis synthesis

Group of variables	No of item	Corrected Item-Total Correlation	Cronbach’s Alpha if Item Deleted
F1.Awareness of Gratitude	3	.714	.317

F2. Attitude of Gratitude	3	.511	.403
F3. Behaviors of Gratitude	3	.396	.373

The results of testing the suitability of EFA are shown through the KMO index. The analysis results of the research model of the article, the KMO coefficient reached 0.727, ensuring the fit with the actual data (Required 0.5 <= KMO <= 1.0). The results of testing the correlation between the observed variables are expressed through the Chi-square index of Bartlett's test which reached the value of 557.992 with Sig.=0.000. Therefore, the variables in the teacher quality model are correlated with one another and satisfy the conditions of factor analysis. Perform the factor analysis according to Principal components with Varimax rotation. The results show that 3 groups of factors with a total variance of 67.134%>50% meet the requirements, so these 3 groups of factors are explained by the data evaluation variables. The score used when extracting factors at the 3rd factor with Eigenvalues results is .598 It shows that the results of factor analysis are a perfect fit. The (EFA) exploratory factor analysis results of 3 factors as shown in the table below are retained in the model and will be analyzed in the next step.

Table 3.4: Results of the exploratory factor analysis (EFA) with independent variables - Rotated Component Matrix[a]

Group of variables	Variables	Component		
		Group 1	Group 2	Group 3
F1	B1	.962		
	B2	.958		
	B3	.951		
F2	B4		.783	
	B5		.762	
	B6		.818	
F3	B7			.733
	B8			.607
	B9			.555

Similarly, exploratory factor analysis (EFA) with the dependent variable of the research model also gives EFA results: 0.5 <= KMO=0.838 <=1. Factor analysis is suitable for actual data. Test the correlation between observed variables: Sig = 0.000 <= 0.05. The evaluative variables are correlated in each factor. The results of Varicance Explained Analysis explain for 62.19% of the change of factors which are explained by the evaluative variables including the awareness factor, the attitudes factor and the behaviors factor of children's gratitude.

3.3. Linear regression analysis

Linear regression analysis is carried out to find out the linear regression coefficient of the gratitude value variable which is expressed by the children's awareness, attitude, and behavior of gratitude through gratitude birthday activities. The results of the correlation coefficient test show that the correlation coefficient values are within the limits between the variables in the model, which are significant and most of them have no abnormal signs. The results of the regression analysis are performed with 3 independent variables, whose results are shown in the table below.

Table 3.5: Regression analysis results - Coeficients[a]

Variables	Coefficients β	Errors	t	Significance level (P)
Constant	1.548	.247	6.263	.000
F1. Awareness of Gratitude	.209	.075	2.793	.006
F2. Attitude of Gratitude	.400	.180	2.223	.028
F3. Behaviors of Gratitude	.221	.074	.2.981	.003

Note: R2=.047; F= 77.881 p<.001

The regression coefficient test ensures the statistical significance with 95% reliability (Sig<0.05). The importance order of each variable (According to the normalized Beta coefficient) is F3, F1 and F2. The coefficient of R^2 (The fit of the overall model) is 0.540 and the adjusted R^2 (Adjust Square) of the model is 0.571 This coefficient means that there are 57.1 awareness, attitudes, and behaviors of gratitude that tend to be appreciated through gratitude birthday activities. The model has a coefficient of Sig.=0.000 (<5%), so the independent variables are linearly correlated with the dependent variable. The regression equation of the model is shown as follows (According to unnormalized Beta coefficient):

Appreciate Gratitude = 1.548 + .209*F1 + 400*F2 + .221*F3

Thus, it can be concluded that the model is tested. The factors affecting gratitude are arranged in descending order of importance: attitude of gratitude, behavior of gratitude, awareness of gratitude. The results of the linear regression equation show that, when other conditions are constant, the assessment of gratitude increases by 1 unit, the variable of the gratitude attitude also increases by .400; the variable of gratitude behavior also increases .221; the variable of gratitude awareness also increases .209. This means that children's awareness, attitudes and behaviors of gratitude through gratitude birthday activities are highly appreciated.

4. Discussion and Conclusion

4.1. Discussion

Gratitude is extremely important for the perfection and development of a child's personality. If gratitude is closely related to happiness and there are indications that this relationship may be unique and causal, thequestion arises on how to effectively educate children about gratitude. The gratitude interventions have commonly been highlighted as a key success of the positive psychology movement (Bono et al., 2004; Seligman, Steen, Park, & Peterson, 2005), and as an especially clinically relevant technique (Seligman et al., 2006). These interventions have can be classed into three categories: (a) listing of things for which to be grateful, (b) grateful contemplation, and (c) behavioral expressions of gratitude. Therefore, in order to comprehensively educate children about gratitude, it is necessary to see the objectivity in assessing the quality of gratitude education for children.

Specifically, gratitude education for children has been partly shown through children's awareness, attitudes and behaviors in gratitude birthday activities. Most children have understood the meaning of birthdays, emotional connections and recognized the merits of their parents. Therefore, they can feel the care, love, respect and satisfaction, and recognize what they currently have. Moreover, children also know how to appreciate the event, show positive behavior about gifts, and are reinforced by those positive behaviors. In addition, the assessment results have revealed the positive effects on children about gratitude through celebrating gratitude birthdays; as well as have shown the importance of the school; staff, teacher, parents in the children education.

Gratitude education for children has partly shown the important meanings and roles in perfecting the child's personality. Therefore, the survey results in three kindergartens show not only strives for the quality of children's education, but also aims at comprehensive education for children in life skills as well as education on gratitude, so that children can realize the importance and meaning of those who have given them the best. The school also has a plan to evaluate and monitor through practical activities and report on the organization and effectiveness of teachers' classroom activities. Towards educating children about gratitude through gratitude birthday parties, the kindergarten has held professional meetings; has widely spread the importance of educating children about gratitude; has developed the implementation and evaluation plans; committed to supporting teachers in the process of organizing educational activities.

4.2. Conclusion

Gratitude education for children is not only the task of the school but also the responsibility of children's parents, the community, mass organizations and social organizations. For the gratitude education for children to be effective, the educational environment of the family, school and society must be unified, and at the same time have a close coordination, towards the same goal of educating children. As a kindergarten administrator, I also want to contribute my efforts to educate gratitude to children in a practical and effective way. Research results show that, during the implementation process, the kindergarten has shown high support and determination in planning the gratitude education for children through specific activities. The principal is also the one who initiates, attracts, gathers forces, encourages and motivates teachers and staff to implement; well organize and supervise the activities of assigned teachers in the process of planning and organizing the implementation of the plan. Besides, families will also contribute to the activity when participating in gratitude birthday activities in the classroom with their children, sharing interesting stories about children, young siblings in the family, children's experiences...By that way, the teacher will contemplate, and honor the children's unique life experiences, while at the same time, associate them with the passage of time, the growth day by day. Furthermore, teachers will also honor the event, interpret its meaning and suggest questions for children to answer about the meaning of the activity, their feelings, etc. Parents can experience children's care for them, that is, feeling grateful for the merits of birth and nurturing through practical activities such as expressing children's feelings about their parents, giving flowers, do- it-yourself paintings and sharing the meaningful action that is sometimes just the act of gently wiping the mother's hand with a towel…This is also an exciting time for children, who find themselves organized by the two closest sources: family and friends, teachers. At the same time, the gratitude birthday activity is also a very touching experience for families who have the opportunity to join along with the school on their children's special day to uniquely, surprisingly record when seeing their children grow up every day. And this is also a special moment to reflect on how exciting it is for parents when seeing the journey of their children, from children with daily experiences until becoming the unique, wonderful children under teacher's care.

5. References

1. Adler, M. G., & Fagley, N. S. (2005). Appreciation: Individual differences in finding value and meaning as a unique predictor of subjective well-being. Journal of Personality, 73, 79–114.
2. Algoe, S. B., Haidt, J., & Gable, S. L. (2008). Beyond reciprocity: Gratitude and relationships in everyday life. Emotion, 8, 425–429.
3. Baron, R. A. (1984). Reducing organizational conflict - An incompatible response approach. Journal of Applied Psychology, 69, 272–279
4. Bono, G., Emmons, R. A., & McCullough, M. E. (2004). Gratitude in practice and the practice of gratitude. In P. A. Linley, & S. Joseph (Eds.), Positive psychology in practice (pp. 464–481). Hoboken, NJ, US: John Wiley & Sons, Inc.
5. Emmons, R. A. (2004). Introduction. In R. A. Emmons & M. E. McCullough (Eds.), The psychology of gratitude (pp. 3±16). New York: Oxford University Press

6. Emmons, R. A., & McCullough, M. E. (2003). Counting blessings versus burdens: An empirical investigation of gratitude and subjective well-being in daily life. Journal of Personality and Social Psychology, 84, 377±389.

7. Emmons, R. A., & Crumpler, C. A. (2000). Gratitude as human strength: Appraising the evidence. Journal of Social and Clinical Psychology, 19, 56±69

8. Fitzgerald, P. (1998). Gratitude and justice. Ethics, 109, 119-153

9. McCullough, M. E., Kilpatrick, S. D., Emmons, R. A., & Larson, D. B. (2001). Is gratitude a moral affect? Psychological Bulletin, 127, 249-266.

10. Gallup survey results on ``gratitude'', adults and teenagers (1998). Emerging Trends, 20, 4±5, 9

11. Seligman, M. E. P., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. American Psychologist, 60, 410–421

12. Simmel, G. (1950). The sociology of Georg Simmel. Glencoe, IL: Free Press. (Original work published 1908)

13. Sheldon, K. M., & Lyubomirsky, S. (2006). How to increase and sustain positive emotion: The effects of expressing gratitude and visualizing best possible selves. Journal of Positive Psychology, 73–82.

14. Solomon, R. C. (2004). Forward. In R A. Emmons & M. E. McCullough (Eds.), The psychology of gratitude (pp. v±xi). New York: Oxford University Press

15. Watkins, P. C. (2004). Gratitude and subjective well-being. In R. A. Emmons & M. E. McCullough (Eds.), The Psychology of Gratitude (pp. 167±192). New York: Oxford University Press.

16. Wood, A. M., Joseph, S., & Maltby, J. (2008). Gratitude uniquely predicts satisfaction with life: Incremental validity above the domains and facets of the five factor model. Personality and Individual Differences, 45, 49–54

17. Wood, A. M., Joseph, S., Lloyd, J., & Atkins, S. (2009). Gratitude influences sleep through the mechanism of pre-sleep cognitions. Journal of Psychosomatic Research, 66, 43–48.

CHALLENGES TO ASEAN MULTILATERALISM AND INITIATIVES TO ITS IMPROVEMENT

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Abstract

Multilateralism and ASEAN multilateral organization are currently facing a lot of debate about their content as well as their actual role. The article will clarify the content of multilateralism and clarify what ASEAN has done and failed to do as an important multilateral organization in Asia, thereby proposing some solutions to overcome those difficulties of ASEAN.

Keywords: *ASEAN, Liberalism, Multilateralism.*

1. Introduction

ASEAN is an institution realized by the theory of multilateralism. Therefore, the article will be divided into three main parts: Inheriting some views on multilateralism that the authors accept, thereby clarifying and adding more connotations to multilateralism. Overview of the multilateral spirit of ASEAN, survey the actual achievements that the ASEAN multilateral institution has achieved; In addition, it points to the failures encountered by this organization that threatens its mission to bring good multilateral results to the region. Offer several initiatives for ASEAN to improve its multilateralism.

2. Method

The article mainly uses qualitative methods; In addition, some available quantitative data are used to support the authors' argument.

3. Results

3.1. An overview of multilateralism

Today, multilateralism is an ideology, a familiar reality that mankind, in general, is aiming to perfect. Quantitatively, multilateralism is “the coordinated diplomatic interaction” of at least three actors (usually states (Keohane, 1990)) “in international politics” (Maull, 2020). Qualitatively, multilateralism must have a system of ideas (Maull, 2020) about common interests among actors, thereby forming common values, common goals, and common commitments among those actors (Britannica Encyclopedia, n.d.). Thus, multilateralism is a product with the colors of liberalism and constructivism, distinct from unilateralism, bilateralism, and realism. Specifically:

Multilateralism is realized by a clear institution that the participants voluntarily agree to. There is no coercion by hard power from any actors inside or outside the multilateral institutional alliance. The position and role of each member are almost equal, so the powerful influence of each member is almost equal.

A multilateral institution is formed to increase interests or to solve problems that one member cannot handle. It can be the construction of some new interests or the protection of existing interests that one actor (unilateral) or two actors (bilateral) in the multilateral community cannot do. Although each subject pursues its interests, all understand that the individual interests of each member lie in the common interests of the multilateral community to which they are voluntarily attached.

The actors participating in the multilateral mechanism accept a clear, common rule of the game, whose outcome should always be win-win for the members. The operation of the multilateral institution that the actors build is transparent, predictable, and the definitive outcome must be in the common interest of all members of that multilateral community.

The establishment mechanism, as well as the changing movement of the multilateral institution, has always been: the appearance of an idea of some value -> thereby forming the principles of conduct -> forming the transparent (even predictable) behavior of members.

If problems arise between members, the solution is always peaceful, conciliatory, and amicable. This is one of the important criteria of multilateralism because the existence of any multilateral institution is aimed at protecting a common heritage of peace, good values (maybe community identity), and common public goods (France Diplomacy, 2020).

Multilateralism is a statement that globalization of certain values is utopian, while regionalization of certain values is possible; In today's world, unilateralism is fraught with danger, and bilateralism is not safe enough in terms of security and economy.

3.2. ASEAN with regional multilateralism

3.2.1. Aspiration towards multilateralism of ASEAN

Association of Southeast Asian Nations (ASEAN) was officially established on 8/8/1967 with 5 members: Indonesia, Malaysia, Singapore, Thailand, Philippines; By 1999, the number of members of this organization reached 10, due to many other countries participating as follows: Brunei Darussalam (joined in 1984), Vietnam (joined in 1995), Laos, Myanmar and Cambodia (joined in 1999). And on December 31, 2015, the ASEAN community was officially established (The Association of Southeast Asian Nations, n.d.a).

As early as 1967, ASEAN issued its Declaration with specific aims and purposes of multilateralism as follows: “To accelerate the economic growth, social progress and cultural development in the region through joint endeavours in the spirit of equality and partnership in order to strengthen the foundation for a prosperous and peaceful community of Southeast Asian Nations; To promote regional peace and stability through abiding respect for justice and the rule of law in the relationship among countries of the region and adherence to the principles of the United Nations Charter; To promote active collaboration and mutual assistance on matters of common interest in the economic, social, cultural, technical, scientific and administrative fields; To provide assistance to each other in the form of training and research facilities in the educational, professional, technical and administrative spheres; To collaborate more effectively for the greater utilisation of their agriculture and industries, the expansion of their trade, including the study of the problems of international commodity trade, the improvement of their transportation and communications facilities and the raising of the living standards of their peoples; To promote Southeast Asian studies; and To maintain close and beneficial cooperation with existing international and regional organisations with similar aims and purposes, and explore all avenues for even closer cooperation among themselves” (The Association of Southeast Asian Nations, n.d.a).

The ASEAN Charter issued in 2008 set out 15 goals, but in general, they all revolved around the above 7 basic things. In addition, ASEAN's work towards these goals is governed by the following fundamental multilateral principles: “Mutual respect for the independence, sovereignty, equality, territorial integrity, and national identity of all nations; The right of every State to lead its national existence free from external interference, subversion or coercion; Non-interference in the internal affairs of one another; Settlement of differences or disputes by peaceful manner; Renunciation of the threat or use of force; and Effective cooperation among themselves” (The Association of Southeast Asian Nations, n.d.a).

In terms of organization to realize the above goals and principles, “the ASEAN Community is comprised of three pillars, namely the ASEAN Political-Security Community, ASEAN Economic Community, and ASEAN Socio-Cultural Community. Each pillar has its Blueprint, and, together with the Initiative for ASEAN Integration (IAI) Strategic Framework and IAI Work Plan Phase II (2009-2015), they form the Roadmap for an ASEAN Community 2009-2015” (The Association of Southeast Asian Nations, n.d.a).

It can be seen that the idea of an ASEAN multilateral institution has been introduced since 1967 with full of common interests in security, economy, politics, culture, and society. Not only that, with the gradual expansion of members and the establishment of action organizations to realize common interests, ASEAN is demonstrating the maturity of a multilateral institution with achievements in more than the past 50 years as:

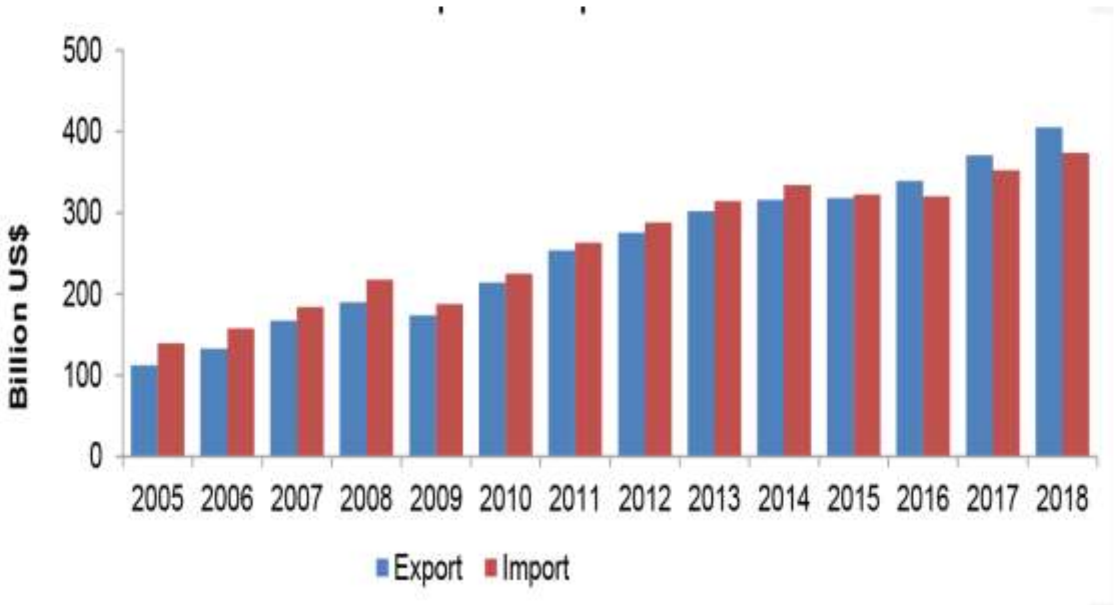
It has preserved (relative) peace and stability in the region (Pakpahan, n.d.).

It has also adopted the ASEAN Convention on Counter-Terrorism in 2007, the ASEAN Convention against Trafficking in Persons in 2015 (Pakpahan, n.d.).

There are several useful areas of cooperation such as: “maritime security, humanitarian assistance, peacekeeping operations, disaster response, counter-terrorism, cybersecurity, and military medicine” (Pakpahan, n.d.).

Economically, statistics show that the ASEAN community has good growth in GDP, especially in the service sector:

ASEAN’s Export and Import of Services

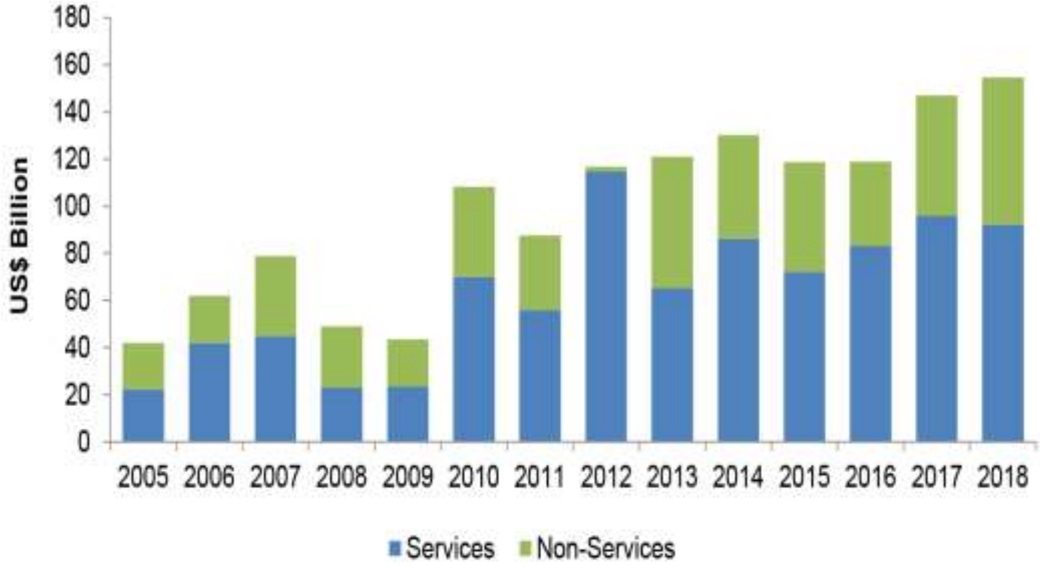


Source: https://asean.org/asean-economic-community/sectoral-bodies-under-the-purview-of-aem/services/

The chart above shows that ASEAN's service exports have always grown steadily at a rate of more than 10% a year (The Association of Southeast Asian Nations, n.d.b); Although the chart shows a trend of imports outperforming exports, from 2016 onward, ASEAN has become a trade surplus in services.

The service industry is also the place to receive a lot of foreign direct investment (FDI) as shown in the following chart:

FDI Inflow to ASEAN by Sector



Source: https://asean.org/asean-economic-community/sectoral-bodies-under-the-purview-of-aem/services/

In the future, ASEAN will certainly maintain these achievements. However, unlike it was in the 1960s, "today, ASEAN is larger, and its agenda has expanded considerably to extra-regional issues and actors covering the wider Asia-Pacific region. The grouping is both more diverse and divided" (Acharya, n.d.). Therefore, ASEAN multilateralism has encountered difficulties as discussed in the following section.

3.2.2. The difficult reality of ASEAN multilateralism

According to Hanns Maull, "the inherent difficulties and limitations of multi-lateralism are often underestimated, and its potential overestimated" (Maull, 2020). This is not surprising, since the ideology of multilateralism was born not very long ago in human history. Therefore, the current multilateral institutions are rife with criticisms both in terms of their operating principles as well as their operational reality. ASEAN is no exception, at a glance, some limitations of ASEANism can be seen as follows:

<u>*Security:*</u>

The cluster of ASEAN countries forms an important and strategic transportation position and is adjacent to two great powers, China and India, moreover, this region always attracts the attention of many other great powers in the world both in history and in the present. Therefore, many countries in the ASEAN group are directly or indirectly involved in the troubles of territorial sovereignty and territorial waters (Mahmood, 2018).

The most specific and obvious is the issue of China imposing unreasonable and illegal claims and actions in the East Sea, such as its claims to sovereignty over the East Sea within the nine-dash line, the announcement of international tenders 9 oil and gas blocks are located deep in the continental shelf of Vietnam, provoked by sending drilling rigs and fishing fleets to invade the waters of some ASEAN countries, etc. This behavior, unfortunately, did not receive the unanimous objection of all ASEAN countries. Specifically, Brunei and Cambodia fully support the view that China solves the above sovereignty issues through bilateral relations between China and each relevant country (Quang, 2016). This completely goes against the spirit of multilateralism of ASEAN, which so far shows that the division of views on the national security of the countries in this organization is completely real. The world understands that China is implementing the strategy of dividing and conquering ASEAN (Mcbeth, 2020), and the fate of ASEAN multilateralism is very fragile when it cannot have a common voice to protect the sovereignty of its members.

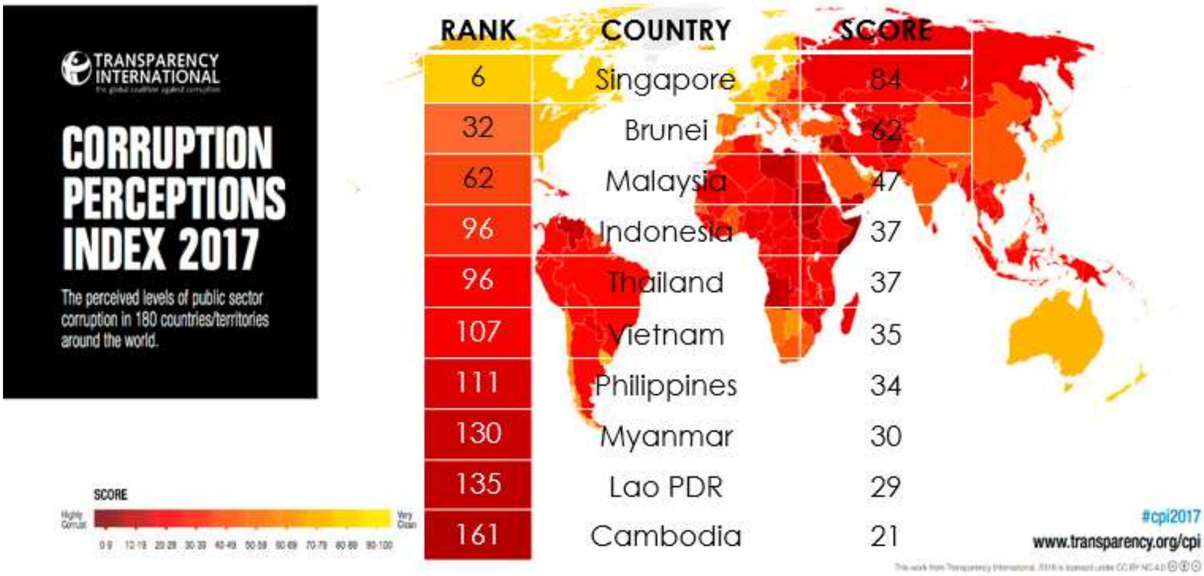
The turmoil in Myanmar also shows the weakness of ASEAN multilateralism. When the people of this country are daily shedding blood and sacrificing their lives to protest the unreasonable military coup and desperately call for the help of the international community, ASEAN shows its "the impotence of ASEAN governments in dealing with a regional crisis" (Idrus, 2021). That is the comment of "six prominent former and current lawmakers from Cambodia, Indonesia, Malaysia, Singapore, the Philippines, and Thailand. They are Cambodian opposition leader Sam Rainsy, Indonesian lawmaker Fadli Zon, Malaysian opposition leader Anwar Ibrahim, Filipino Senator Kiko Pangilinan, former Singaporean lawmaker Charles Chong, and Kasit Piromya, former prime minister of Thailand" (Idrus, 2021). They also criticized that "all other ASEAN governments are demonstrating a lack of political will and unity to pressure the military junta to end the killings" (Idrus, 2021), because multilateralism ASEAN has been "handicapped by the self-imposed doctrine of non-interference" (Idrus, 2021).

Only the above two outstanding cases show that, so far, "ASEAN AS a community has been a failure so far, as the notion of national sovereignty continues to undermine its integration while the identity of the grouping has yet to crystallize, according to Eduardo C Tadem, an associate professor of Asian Studies at the University of the Philippines Diliman" (Rojanaphruk, 2013).

It is a failure of ASEAN multilateralism when it fails to protect the sovereignty of its members and does not protect the human rights of its people.

Economy:

Economically, there are many problems within ASEAN as well, according to Ishtiaq Pasha Mahmood (Professor at the National University of Singapore Business School and Co-curator of the ASEAN Transformation Map): "Entrenched interests with the large conglomerates, paired with widespread corruption, is undermining the region's business environment and is particularly hurtful for small enterprises" (Mahmood, 2018). The following table shows that although corruption rates are not uniform across ASEAN countries, this is a significant problem in many countries:



Source: https://aseanrbf.org/newsroom/news-press-release/1286-instilling-the-culture-of-business-integrity-and-anti-corruption-in-asean

The disparity in economic living standards among members is also huge, in 2017 the World Bank said that “while 98% of adults in Singapore and 85% in Malaysia had a bank account, just 22% of Cambodian adults and 26% Burmese adults did” (Mahmood, 2018).

The economic integration process of the ASEAN multilateral region is also weakened by the realist competition among the member countries. According to Eduardo C Tadem (an associate professor of Asian Studies), the competition is fierce, while Singapore, Malaysia, and Thailand even outnumber other countries to the point of achieving intra-ASEAN trade dominance (accounting for about approx. 70%) (Rojanaphruk, 2013).

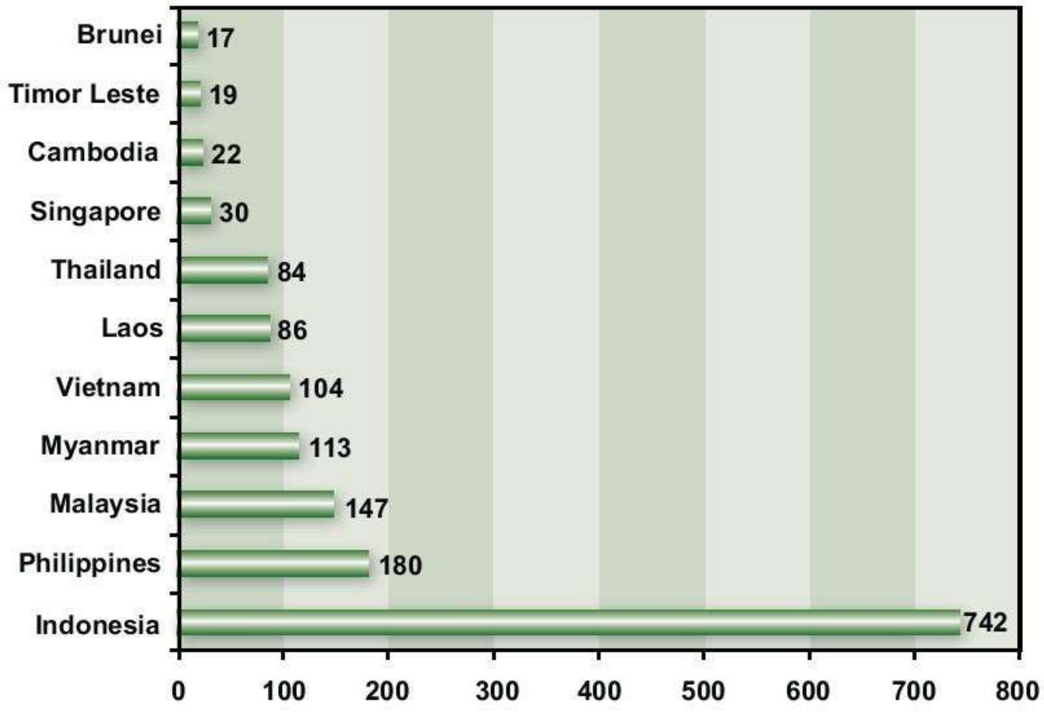
Roderick Macdonald points out that the threat to ASEAN multilateralism is worse, because “states pursue bilateral or trilateral arrangements rather than building a supranational practice. This is evident in the political economy of the ASEAN states, where the attempt to achieve an ASEAN economic community masks an actual practice of growing bilateralism and the fragmentation rather than integration of the ASEAN political economy together with the growing dependence of these smaller states on the wider region’s illiberal economic powerhouse, China” (Macdonald, 2019). That shows: “crucial norm of non-interference and its practice of nonbinding consensus inhibit deeper integration either within ASEAN” (Macdonald, 2019).

Besides vital security, economics is an essential reason for forming any multilateral alliance. Failure to ensure the legitimate interests and equality of alliance members will make the ASEAN institutional bloc likely to exist only in name.

Sociocultural:

A common identity is what ASEAN as well as all other multilateral institutions aspire to. However, to become a reality, this is quite difficult given the tremendous cultural diversity among ASEAN countries today. The statistics below show it just in terms of language:

Figure 1. Estimated Numbers of Languages Spoken in Southeast Asian Countries
(Source: Ethnologue, 2005)



Source: https://foxhugh.com/2012/03/23/asean-cultural-diverstiy/

In addition, “income inequality and wealth concentration, discrimination, food insecurity, ongoing human rights challenges and environmental degradation” (Mercado, 2018) are also a problem in each member and throughout ASEAN (Mercado, 2018).

Right now, the COVID-19 epidemic is also proving the weakness of ASEAN's leadership mechanism, demonstrating the need to restructure this organization as commented by Herman Joseph S. Kraft (Associate Professor and Chair of the Department of Political Science at the University of the Philippines) (Kraft, 2020).

3.3. Some suggestions for the development of ASEAN multilateralism

The problems that ASEAN is facing above show that the current multilateralism is difficult to completely break up/opposite from realism and bilateralism, but can only rely on and apply the theory is dominating international politics to continue to preserve and build this regional multilateral institution only (however, the result must be the common interest, the common identity of the actors in accordance with the objectives of liberalism and constructivism). In that spirit, some suggestions for ASEAN multilateralism are given as follows:

Building a common security organization with the participation of ASEAN peacekeepers, and with the participation of observers and consultants from the US, China, and Russia:

The world in general and the Asia region, in particular, have not yet been able (and probably cannot) to have eternal peace. Therefore, a military force is essential to keep the peace and to keep the peace in the face of a world full of actors willing to use realism in foreign affairs. ASEAN countries should build a common armed force with a peacekeeping mission for members in their region. This armed force has the presence of all ASEAN countries and rotates in countries, especially in hot spots that require military presence. In the current situation, the above force needs to be urgently established and must be present in Myanmar to protect the people and media about the truth in this country. In addition, an ASEAN naval force must be established quickly to solve the complicated maritime issues in the Vietnamese East Sea.

This earth for thousands of years has always been the playground of the great powers, they have always been the main subjects regulating the direction of mankind. Reality also shows that ASEAN always fails in security and sovereignty situations when it has to confront issues with certain superpowers behind them. Therefore, it is necessary to actively bring those big countries to the public so that they can partly predict the movements of that power. In addition, power can only be controlled by power, so it is necessary to invite all three current superpowers, the US, Russia, and China to participate (at least to advise and observe) on the security issues of the ASEAN region to somewhat limit the status of an autocratic superpower in any issue.

Since then, ASEAN can handle the problem of crime and solve some sovereignty and defense issues in the region peacefully. Such an open multilateral mechanism is safer and more realistic than the current glamor and weakness of ASEAN multilateralism.

Establishment of ASEAN universities:

Ishtiaq Pasha Mahmood (Professor at the National University of Singapore Business School and Co-Curator of the ASEAN Transformation Map) said: “ASEAN is home to young, literate and increasingly urbanized and aspirational populations” (Mahmood, 2018), and asks “governments must help prepare young people to face the demands of an increasingly integrated economic region, through education and training” (Mahmood, 2018).

To speed up this process, although there are many educational mechanisms established by ASEAN, it is necessary to promote the construction of universities named ASEAN Universities and ASEAN Intermediate Schools to train professionals and skilled workers that ASEAN countries currently and will need to employ. These educational institutions receive full scholarships, study in English, and are guaranteed jobs in the countries of the bloc right after graduation. But the trainees must commit to working for at least 5 years abroad after completing the training program. This will help countries have local resources, and enhance mutual understanding between people in the region, in order to help ASEAN multilateralism be built "from the bottom-up", not "from the top-down" as it is today.

Strengthen communication in ASEAN with art products:

Art is also an important tool to help people in ASEAN get to know each other better. In the context of the current booming demand for art entertainment, there is a great need for painting, photography, and drama products, especially short clips and feature films for people of different countries to enjoy and through which more honest and friendly knowledge about the culture of ASEAN countries.

Social networking apps Facebook, Tiktok, Instagram, etc. and TV dramas, short messages on news conveying information about ASEAN culture need to appear more often with attractive and impressive forms, which will greatly help people understand more about countries in the region, and from there, the work to close the cultural gap between the members of the bloc will be possible. There should be favorable mechanisms (even monetary rewards) for people to actively create and post to share their cultural content with people from other countries in the region. Governments, no matter how hard they try, cannot use their power to force people to understand and integrate culture, this can only be done through a natural and spontaneous way among people.

Encourage bilateral relations within ASEAN:

Multilateralism should not be viewed as the opposite of bilateralism. It must be understood that if bilateral relations are beneficial or at least do not harm multilateral relations, multilateral institutions can still be used. Therefore, it is necessary to encourage bilateral relations within ASEAN, especially economic relations, in order to help countries have closer relationships with each other, more beneficial for the alliance countries. Roderick Macdonald also asserts that: "The proliferation of additional bilateral treaties between member nations and other countries outside of ASEAN, as well as multilateral treaties between ASEAN or several members and other countries, does not contradict the purpose of the ASEAN Economic Community but can reinforce the pursuit of the region's prosperity" (Macdonald, 2019).

Encouraging bilateral relations also means understanding that each country always follows its realist interests. However, if it is only bilateral between the countries within ASEAN, then this is using realism as a means to serve the goal of the common interest desired by liberalism.

4. Conclusion

In conclusion, multilateralism in ASEAN has been an on-going process and faced many challenges. Although such difficulties have the potential to make this insitution nominal, there are approaches that ASEAN can take on to improve its multilateral mechanism. An improtant approach is to further strengthen bilateral relations among members in order to achieve accessible understanding towards mutual issues. If the ASEAN member states are willing to work truthfully with each other in the collective mindset of creating a mutual identity of the region, these issues might be reduced and worked forwards to preserve and improve the the institutional multilateralism.

5. References

1. Amitav Acharya (n.d.), Security Pluralism in the Asia-Pacific: Reshaping Regional Order, Global Asia, https://www.globalasia.org/v11no1/cover/security-pluralism-in-the-asia-pacific-reshaping-regional-order_amitav-acharya.

2. Beginda Pakpahan (n.d.), ASEAN at 52: Achievements and Challenges Ahead, Global Asia, https://www.globalasia.org/v14no3/feature/asean-at-52-achievements-and-challenges-ahead_beginda-pakpahan.

3. Britannica Encyclopedia (n.d.), Multilateralism, https://www.britannica.com/topic/multilateralism.

4. France Diplomacy (6/2020), Multilateralism: a principle of action for France, https://www.diplomatie.gouv.fr/en/french-foreign-policy/united-nations/multilateralism-a-principle-of-action-for-france/#:~:text=Whether%20used%20for%20resolving%20crises,multilateral%20method%20can%20provide%20protection.

5. Hanns Maull (9/3/2020), Multilateralism: Variants, Potential, Constraints and Conditions for Success, SWP (https://www.swp-berlin.org/10.18449/2020C09/).

6. Herman Joseph S. Kraft (20/5/2020), Perspectives: ASEAN COVID Initiatives Have Failed, The University of Melbourne, https://asialink.unimelb.edu.au/insights/asean-covid-initiatives-have-failed.

7. Ishtiaq Pasha Mahmood (29/8/2018), 7 key challenges for the future of ASEAN - and how to solve them, World Economic Forum, https://www.weforum.org/agenda/2018/08/7-challenges-to-business-in-the-asean-region-and-how-to-solve-them/.

8. John Mcbeth (3/5/2020), China plays divide and rule in East Sea, Asia Times, https://asiatimes.com/2020/05/china-plays-divide-and-rule-in-south-china-sea/.

9. Lilian Mercado (5/9/2018), Three reasons to be optimistic for the future of Asia, World Economic Forum, https://www.weforum.org/agenda/2018/09/is-asean-on-the-cusp-of-a-responsible-business-revolution-three-reasons-to-get-excited/

10. Minh Quang (23/4/2016), Campuchia tái khẳng định về phe Trung Quốc trong vấn đề Biển Đông, https://thanhnien.vn/the-gioi/campuchia-tai-khang-dinh-ve-phe-trung-quoc-trong-van-de-bien-dong-695135.html.

11. Pizaro Gozali Idrus (17/3/2021), Myanmar crisis again proves ASEAN bloc's impotence, Anadolu Agency, https://www.aa.com.tr/en/asia-pacific/myanmar-crisis-again-proves-asean-blocs-impotence/2179237.

12. Pravit Rojanaphruk (23/8/2013), Asean as a grouping is a failure, academic insists, The Nation Thailand, https://www.nationthailand.com/in-focus/30213347.

13. Robert Owen Keohane (Autumn 1990), Multilateralism: An Agenda for Research, International Journal, Vol. 45, No. 4, p. 731.

14. Roderick Macdonald (2019), Southeast Asia and the ASEAN Economic Community, Palgrave Macmillan.

15. The Association of Southeast Asian Nations (n.d.a), Overview, https://asean.org/asean/about-asean/overview/.

16. The Association of Southeast Asian Nations (n.d.b), Trade in Services in ASEAN, https://asean.org/asean-economic-community/sectoral-bodies-under-the-purview-of-aem/services/.

RELATIONSHIP BETWEEN EMOTIONAL INTELLIGENCE AND VIETNAMESE STUDENTS' GROUP WORK RESULTS: RESEARCH ON MEDIATING FACTORS SELF - MANAGED TEAMS AND CROSS-FUNCTIONAL TEAMS

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Abstract

This study focuses on the aim of measuring the impact of the direct and indirect relationships between Emotional Intelligence and University students' group work results, in which the mediating determinants in the indirect relationship were studied, practicing two factors of self-managed teams and cross-functional teams. Data from 372 Economics students from different universities in Hanoi, Vietnam was collected using questionnaire systems. The research team then determined and analysed to conclude that emotional intelligence strongly affects the groups' work results, even though the cross-functional team factor does not impact the mediation relationship. Limitations and future directions, as well as implications for research and practice, are discussed.

Keywords: *Emotion Intelligence, cross-functional teams, self-managed teams, students' group work results.*

1. Introduction

A group is a combination of two or more than two interactive individuals depending on each other to achieve common objectives (Morgan & Krueger, 1993). With group members having the following characteristics: (i) have a shared collective identity, (ii) have common goals, (iii) are interdependent in terms of their assigned tasks or outcomes, (iv) have distinctive roles within the team, and (v) are part of a larger organizational context that influences their work and that they, in turn, can influence (Kozlowski & Ilgen, 2006; Nahrgang et al., 2009) .

Through the benefits in many practical contexts was the importance of group working proved. Furthermore, many documents also confirm the advantages of working in groups

(Marin-Garcia & Lloret, 2008). Firstly, working in groups let students handle the work relating to using expertise, evaluating knowledge to solve a specific issue (Galbraith & Webb, 2013; Pineda & Lerner, 2006). Secondly, students shall have an opportunity to experience and acquire skill sets that they need in the future not only for their career but also for their daily activities. Thirdly, the positive effects of working in groups directly influence students' performance, motivation, and attitude in school (Gatfield, 1999; Kalliath & Laiken, 2006).

Research in recent years increasingly focused on cooperation among students in classes (Gillies & Boyle, 2010, 2011). Initiated from the fact approved by researchers and educators that efficiency in the students' group work result is affected by many distinctive factors. (Gujral & Ahuja, 2011; Horwitz, 2005; Kirkman & Rosen, 1999). Zhou & Wang (2016) showed that one of the major deciding factors in ensuring the operation's efficiency is emotional intelligence. Troth et al. (2012) also indicated that emotional intelligence was vital when it came to working efficiency and group cooperation.

Gujral and Ahuja (2011) gave a conclusion about the thorough similarities between self-managed teams and cross-functional teams. Working as self-managed teams can clarify the common goals, required crucial objectives, and better the alignment of goals within groups with the main goals of organizations. However, working as a cross-functional team provides more advantages such as accelerating the completion, supplying more strength to overcome challenging tasks, enhancing creativity, and helping members focus more on customers, organizing students to study are crucial factors improving group work's effectiveness.

With the mentioned analysis, this study was undertaken for two purposes. Firstly, to analyse direct and indirect relationships between emotional intelligence and University students' group work results, in which the mediating determinants in the indirect relationship were studied, practicing two factors of self-managed teams and cross-functional teams. Secondly, to give recommendations for administrators, lecturers, and students to maximize the effectiveness of group working in Vietnam's universities.

Relationship between emotional intelligence and group work results

Emotional Intelligence

Emotional Intelligence has been a particular research topic that interests many scholars over the past decades, rooted in Gardner's theory of multiple intelligence (Gardner, 1983). Goleman (1998) defined emotional intelligence as the understanding of emotion on one's own and that of others and using them in decision-making. Mayer and Salovey (1997) defined EI as "The ability to accurately perceive, evaluate and express emotions; the ability to reach and/or create emotions when they think; ability to understand emotions and knowledge about emotions; and the ability to regulate emotions to promote emotional and intellectual development".

Emotional Intelligence model (EI)

The conceptual framework that underpins this study is based on the work of Mayer and Salovey (1997) concerning the four branches of the EI model (Mayer & Salovey, 1997):

1. Emotional Awareness
2. Emotion's Usage
3. Emotional Understanding
4. Emotional Control

Emotional Awareness (EA) is understood as the ability to self-perceive the emotions of self and that of others accurately.

Emotion's Usage (EU) is defined as the ability to use one's emotions to promote thinking, support judgment, thinking, and awareness about mood swings, leading to consideration in alternative attitudes and understanding about a change in state by using emotions to solve different problems.

Emotional Understanding (EUS) is the ability to help individuals understand emotions, causes, and development of emotions, including the ability to define, distinguish types of emotions, understand the complexity of emotions as well as patterns. emotionally: loss often entails boredom, anger removes fear...

Emotional Control (EC) is the capability for the individual to control their own emotions and organize their emotions.

Many earlier studies have confirmed a link between students' group work results and emotional intelligence, one of which is the work of Gujral and Ahuja (2011). According to these authors, emotional intelligence plays a significant role in how they collaborate and collaborate when team members work on a shared mission and goals. Meanwhile, McCALLIN & Bamford (2007) argue that the central elements of emotional intelligence such as self-awareness, self-management, social awareness, and social skills are the values of group work results. Emotional Intelligence can also improve team members' ability to communicate with each other (Stephens & Carmeli, 2016), be opened to opposing opinions, ideas and using emotions to increase team performance, and team decision-making (Clarke, 2010). The relationship between Emotional Intelligence and students' group work results in students is mentioned in the study by Brackett & Mayer, 2003. These authors examined the relationship between Emotional Intelligence and students' group work result in the medical-health educational environment. Emotional intelligence has been found to provide an opportunity for students to reflect on and apply group work skills well while doing practical exercises.

Previous studies have confirmed the relationship between the success of group work and EI, Muhammad (2014) including improvement of communication which increases the value of team productivity, enhances collaboration to achieve common goals (Pineda & Lerner, 2006), provide opportunities for students to reflect and well-applied group work skills while doing practical exercises (Muhammad, 2014). Therefore, the proposed research hypothesis is:

H1. Emotional Intelligence has a positive influence on student group work results.

Relationship among self-managed teams, cross-functional teams, EI, and group work results.

Self-managed teams are defined by Moravec *et al.* (1998) as a non-decentralized workgroup that handles specific areas or tasks within the organization. Bobek et al (2009) argue that self-managed teams are made up of individuals who self-regulate and are responsible for a number of activities such as planning, scheduling, performance evaluation, and continual improvement. In addition, self-managed teams are understood as groups where individuals are interdependent, and the team members can self-regulate their behaviour in relative tasks (Goodman & Kruger, 1988). Working as self-managed teams shall accelerate the efficiency and improve the final result (Liu et al., 2004). According to the idea, efficiency in group working includes high productivity (Kirkman & Rosen, 1999; Locke & Latham, 2002), good customer service (Shamsul et al., 2013); group work result includes superior quality (Locke & Latham, 2002; Lou, 2011); satisfaction in work (Locke & Latham, 2002; Marin-Garcia & Lloret, 2008), organization's commitment (Liu et al., 2004; Martinez-Pons, 1997)**.** Based on the definition of Goodman *et al.* (1988), the authors argue that the student self-management team is a team where individuals are interdependent and team members have full discretion to decide on tasks such as work tasks, methods of doing work, and schedule activities.

Cross-functional teams are defined as a team of highly specialized teams, individuals from different functional areas within a company working together to achieve a particular goal. Cross-functional teams are used to develop new products (Bunduchi, 2009), transform organizations (Daspit et al., 2013), speed up market access (Daspit et al., 2013), and a host of other tasks. From the definition of Webber (2002), the authors argue that a student's cross-functional team is a team consisting of students with specialized expertise (or specialized knowledge), students from different disciplines in universities work together to achieve a specific goal and team members engage in shared leadership roles.

When comparing the relationship of Emotional Intelligence with self-managed teams and cross-functional teams, Gujral & Ahuja (2011) show a higher correlation of Emotional Intelligence with self-managed teams than cross-functional teams. That suggests that self-managed teams are smarter emotionally and emotionally intellectually, contributing to excessive group work performance compared to cross-functional teams. This is explained by Gujral and Ahuja (2011) because the cohesion between the members of self-managed teams is higher than cross-functional teams. In addition, Kirkman and Rosen (1999) identified that self-managed teams help improve team productivity and Horwitz (2005) pointed out the diversity of knowledge in cross-functional teams positively affects performance due to the different perspectives each member brings to the team. This important interrelation leads us to pose the following hypotheses:

H2. Emotional Intelligence has a positive influence on self-managed teams of university students.

H3. Self-managed teams have a positive influence on students' group work results of university students.

H4. Emotional Intelligence has a positive influence on cross-functional teams of university students.

H5. Cross-functional teams have a positive influence on the group work results of university students.

2. Method

Sample and Procedure

The authors clarify the scales: emotional intelligence, self-managed team, cross-functional team, and students' group work results through in-depth interviewing with the subjects are university students and lecturers conducted within one hour in a designated location chosen by the interviewers.

To clarify the results collected from previous methods, the authors proceeded to create a form to initiate the inspection. Surveys used questions from the form are distributed and acquired from October to December of 2020. The content of the questionnaire is divided into two parts: the first part is to investigate the rate of agreement from the respondents about statements relating to Emotional Intelligence, self-managed team, cross-functional team, and students' group work results; the second part is to get to know more about respondents' information such as gender, frequency of joining and working in a group.

Table 1. Characteristics of the sample

Demographic information	Frequency	Number of respondents	Percentages (%)
Gender	Female	182	48.9
	Male	189	50.8
Year of students	1st	52	14.0

	2nd	101	27.2
	3rd	166	44.6
	4th	48	12.9
	Other	5	1.3
Frequency of working in groups	Never	2	0.5
	Rarely	10	2.7
	Sometime	96	25.8
	Usually	264	71.0

The authors also focused on universities having Economics as their primary major, including National Economics University, Foreign Trade University, University of Commerce, Economics University - National University, Academy of Banking. With 385 responses from university students, of which 372 later used for the study. The responses between genders do not differ significantly, respectively 50.8% and 49.2%. In terms of study time, Junior students account for the highest percentage of 44.6%, and most of the students also maintain the regular frequency of group working of 71.0% as shown in Table 1.

Procedure

A set of standardized questions about emotional intelligence, students' group work results, self-managed teams, cross-functional teams were used through a questionnaire survey to collect data from students in some economics universities in Vietnam. The authors have reached out to students in classrooms and public areas such as libraries, dorms, and canteens. The objectives of the study were briefly explained to the respondents, which enabled them to answer the survey accurately (Figure 1).

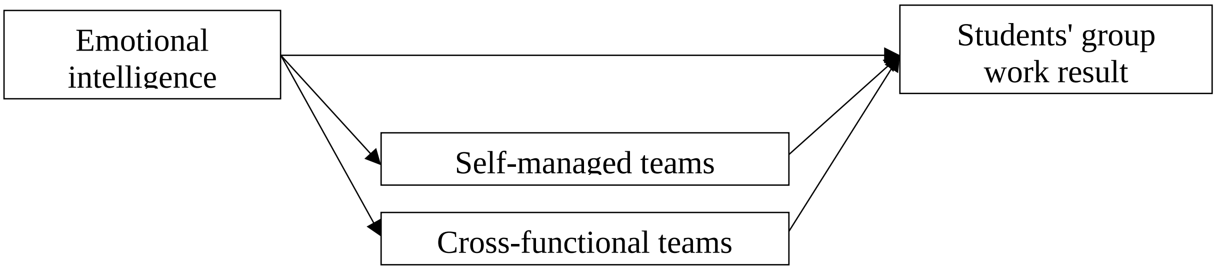

Figure 1. The conceptual model

Measures

Emotional Intelligence (EI): The 18-item scale was designed by Bar-On (1997); Goleman (1998) and Mayer & Salovey (1997) to examine four dimensions (emotional awareness - EA, using emotions - USE, understanding emotions - UDE and managing emotions - ME) (α's = 0.865, 0.817, 0.888 and 0.849 respectively). A sample item is, "I am aware of personal feelings when I meet someone." USE1 was excluded due to the item-total correlation < 0.3. A confirmatory factor analysis (CFA) was conducted for the scale, and the result demonstrated an acceptable model fit: $\chi2 = 256.666$, df = 113, p = 0.000, CMIN/df = 2.271 (between 1 and 3) (Kettinger & Lee, 2005), CFI = 0.959 > 0.9, SRMR = 0.057 < 0.08, RMSEA = 0.059 < 0.06, PClose = 0.068 > 0.05 (Hu & Bentler, 1999) suggesting that the dimensions reflected the overall construct.

Self-managed teams (SMT) (Cronbach's alpha = 0,786): The scale was measured with Goodman & Kruger (1988) (α's = 0.949 and 0.786 respectively). A sample item is, "I am willing to express my opinion on issues even when the members of the group think differently." Each item was rated from 1 (strongly disagree) to 5 (strongly agree).

Cross-functional teams (CFT) (Cronbach's alpha = 0,786): The scale of cross-functional teams was assessed by using the 4-item developed by Daspit et al. (2013) and Webber (2002), including 'When others with my functional background are successful, I feel that all of us with the same functional background have been successful' (0,670).

Group work results (Cronbach's alpha = 0,876): This scale was designed by Volet & Mansfield (2006), has 6 items, including "The team worked together to complete tasks in a timely manner." (0,849), "The team acted with composure and control Prompts: Applicable emotions? Conflict management issues." (0,851).

Analyses

The authors established a question set about EI, self-manage team, cross-functional team, and students' group work result to start the survey and collect data from many Economics university students in Hanoi, Vietnam. After approaching and amassing answers, the authors analysed using the following main steps.

❖ *Firstly,* assessing the scale's reliability using Cronbach's alpha coefficient.

❖ *Secondly*, examining Explorative Factor Analysis (EFA) to evaluate variables' reliability.

❖ *Thirdly,* inspecting Confirmatory Factor Analysis (CFA) to determine the model and the scale.

❖ *Finally*, analyzing Structural Equation Modelling (SEM) with the assistance of AMOS 22.0 Software.

3. Results

Exploratory factor analysis (EFA)

After evaluating the reliability of the scales using Cronbach's alpha, a total of 25 items were used in exploratory factor analysis (EFA).

The results of testing the reliability of the scale by exploratory factor analysis showed that KMO = 0.901; Sig. (Bartlett test) = 0.000 < 0.005. The final results of the exploratory factor analysis are presented in Table 1.

Table 2. The results of exploratory factor analysis (EFA)

Rotated Component Matrix[a]							
	Component						
	1	2	3	4	5	6	7
SMT2	0.881						
SMT3	0.859						
SMT4	0.824						
SMT5	0.791						
SMT1	0.782						
R5		0.757					
R1		0.736					
R6		0.711					
R2		0.710					
R4		0.694					
R3		0.657					
EUS2			0.881				
EUS3			0.842				
EUS1			0.750				
EUS5			0.728				
EUS4			0.727				
EA5				0.796			
EA2				0.747			
EA4				0.746			
EA3				0.642			
EA1				0.626			
EU4					0.886		
EU3					0.782		
EU2					0.780		
EU5					0.712		
CFT1						0.875	
CFT2						0.767	

CFT3						0.761	
CFT4						0.729	
EC3							0.849
EC1							0.802
EC2							0.760
Cumulative = 68,992%							
Total Variance Explained= 1.261							

Confirmatory Factor Analysis (CFA)

This research conducted a confirmation factor analysis (CFA) to confirm the variability of the variables in this study. These CFA results confirmed the satisfactory discriminatory value and showed no bias of the common method bias.

The model is consistent with the data: $\chi 2$ = 789.731, df = 443, p = 0.000, CMIN/df = 1.783 (between 1 and 3) (Kettinger & Lee, 2005), CFI = 0.953 > 0.9, SRMR = 0.05 < 0.08, RMSEA = 0.046 < 0.06, PClose = 0.901 > 0.05 (Hu & Bentler, 1999).

The three important indicators of convergent validity are factor loadings (standardized estimates), the average variance extracted (AVE), and composite reliability (CR). The standardized estimates of each construct range from 0.603 to 0.963 and are statistically significant (p-values). AVE ranges from 0.507 to 0.791 and CR ranges from 0.800 to 0.950. According to Hair et al. (2010), the results of standardized estimates, AVE, and CR are all in the acceptable region, thereby providing support for convergent validities of constructs.

Structural Equation Modelling Analysis (SEM)

Structural equation modelling (SEM) suggested that the hypothesized model fit the data well ($\chi 2$ = 830.875, df = 455, p = 0.000, CMIN/df = 1.826 (between 1 and 3) (Kettinger & Lee, 2005), CFI = 0.949 > 0.9, SRMR = 0.039 < 0.08, RMSEA = 0.047 < 0.06, PClose = 0.817 > 0.05 (Hu & Bentler, 1999). The hypothesized model shows the relationship between two factors in the model including: Emotional Intelligence, students' group work result, self-managed teams and cross-functional teams.

Figure 2 shows the overall structure model with standardized path coefficients. Hypotheses H1, H2, and H3 are accepted. Emotional Intelligence has a positive relationship with group work results and self-managed teams (β = 0.048 and 0.061 respectively). Self-managed teams have a positive relationship with group work results (β = 0.035 respectively). Cross-functional teams have the opposite relationship with Emotional Intelligence and students' group work results (β = -0.063 and -0.034).

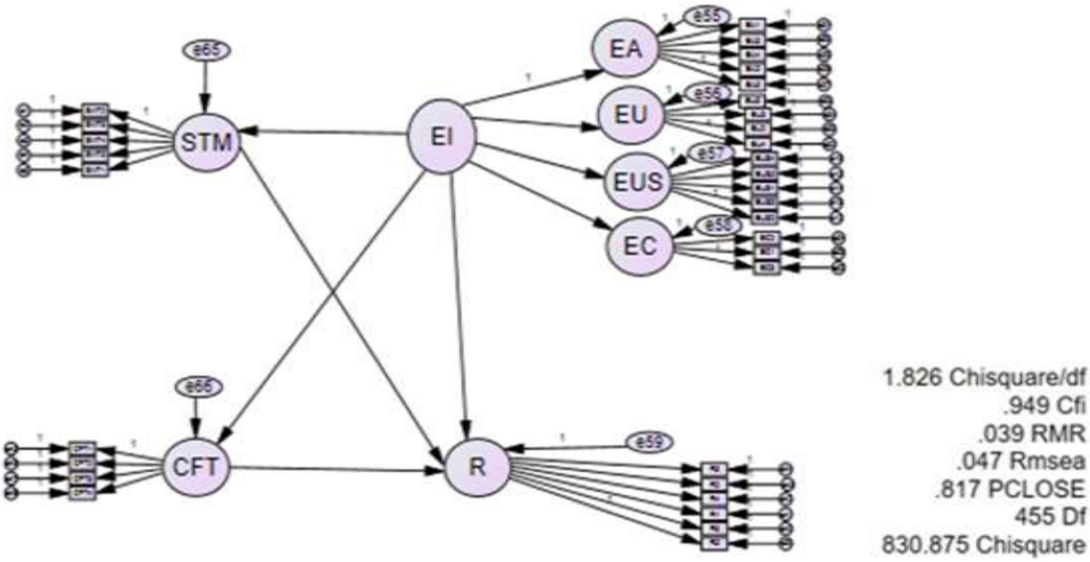

Figure 2: Structural Equation Model Analysis (SEM)

Thus, the models are considered suitable for SEM analysis. Meanwhile, with the data set collected from the survey, the research model is expected to be created from the fitting overview and theoretical supports, and the relationship among scales ensures statistical significance. SEM analysis of the linear structural model, we have the test results in Table 1.3.

Table 3: The result of the path analysis among variables with standardized regression weights

Relationships			Estimate	SE	CR	P-value	Results
SMT	<---	EI	0.660	0.061	10.806	***	*Supported*
CFT	**<---**	**EI**	**0.009**	**0.063**	**0.140**	**0.888**	***Rejected***
R	<---	SMT	0.391	0.035	11.057	***	*Supported*
R	**<---**	**CFT**	**0.009**	**0.034**	**0.273**	**0.785**	***Rejected***
R	<---	EI	0.297	0.048	6.217	***	*Supported*

The results of the mediation test with Process v3.5 by Andrew F. Hayes are shown in Table 3. Emotional Intelligence increased group work efficiency through the positive individual goal (β in positive effect = 0.048, $p < 0.05$), and the relationship between Emotional Intelligence and students' group work result was mediated by self-managed teams (β negative effect = 0.061, $p < 0.05$) so H3 (self-managed teams mediate the relationship between Emotional Intelligence and students' group work result of university students) was not rejected. The linkage between Emotional Intelligence and group work result was not mediated by cross-functional teams so H4 and H5 were rejected.

4. Discussion and Conclusion

Discussion

This study focuses on the aim of measuring the impact of the direct and indirect relationships between Emotional Intelligence and University students' group work results, in which the mediating determinants in the indirect relationship were studied, practicing two factors of self-managed teams and cross-functional teams. However, the hypothesis relating to mediating variables cross-functional teams are not endorsed for $p > 0.01$.

❖ *Firstly*, Emotional Intelligence is positively related to students' group work results. This conclusion is acknowledged in Bar-On (1997); Goleman (1998); Mayer & Salovey (1997). In particular, Gujral & Ahuja (2011) confirmed that Emotional Intelligence is the key factor in cooperation and collaboration among team members upon accomplishing a common objective. The ability to use social intelligence, process personal emotional information and other relationships will help students adapt and handle the fluctuations of the work or study environment. When students have the ability to process emotional information, recognize, use, understand and control emotions well, students can learn a lot from their friendships and listen from lecturers more effectively, knowledge and skills both professional and social are improved, helping students develop the qualifications and quality of work that are useful for themselves in the future. Therefore, to facilitate the progression toward success, it is crucial to motivate each team member's Emotional Intelligence.

❖ *Secondly*, Emotional Intelligence positively affects self-managed teams. This result is consistent with some previous studies of Gujral & Ahuja (2011). Self-managed teams had their common goals, key objectives, and the alignment between team's goals with the organization's goals set so that each team member shall discover, be aware of, and take control of not only their emotions but also other members to reduce internal conflict, increase trust and knowledge-sharing ability in a team. The greater the EI control is, the more students can achieve excellent results.

❖ *Thirdly*, self-managed teams have a positive relationship with student group work results. This assertion is recognized in several studies such as Cohen & Ledford Jr (1994); Goodman & Kruger (1988); Kirkman & Rosen (1999). Suggestive evidence shows that self-managed teams operate effectively and provide high productivity, which enhances the group work results. In order to function effectively, a team needs to maintain a relationship between self-efficacy and team efficiency. In addition, team leaders should delegate the work fairly, making a table that is prudent for the capacity and ability of each team member.

❖ *Finally*, this study confirms the mediating effect of self-managed teams on the relationship between Emotional Intelligence and student group work result. The above result is aligned with the preceding study which found that the belief of mediating effect of self-managed teams (Gujral & Ahuja, 2011; Kirkman & Rosen, 1999). However, this study does not confirm the mediating relationship between cross-functional team's variables and Emotional Intelligence affecting students' group work results.

Practical implications

The ultimate goal of the research is through the relationship between the scales in the research model to make recommendations to enhance the group work results of university students. For university students, the authors give some suggestions to enhance students' group work results as follows:

❖ *Firstly,* the student needs to be aware that the development of Emotional Intelligence plays a significant role through interactions with others. In addition to actively studying, reading many books and references, students need to actively take part in collective activities, build collective emotional relationships. Through experience, students need to know and understand their feelings and know how to use and control emotions appropriately.

❖ *Secondly,* students should form teams in the form of self-managed teams in which team members have full authority to decide on tasks such as assigning tasks, methods of doing work and, scheduling activities. This will help increase the team performance of university students.

❖ *Thirdly,* team leaders and team members need to create an open and comfortable working environment based on trust, consolidate common goals and responsibility toward just and information publicity relating to students' group work. Team leaders must exchange with team members by meeting in person directly or indirectly through mobiles, applications assisting contacting to receive recommendations, replies from team members immediately.

❖ *Fourthly,* team members must follow the interpretations from other members. Supposing an individual in the group does not feel they are not respected or neglected, they shall not put their trust in the team and the group work.

❖ *Finally,* students can apply the Kaizen technique in group work. Team leaders encourage team members to give innovative ideas and recommendations, then together with team members evaluate and select the effectiveness of the given ideas and recommendations to apply to the work. Kaizen technique is successfully applied to team leaders and team members who have creativity and excellent knowledge suitable for students' group work. This technique motivates the spirit of the group, eliminating the team members' dependence on the team leader.

For managers and lecturers at universities, the authors give some suggestions to enhance students' group work results as follows:

❖ *Firstly,* building collective activities in universities, classes, teams to create a dynamic and inclusive environment for students to participate in group work activities. Such group work activities will help students gain more confidence when expressing themselves in front of the team, having greater responsibility for themselves and their team.

❖ *Secondly*, encouraging students' creativity, motivating students with personal achievement from subjects in the university or college is a way for each student to think about their individual goals and find out the fastest, most effective way to accomplish their goals.

❖ *Finally*, organizing short courses or seminars to share personal emotional management and control skills, skills in shaping individual goals, and building common goals for each group work.

5. References

1. Bar-On, R. (1997). *BarOn emotional quotient inventory*. Multi-health systems.

2. Bobek, D., Zaff, J., Li, Y., & Lerner, R. M. (2009). Cognitive, emotional, and behavioral components of civic action: Towards an integrated measure of civic engagement. *Journal of Applied Developmental Psychology, 30*(5), 615–627. Elsevier.

3. Brackett, M. A., & Mayer, J. D. (2003). Convergent, discriminant, and incremental validity of competing measures of emotional intelligence. *Personality and social psychology bulletin*, *29*(9), 1147–1158. Sage Publications.

4. Bunduchi, R. (2009). Implementing best practices to support creativity in NPD cross-functional teams. *International Journal of Innovation Management*, *13*(04), 537–554. World Scientific.

5. Clarke, N. (2010). Emotional intelligence and its relationship to transformational leadership and key project manager competences. *Project management journal*, *41*(2), 5–20. SAGE Publications Sage CA: Los Angeles, CA.

6. Cohen, S. G., & Ledford Jr, G. E. (1994). The effectiveness of self-managing teams: A quasi-experiment. *Human relations*, *47*(1), 13–43. Sage Publications Sage CA: Thousand Oaks, CA.

7. Daspit, J., Tillman, C. J., Boyd, N. G., & Mckee, V. (2013). Cross-functional team effectiveness: An examination of internal team environment, shared leadership, and cohesion influences. *Team Performance Management: An International Journal*. Emerald Group Publishing Limited.

8. Galbraith, D. D., & Webb, F. L. (2013). Teams that work: Preparing student teams for the workplace. *American Journal of Business Education (AJBE)*, *6*(2), 223–234.

9. Gardner, H. (1983). *The theory of multiple intelligences*. Heinemann.

10. Gatfield, T. (1999). Examining student satisfaction with group projects and peer assessment. *Assessment & Evaluation in Higher Education*, *24*(4), 365–377. Taylor & Francis Group.

11. Gillies, R. M., & Boyle, M. (2010). Teachers' reflections on cooperative learning: Issues of implementation. *Teaching and teacher Education*, *26*(4), 933–940. Elsevier.

12. Gillies, R. M., & Boyle, M. (2011). Teachers' reflections of cooperative learning (CL): A two-year follow-up. *Teaching Education*, *22*(1), 63–78. Taylor & Francis.

13. Goleman, D. (1998). *Working with emotional intelligence*. New York: Bantam Books.

14. Goodman, R. S., & Kruger, E. J. (1988). Data dredging or legitimate research method? Historiography and its potential for management research. *Academy of Management Review*, *13*(2), 315–325. Academy of Management Briarcliff Manor, NY 10510.

15. Gujral, H. K., & Ahuja, J. (2011). Impact of emotional intelligence on teamwork–A comparative study of self managed and cross functional teams. *International Journal of Multidisciplinary Research*, *1*(6), 178–185.

16. Hair, J. F. (2009). Multivariate data analysis.

17. Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: A multidisciplinary journal*, *6*(1), 1–55. Taylor & Francis.

18. Kalliath, T., & Laiken, M. (2006). *Use of teams in management education*. Sage Publications Sage CA: Thousand Oaks, CA.

19. Kettinger, W. J., & Lee, C. C. (2005). Zones of tolerance: Alternative scales for measuring information systems service quality. *MIS quarterly*, 607–623. JSTOR.

20. Kirkman, B. L., & Rosen, B. (1999). Beyond self-management: Antecedents and consequences of team empowerment. *Academy of Management journal*, *42*(1), 58–74. Academy of Management Briarcliff Manor, NY 10510.

21. Kozlowski, S. W., & Ilgen, D. R. (2006). Enhancing the effectiveness of work groups and teams. *Psychological science in the public interest*, *7*(3), 77–124. SAGE Publications Sage CA: Los Angeles, CA.

22. Liu, Y., Perrewé, P. L., Hochwarter, W. A., & Kacmar, C. J. (2004). Dispositional antecedents and consequences of emotional labor at work. *Journal of Leadership & Organizational Studies*, *10*(4), 12–25. Sage Publications Sage CA: Thousand Oaks, CA.

23. Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American psychologist*, *57*(9), 705. American Psychological Association.

24. Lou, Y. (2011). *Self-management of cancer treatment-related fatigue, nausea, vomiting and oral mucositis in Chinese cancer patients*. Queensland University of Technology.

25. Marin-Garcia, J. A., & Lloret, J. (2008). Improving teamwork with university engineering students. The effect of an assessment method to prevent shirking. *WSEAS Transactions on Advances in Engineering Education*, *5*(1), 1–11.

26. Martinez-Pons, M. (1997). The relation of emotional intelligence with selected areas of personal functioning. *Imagination, cognition and personality*, *17*(1), 3–13. SAGE Publications Sage CA: Los Angeles, CA.

27. Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence. *Emotional development and emotional intelligence: Educational implications*, *3*, 31. Citeseer.

28. McCALLIN, A., & Bamford, A. (2007). Interdisciplinary teamwork: Is the influence of emotional intelligence fully appreciated? *Journal of nursing management*, *15*(4), 386–391. Wiley Online Library.

29. Morgan, D. L., & Krueger, R. A. (1993). When to use focus groups and why. *Successful focus groups: Advancing the state of the art*, *1*, 3–19.

30. Muhammad, F. (2014). Leadership, governance and public policy implementation competencies in the broader public sector. *European Journal of Business and Management*, *6*(36).

31. Nahrgang, J. D., Morgeson, F. P., & Ilies, R. (2009). The development of leader–member exchanges: Exploring how personality and performance influence leader and member relationships over time. *Organizational behavior and human decision processes*, *108*(2), 256–266. Elsevier.

32. Pineda, R. C., & Lerner, L. D. (2006). Goal attainment, satisfaction and learning from teamwork. *Team Performance Management: An International Journal*. Emerald Group Publishing Limited.

33. Shamsul, B. M. T., Sia, C. C., Ng, Y. G., & Karmegan, K. (2013). Effects of light's colour temperatures on visual comfort level, task performances, and alertness among students. *American Journal of Public Health Research*, *1*(7), 159–165.

34. Stephens, J. P., & Carmeli, A. (2016). The positive effect of expressing negative emotions on knowledge creation capability and performance of project teams. *International Journal of Project Management*, *34*(5), 862–873. Elsevier.

35. Tata, J., & Prasad, S. (2004). Team self-management, organizational structure, and judgments of team effectiveness. *Journal of Managerial Issues*, 248–265. JSTOR.

36. Troth, A. C., Jordan, P. J., & Lawrence, S. A. (2012). Emotional intelligence, communication competence, and student perceptions of team social cohesion. *Journal of Psychoeducational Assessment*, *30*(4), 414–424. SAGE Publications Sage CA: Los Angeles, CA.

37. Volet, S., & Mansfield, C. (2006). Group work at university: Significance of personal goals in the regulation strategies of students with positive and negative appraisals. *Higher Education Research & Development*, *25*(4), 341–356. Taylor & Francis.

38. Webber, S. S. (2002). Leadership and trust facilitating cross-functional team success. *Journal of management development*. MCB UP Ltd.

39. Zhou, L., & Wang, S. (2016). Industrial-scale radio frequency treatments to control Sitophilus oryzae in rough, brown, and milled rice. *Journal of Stored Products Research*, *68*, 9–18. Elsevier.

ASSURANCE OF ETHNIC MINORITIES' CULTURAL RIGHTS IN VIETNAM - THE IMPORTANT BASIS FOR EQUALITY AMONG ETHNIC GROUPS

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Abstract

In the process of national construction and development, the Party and State are always consistent in implementation of principle: "Equality, respect, solidarity, relation settlement between ethnic groups and mutual development" and especially pay attention to the implementation of cultural rights of the people in general and ethnic minorities in particular through a legal system and specific policies on the basis of compliance with international treaties to which Vietnam is a member. This research focuses on analyzing the cultural right assurance of ethnic minorities in Vietnam, which is an important basis for equality among ethnic groups in the whole country. The result of research show that Vietnam has issued many guidelines and policies to ensure the cultural rights of ethnic minorities, contributing to the socio-economic development and the realization of equality among ethnic groups during 76 years of construction and development. From the research results, the author proposes some solutions to improve the legal system as well as improve the implementation effectiveness of ethnic minorities' cultural rights in Vietnam.

Keywords: *cultural rights, ethnic minorities in Vietnam, ethnic equality.*

1. Introduction

1.1. Human rights are significant and valuable values

Human rights are the result of the bloody and tearful struggle in human history, the development and progress of human rights has reflected the development and progress of society and human rights are the expression of human values. Insurance and protection of human rights is always one of the important tasks that countries must implement in order to contribute to the country's stability and development and this is also a premise for peace and prosperity of human.

The United States Declaration of Independence stated: "All human beings are born free and equal in dignity and rights". They are entitled with inalienable rights by the Creator; Among these rights are "Right of Life, Liberty and the Pursuit of Happiness" [4, page 9]. In the French Declaration of the Rights of Man and of the Citizen in Article 1 has stated: " Men are born and remain free and equal in rights "[4, page 15-16]. With specific provisions on human rights such as freedom, equality, ownership, free exchange of ideas and opinions, equality in front of the law, freedom of speech, freedom of thought, belief, etc.

Especially the ideas of freedom, freedom is being able to do anything as long as it doesn't harm others. This is a very progressive idea with deep influence on the legal system of many countries. These two declarations recognized a lot of human rights and civil rights on the basis of freedom and equality, these were the great progressive ideas at that period. It is said that this is a great progress in human thought on human rights.

The Universal Declaration of Human Rights (1948) affirmed the rights as well as the role and position of human rights assurance in life, " recognition of the inherent dignity and of the equal and inalienable rights of all members of the human family is the foundation of freedom, justice and peace in the world. People everywhere in the world ought to enjoy - freedom of speech and belief and freedom from want and fear because poverty has been proclaimed as the highest aspiration of human beings, etc. It is essential that human rights must be protected by law, etc. The member States have committed to cooperate within the United Nations framework and promote the common respect and comprehensive assurance of human rights and fundamental freedoms" [4, page 62-63].

Inheriting the progressive views of the previous philosophical schools, Karl Marx, Friedrich Engels and Vladimir Lenin gave a dialectical materialistic conception of the origin of human rights. Human rights are not given by nature or by a force in society but a natural human right, reflecting the human need for freedom, equality, rights and obligations. Human rights are closely associated with human history and close relationship with socio-economic bases in each historical period. Starting from viewpoint that Human is a "social - biological" entity, human nature is the sum of social relationships, classics of Marxist theory assert that human rights are born based on two natural and social origins.

Marx, Engels, and V.I. Lenin said that human rights are always associated with freedom and equality ", etc. Freedom and equality must be declared as human rights" [11, page 153]. About freedom, Marx and Engels said: " The non-freedom period in the world history required the laws expressed the non-freedom, because that animal right - is different from the human rights as the embodiment of freedom - the embodiment of non-freedom" [10, page 183]. Human existence itself has proven freedom, freedom of thought and action, in the progress of the real world to serve life, freedom is associated with human and belonging to Human. In order to overcome injustices to get the opportunity to develop capacity and realize their rights, people must liberate themselves, overcome dependence and loss of freedom. Therefore, human rights are synonymous with human freedom. As for equality, that is the equality in legal terms, in terms of political, economic and cultural interests among all members of society, regardless of ethnicity, religion, class of the subjects.

In Vietnam, in the light of Marxism-Leninism, the protection and execution of human rights is always an important content throughout the leading process of the Party and State. In the guidelines and lines of the Party, policies and laws of the State always aim to ensure and maximize the human rights. Over the years, civil rights, political and economic rights, social and cultural rights which have been effectively implemented, contributed to ensure the rights and interests of the people. In addition to the achievements that have been reached, there are still some issues that need to be settled. In theoretical terms, our Party always affirms that Marxism-Leninism is the ideological foundation and guideline for action, so the research and clarification of the concept of human rights as well as the ideology application should be clarified, thereby affirming the value and sustainable survival of those ideas. In practical terms, the assurance and implementation of human rights still have violations, foreign hostile forces colluded with reactionary in the country to make misrepresentations about the human rights situation in our country in order to serve their schemes. In our country, freedoms and equal rights are considered as basic human rights which is a condition and a prerequisite for the execution of other rights.

The Vietnamese government has given the consistent viewpoint on human rights issues. In the book "Protection and Promotion of Human Rights in Vietnam" (White Paper on Human Rights 2018), the State of Vietnam stated that human rights are reflected in the following aspects: "Firstly, human rights are the aspirations and common values of all mankind. Human rights are universal but when applied, it should be appropriate to the characteristics of nations and peoples, etc. Secondly, sovereignty, human right and self-determination have a close and unifying relationship, etc. Thirdly, human rights are the unity between the rights and obligations of each individual, between the individual’s rights and interests and the community’s rights and interests, etc. Fourthly, human rights are closely related to peace, security and development, etc. Fifthly, ensuring and promoting human rights is first of all the responsibility and authority of each country” [2, page 7-8].

Human rights are a historical category which is influenced by the historical context and always moving along with the development of history. Therefore, in the current context, assurance of human rights also needs some appropriate adjustments. In the context of deep globalization and international integration, Vietnam cannot integrate internationally on human rights, we must "Vietnamize" for the international views and laws on human rights that are suitable with our country's conditions in order to ensure the people's legitimate rights and interests as well as suitable with the new situation.

1.2. Cultural rights are a category of human rights

Cultural rights are a category of human rights that ensures no discrimination for all people, they can freely access, participate and contribute to cultural life [6]. Article 27 of the Universal Declaration of Human Rights (UDHR) stated that “everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits”. Article 27 of the International Covenant on Civil and Political Rights (ICCPR) also stated: In those States in which ethnic, religious or linguistic minorities exist, persons belonging to such minorities shall not be denied the right in community with the other members of their group, to enjoy their own culture, to profess and practice their own religion, or to use their own language. Regarding aspects of cultural rights, the 1966 Convention on Economic, Cultural and Social Rights (CESCR) has been concretized in Articles 13, 14 and 15. Accordingly, the cultural rights of people generally include [8]:

- The right of each individual to participate in cultural life;
- The right of each individual to enjoy the benefits of scientific progress and its applications;
- The right to enjoy the protection of moral and material interests derived from artistic, literary and scientific products of which the beneficiary is the author; be respected and acknowledged for customs, practices, histories, or cultural differences;
- Freedom in the creative activity of scientific research.

Particularly for ethnic minorities, Article 2 of the 1992 Declaration on the Rights of Persons belonging to ethnic, racial, religious and linguistic minorities: Persons belonging to national or ethnic, religious and linguistic minorities (hereinafter referred to as persons belonging to minorities) have the right to enjoy their own culture, to profess and practise their own religion, and to use their own language, (hereinafter referred to as persons belonging to minorities) have the right [9]:

- Enjoy the culture in individually or collectively form, freely and without interference or discrimination of any kind;
- Actively participate in cultural, religious, social, economic and community life;
- Participate effectively in decisions at the national level and, where appropriate, at the regional level when it comes to the minorities of which they are members or to the regions where they live in a manner not contrary to national law.

Convention on the Protection and Promotion of the Diversity of Cultural Expressions of General Conference of The United Nations Educational, Scientific and Cultural Organization affirms that "cultural diversity is developing strongly in environment of freedom, justice and democracy and mutual respect among peoples and cultures, which are integral to peace and security at the local, national and international levels” and “Emphasizing the importance of cultural diversity for the full implementation of human rights and fundamental freedoms enshrined in the Universal Declaration of Human Rights as well as in internationally recognized instruments received globally” [14, page 1].

Assurance and promotion of the implementation of human rights by ethnic minorities is also a common obligation of States. However, starting the unique characteristics of ethnic minorities, assurance of the rights of this group also requires appropriate policies, taking into account the factors associated with ethnic minorities. The Committee on Economic, Cultural and Social Rights in its Joint Statement 21 also affirmed: Ethnic minorities as well as those belonging to ethnic minorities not only have their own identity rights but also the right to development in all areas of cultural life. Any program aimed at promoting the constructive integration of minorities and persons belonging to minorities into the general society of a Member State should be based on inclusion, participation and non-discrimination in order to preserve the distinctive identity of minority cultures [7].

2. Method

To carry out this research, on theoretical term, the author has based on the viewpoint of Marxism - Leninism, Ho Chi Minh's thought, the view of the Communist Party of Vietnam on culture and based on the provisions of Vietnamese law on human rights and citizenship. Regarding the scientific research method, the author uses the method of scientific inheritance from the authors who have studied before; method of synthesizing and analyzing information and data to give an objective view on the issue of ensuring the cultural rights of ethnic minorities in Vietnam - an important basis for realizing equality among ethnic groups.

3. Result

Vietnam is a unified country with 54 ethnic groups. As of April 1, 2019, the population of 53 ethnic minorities is 14.1 million people, accounting for 14.7% of the total population of the country [13], concentrated mainly in mountainous areas, especially in the Northwest, Central Highlands and Southwest regions. The ethnic groups of Vietnam have a tradition of solidarity and support in the struggle against foreign invaders, nature disaster and the country development. Each ethnic group has its own cultural identity, creating the diversity and richness of the unified Vietnamese culture.

The 2013 Constitution in Article 5 stated: “The Socialist Republic of Vietnam is a unified nation of all ethnicities living together in the country of Vietnam. All the ethnicities are equal and unite with, respect and assist one another for mutual development; all acts of discrimination against and division of the ethnicities are prohibited. The national language is Vietnamese. Every ethnic group has the right to use its own spoken and written language to preserve its own identity and to promote its fine customs, practices, traditions and culture. The State shall implement a policy of comprehensive development and create the conditions for the minority ethnicities to fully utilize their internal strengths and develop together with the country. In addition, to ensure the rights of ethnic minorities, Article 42 of the 2013 Constitution also stated: “A citizen has the right to determine his or her ethnicity, use his or her mother tongue and choose his or her language of communication." At the same time, it also affirms: “Everyone is equal before the law. No one shall be discriminated against in political, civil, economic, cultural and social life”.[3] This principle has also been reflected throughout the entire legal system of Vietnam, institutionalized and concretized in legal documents such as the Law on Election of Deputies to the National Assembly and Deputies to People's Councils; Criminal Procedure Code; Civil Code; Civil Procedure Code; Labor Law; Education Law; Law on Protection of People's Health; Law on Compensation Liability of the State and many other legal documents, etc. [2, page 43-44).

As for ensuring the cultural rights of ethnic minorities, Vietnam has also paid special attention to better ensure the cultural rights of ethnic minorities in the Vietnamese territory, this is shown in the contents:

3.1. The right to prioritize cultural development of ethnic minorities

The cultural rights of ethnic minorities are reflected throughout in the Party's viewpoints and policies and the State laws. The Platform for National Construction in the Transitional Period to Socialism" in 1991 affirms that "respect for the interests, traditions, culture, languages, customs and beliefs of the peoples, opposing the people's large and narrow ethnic groups, discrimination and separation of the nation" [15]; The provisions of the 2013 Constitution (Articles 5, 42) as mentioned above also reaffirm that viewpoint.

With the policy of building a unified and diverse culture in the community of ethnic minorities in Vietnam, in which priority is given to the development of ethnic minority culture along with Socio-economic development, social security assurance, hunger eradication and poverty reduction, the preservation and promotion of ethnic minority culture are both urgent and strategic tasks to be performed for long-term. The Government has approved policies and schedules to effectively preserve, promote and develop ethnic minority cultural values. On September 15, 2020, the Prime Minister issued Decision No. 1409/QD-TTg on the issuance of a plan to implement Resolution No. 120/2020/QH14 dated June 19, 2020 of the National Assembly on approval of investment policy of the National Target Program on socio-economic development in ethnic minority and mountainous areas for the period of 2021-2030, in which the cultural sector emphasizes the focus on preserving and promoting traditional culture values of ethnic minorities associated with tourism development and special attention to investment in the development of ethnic groups still face many difficulties. Enhancing the quality of the movement " All people unite to build cultural life ". Thereby propagating and mobilizing for ethnic groups in the Vietnamese ethnic community to understand each other, get close to each other, support and develop the economy, culture and society to meet the demands and aspirations of the people. Creating conditions for people to participate and promote their mastery role in the construction of a new cultural life, contributing to enhance the level of cultural enjoyment of people in ethnic minority and mountainous areas [16].

3.2. The right to preserve and maintain the cultural identity and to participate in activities of cultural life

According to statistics, there are 62,283 intangible cultural heritages of 63 provinces and cities inventoried, 288 intangible cultural heritages included in the list of national intangible cultural heritages (including 145/288 heritages of ethnic minorities - accounting for more than 50% of the total heritage); 05 heritages in the form of spoken and written language, etc. in the whole country. In the period from 2016 to 2020, there have been 3 special national relics, 8 historical - cultural relics and scenic spots related to the ethnic minorities which are ranked national heritage; There are 126 intangible cultural heritages, 276 elite artisans who are ethnic minorities [15].

The right to preserve and develop ethnic minority culture is considered a special right with important significance for ethnic minorities and has been regulated in many different documents. Article 41, Article 42 of the 2013 Constitution stipulates: “Everyone has the right to enjoy and access cultural values, participate in cultural life, and use cultural facilities; Citizens have the right to identify their ethnicity, use their mother tongue, and choose a language of communication. To ensure this right, our State not only promulgates specialized legal documents as a solid legal basis for the rights execution but also develops the policies and projects on cultural preservation and development such as: Project on preserving and developing culture of Vietnam's ethnic minorities until 2020 according to Decision No. 1270/QD-TTg or the regulations of the Ministry of Education and Training on promulgating the ethnic minority languages teaching framework for children and civil servants working in ethnic minority areas; preserving and maintaining the traditional costumes of Vietnam's ethnic minorities in the current period [1], etc.

3.3. The right to use and popularize one's own language and choice of language for communication

In the civil rights stated in the 2013 Constitution, the right to use and access a language is mentioned in Article 42 as follows: “A citizen has the right to determine his or her ethnicity, use his or her mother tongue and choose his or her language of communication” [12].

Article 5 of the 2013 Constitution clearly stated: "Ethnic groups have the right to use their own language and script, preserve their national identity, and promote their fine customs, practices, traditions and culture";

The 2005 Education Law stipulates: “The State creates favorable conditions for ethnic minorities to learn their own language and writing in order to preserve and promote their national cultural identity and to help ethnic minority students easily absorb knowledge when studying in schools and other educational institutions”;

The 2014 People's Courts Organization Law stipulates on the spoken and written language used before the People's Court: "The spoken and written language used before the Court is Vietnamese. The Court assurances to proceeding participants the right to use their own language and writing before the People's Court. In this case, an interpreter is required.

Article 21 of the 2013 Cultural Heritage Law also has similar provisions. Then, the Vietnamese Government issued Decree No. 82/2010/ND-CP regulating the teaching and learning of languages and scripts of ethnic minorities in general education institutions and regular education centers through.

3.4. The right to access and enjoy cultural values

The right to enjoy cultural values can be understood as the right to recognize and ensure the demand of feeling and exploiting the values and good social capital created and kept in the community life of an individual or community.

The right to enjoy cultural values was first recognized in our country in a legal document in the 2013 Constitution (Article 41). Accordingly, this right focuses on the aspects of creativity, access and enjoyment of socio-cultural and spiritual values. Specifically, Article 24 of the 2013 Constitution stipulates: “Everyone has the right to freedom of belief and religion, and has the right to follow any religion or to follow no religion. All religions are equal before law. The State shall respect and protect the freedom of belief and religion.

No one may violate the freedom of belief and religion, nor may anyone take advantage of a belief or religion in order to violate the law”; Article 39: “Citizens have the right, as well as the obligation, to learn”; Article 40 of the 2013 Constitution stipulates: “Everyone has the right to conduct scientific or technological research, or literary or artistic creation, and to enjoy the benefits brought about by those activities”; Article 41: “Everyone has the right to enjoy and access cultural values, participate in cultural life, and use cultural facilities”.

Together with creating conditions for ethnic minority cultures to be preserved and promoted, the authorities at all levels have also implemented practical actions for every person to gradually improve and enhance their spiritual and cultural life. At the present, there are more than 90% of households in ethnic minority areas listening to Voice of Vietnam and over 80% of households watching television. Radio and television programs in both Vietnamese and 26 ethnic languages are broadcast to remote villages [5].

In general, it can be seen that people, whether belonging to any ethnic group or Kinh group, are ensured by the State to have equal rights in enjoyment and encouraged to promote cultural values created by themselves or the community. In addition, the State also creates all conditions, both in law and in physical facilities, to ensure this right of the people, including ethnic minorities.

4. Discussion and Conclusion

The achievements in ensuring the cultural development right of ethnic minorities are detailed examples in ensuring and promoting the ethnic minorities' rights in particular and human rights in general in Vietnam which maintains equality among all ethnic groups in the country. In addition to the achieved results, the cultural rights assurance of ethnic minorities and the system of Vietnamese policies and laws on ethnic minorities in general and laws on ethnic minorities' cultural rights in particular. There are still some limitations, such as: an overlap and an inappropriate relationship between regional and community policies, policies for households in general and ethnic policies leading to ineffective policy interventions; The cultural identity of many ethnic groups is facing the risk of being lost and assimilated, especially in poor communities under the impacts of modern socio-economic life, the cultural invasion and religion - belief transformation which has been happening more and more strongly. Many of organization and management regulation of traditional villages associated with cultural communities are broken (or destroyed in the process of development); Although the basic cultural institutions for ethnic minority areas have been invested, they are still poor, especially in the northern mountainous areas and the Central Highlands due to difficult topographical conditions.

The context of globalization and the wave of the fourth industrial revolution that has brought great achievement in socio-economic development is undeniable. However, it also brings challenges and negatives such as the gap between rich and poor; changes of social norms; inverting the social human resource structure, the collision between the indigenous culture and the imported culture is inevitable. Besides, industrialization - modernization and market economy made a strong influence on the cultural identity of ethnic minorities. The above context and practical situation also made a significant impact on ensuring the cultural rights of ethnic minorities. In order to improve the effectiveness of the enforcement of cultural rights of ethnic minorities in Vietnam in the coming time, the author proposes a number of solutions as follows:

Firstly, it is necessary to continue to implement specific cultural policies for ethnic minorities and well implement socio-economic development policies in ethnic minority and mountainous areas; review, adjust and supplement to complete existed policies and study and issue new policies to meet the requirements of developing ethnic regions and ethnic minority work tasks in the new period. Especially with the preservation of ethnic minority cultures, it is necessary to issue a new scheme on preserving and developing the culture of Vietnam's ethnic minorities in the coming period on the basis of inheriting and continuing to implement the key objectives and tasks have been set forth in the Project "Preservation and promotion of culture of Vietnam's ethnic minorities until 2020".

Secondly, it is necessary to prioritize investment in preserving and promoting the traditional performing arts of ethnic minorities; at the same time, effectively, openly and transparently use the state's investment sources with a focus and priority on mountainous areas, border areas, islands, ethnic minority areas and a number of different types of people. Preserve and promote traditional art forms need. Collect, restore and develop some traditional art forms at risk of being lost.

Thirdly, developing policies to encourage research, collection, preservation, transmission and introduction of the intangible cultural heritage of ethnic minority communities; building a contingent of intellectuals, writers and artists among ethnic minorities, adopt policies to encourage them to return to work in the locality. Focusing on training and fostering a contingent of teachers teaching cultural specialties. Adopting policies to discover, foster, employ, treat and honor cadres in the fields of culture and art; respecting talented and virtuous people. Adjusting salary and allowance regimes for those operating in specific arts disciplines.

Fourthly, continuing to implement hunger eradication, poverty reduction, and raising the living standards of ethnic minorities, focusing on people in highland, remote and remote areas is a prerequisite for ethnic minorities to entitle cultural rights. Combining with radio and television coverage programs; strengthening grassroots-oriented cultural, information and propaganda activities; increasing the duration and improve the quality of radio and television programs in ethnic minority languages; doing well in researching, collecting, preserving and promoting good values and traditions in the cultures of the nations. Implementing the universalization of lower secondary education and mountainous education programs, improve the quality and effectiveness of education and training, especially the system of boarding schools for ethnic minorities at all levels.

Fifthly, strengthening bilingual education programs for ethnic minority children and local language training for Kinh teachers in ethnic minority areas, employing more ethnic minority teachers, allowing to use and teach in ethnic minority languages as a medium of instruction in schools, supporting cultural education programs for ethnic minority groups.

Sixthly, promoting education, propaganda to raise awareness for ethnic minorities, overcoming customs and psychological barriers, especially ethnic minorities with difficult conditions about the importance of education access in hunger eradication, poverty reduction and socio-economic development. Developing communication programs appropriate to cultural, gender, age and ethnic factors. Developing effective communication models in the community; expanding and diversifying communication activities to raise awareness of all levels of party committees, authorities and people about education in hunger eradication, poverty reduction and socio-economic development. Strengthening the dissemination of laws and information on ethnic minority policy mechanisms in general and policies related to education for ethnic minority areas in particular.

Seventhly, organizing cultural activities such as festivals, entertainment services, building bookcases, establishing clubs, creating an environment for ethnic minorities to have the opportunity to fully enjoy themselves. cultural rights. Eliminating all outdated customs, associate legal propaganda with criticism of bad habits, ideas that favor men and despise women; uphold and honor the fine traditions of ethnic minorities.

Eighthly, ethnic minorities also need to be proactive in exercising their cultural rights such as actively participating in the process of formulating programs to preserve and develop national cultural traditions; training for the next generations the values of their own nation and building a sense of preserving them in the process of economic development and integration.

The Party and State of Vietnam always identify people as both the goal and the driving force of development; in all socio-economic policies, people are always placed at the center; The assurance and protection of human rights, cultural rights in general, and cultural rights of ethnic minorities in particular are one of the important factors in realizing equality among ethnic groups and for the development of ethnic minorities. sustainable development, contributing to the victory of industrialization and modernization of the country, building socialism in our country according to the goals of democracy, justice and civilization, for the happiness and progress of human./.

5. References

1. Lan Anh (2019), *Approval of Project "Preservation and promotion of the traditional costumes of Vietnam's ethnic minorities in the current period"*, https://bvhttdl.gov.vn/phe-duyet-de-an-bao-ton-phat-huy-trang-phuc-truyen-thong-cac-dan-toc-thieu-so-viet-nam-trong-giai-doan-hien-nay-20190223064433559.htm 2021).
2. Ministry of Foreign Affairs (2018), *Protection and Promotion of Human Rights* in Vietnam, Hanoi.
3. Article 16 of the 2013 Constitution.
4. Hoang Van Hao, Chu Hong Thanh (1998), *International documents on human rights*, National Political Publishing House, Hanoi.
5. Thu Hoa (2018), Assurance of the cultural development rights of ethnic minorities, https://vovworld.vn/vi-VN/binh-luan/dam-bao-quyen-phat-trien-van-hoa-curse people-dan-toc-thieu-so-637012.vov (May 10, 2021).
6. https://minorityrights.org/research-how-to-defend-minority-cultural-rights-by-using-local-laws-in-the-southern-mediterranean-region/ (May 10, 2021).
7. 7.https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/Download.aspx?symbolno=E%2fC.12%2fGC%2f21&Lang=en (May 10, 2021).

8. https://thuvienphapluat.vn/van-ban/Linh-vuc-khac/Cong-uoc-quoc-te-ve-quyen-dan-su-va-chinh-tri-270274.aspx (10/5/) 2021).

9. https://thuvienphapluat.vn/van-ban/Linh-vuc-khac/Tuyen-bo-ve-quyen-cua-nhung-nguoi-thuoc-cac-nhom-thieu-so-ve-dan-toc-chung-toc-ton-giao-1992-275807.aspx (10/5/2021).

10. K.Marx and F.Engels (2004), Part 1, National Political Publishing House, Hanoi.

11. K.Marx and F.Engels (2004), Part 20, National Political Publishing House, Hanoi.

12. Ho Thi Nga (2017), *Language use and access rights of ethnic minorities in Vietnam*, Journal of Human Resources and Social Sciences, No. 6, 2017.

13. Committee for Ethnic Minority Affairs (2020), Press release: Results of the survey to collect information on the socio-economic status of 53 ethnic minorities in 2019,http://www.cema.gov.vn/thong-bao/thong-cao-bao-chi-ket-qua-dieu-tra-thu-thap-thong-tin-ve-thuc-trang-kt-xh-cua-53-dtts-nam-2019.htm (10/5) 2021.

14. UNESCO Office in Vietnam, Convention on the Protection and Promotion of the Diversity of Cultural Expressions 2005.

15. Y Thong (2021), *Ensuring cultural rights of ethnic minorities*, http://www.xaydungdang.org.vn/Home/nhan_quyen/2021/14719/Bao-dam-quyen-van-hoa-cua-cac-dan-toc-thieu-so.aspx (May 10, 2021).

16. Nguyen Thi Hong Yen – Mac Thi Hoai Thuong (2019), *Assurance of ethnic minorities' cultural rights of in Vietnam – Current situation and recommendations*, Journal of Legislative Research No. 20 (396), May October 2019.

PROBLEMS OF ENVIRONMETAL ETHICS IN CONSTRUCTION CULTURAL ENVIRONMENT IN VIETNAM TODAY

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Abstract

Culture plays an important role not only in the formation of human personality, identity, and character of a nation, but today, culture is also considered as one of the important factors determining the strength and position of each nation state. Therefore, it is very necessary to build and develope Vietnamese culture and people, in which building a synchronous cultural environment to meet the requirements of sustainable development of the country. One of the factors contributing to the formation of the cultural environment is ethics, including environmental ethics. The term "environmental ethics" is new to the contemporary world, but ideas about it have existed for a long time in the development history of human society. Up to now, environmental ethics has received more and more attention from research stemming from pressing practical issues, it has become a topic discussed at many scientific conferences and has a certain position in many fields. in the field of science, at the same time, environmental ethics is also an effective measure and method to adjust human perception and behavior in dealing with the natural world. Environmental ethics is to promote the self-discipline, voluntariness and sense of responsibility of people in environmental protection. In order to build a synchronous cultural environment, it is necessary to build environmental ethics, towards the practice of environmental ethics in practice.

Keywords: *Cultural Environment, Environmental ethics, Sustainable development, Vietnam.*

1. Introduction

1.1. Environmental Ethics concept

Discussing the concept of environmental ethics has many different conceptions depending on the approaches of researchers from the perspective of philosophy, sociology and psychology, especially there are many studies on environmental ethics comes from philosophers.

In both the East and the West, there have existed many different views on environmental ethics, reflecting different worldviews and human views, as well as showing different levels of awareness of human society through each historical period. Environmental ethics is also known as environmental ethics or ecological ethics. From the perspective of ecological ethics, the term "ecology" in Greek is "oikos" which means housing, residence and living place of living beings from inorganic to organic, from small to big, from plants, animals to humans. From another perspective, ecology can be expressed as the interrelationship between living organisms and the environment, including the interaction between human society and the entire biosphere. The term environmental ethics appeared in the 60s of the twentieth century, so far around the term "environmental ethics" there is much controversy about its definition as well as its connotations and characteristics.

In the framework of the article, the authors concept : *environmental ethics including perspectives, concepts, principles, standards of work adjustment, assessment, guidance and impaired control the behavior of all voluntary and voluntary social action towards the environment towards sustainable development (sustainability for humans and sustainability for the natural environment).*

Firstly, environmental ethics is the whole set of rules and standards to regulate and evaluate human behavior and behavior with the environment in order to bring benefits, happiness for present and future generations. Not only that, environmental ethics also contribute to sustainable development. Second, through these rules and standards, people adjust their behavior to the environment voluntarily and voluntarily. Third, environmental ethics represents the harmonious relationship between humans and nature. This is a relationship that shows respect and responsibility of people towards the environment. After all, environmental ethics is the expression of people's very high self-consciousness towards the environment, which reflects the conscience, responsibility, goodness, and obligations of people towards the environment. Environmental ethics consists of two components: environmental ethical awareness and environmental ethical behavior..

Environmental ethics is expressed in the consciousness and behavior of people with the environment, which is both mandatory and voluntary. It is mandatory because these standards and rules reflect the demands and requirements of society. These requirements and requirements are not legal, but the scope of impact and adjustment is inevitable and regular through public opinion to evaluate, so any move related to the environment one must also adopt the rules of environmental ethics to act. On the other hand, the environment is not the property of anyone alone, it involves many people, is community and human. Therefore, implementing environmental ethical standards is the responsibility, obligation and conscience of all individuals, organizations and social subjects. It is voluntary because individuals and communities implement rules and standards for the environment motivated by conscience, self-consciousness and goodwill towards the environment, not because of a commitment. legally required. They are aware of the need to protect the environment for their own life, for their own benefit, so they act, and even feel happy and happy when performing environmentally ethical behaviors.

Thus, environmental ethics consists of two components: environmental ethical consciousness (including: environmental ethical standards, environmental ethical knowledge, environmental ethical sentiments) and environmental ethical behavior.

Environmental ethics has some basic characteristics such as:

Environmental ethics of self-discipline, voluntary very high in humans. In environmental ethics, people voluntarily set forth principles and rules of environmental ethical standards to adjust their behavior within the framework of that principle; that shows compliance with environmental ethics due to the urge of conscience, self-consciousness and they see their responsibility and obligation in environmental protection, and they feel happy when protecting the environment.

Environmental ethics is the expression of human social responsibility towards the environment (environmental responsibility) . Because humans are playing a leading role in the process of exploiting and transforming nature, people have soon become aware of their responsibility in improving nature and protecting the natural environment. Human environmental responsibility towards nature is formed on the basis that people have a sense of environmental ethics and have a sense of environmental rule of law. Human social responsibility towards nature is expressed by people being aware of the consequences caused by their actions to nature and taking responsibility for those consequences.

Thus, there are many forms to protect the environment, however, protecting the environment by ethical means creates the ability to restrain and prevent bad and evil acts, harming nature and society. It also has the ability and motivation to motivate people to fight against acts of destroying resources and polluting the environment.

1.2. Cultural environment concept

In general, the cultural environment is the sum total of all kinds of cultural and spiritual conditions that exist around people and affect human activities. The main factors forming the cultural environment are education, science, economy, art, *morality*, religion, philosophy, national psychology and traditional customs. From a macro perspective, the cultural environment is an integral part of the entire social environment, therefore, it plays a great role in the stability, development and progress of the entire society.

Firstly, the cultural environment has an influence on the formation of value views and the concept of social distribution in a reasonable and humane way, suitable for different classes in society to ensure stability.

Second, the cultural environment affects social stability through human-to-human relations. Society is made up of people. Individuals and families are cells of society. People living in society will of course arise many types of relationships and these relationships to different degrees will affect social stability.

Third, the cultural environment creates opportunities and conditions for cultural enjoyment and education. Besides, enjoying other spiritual values through books, television, music, exhibitions, cultural tourism and ecotourism is also very important. The problem for us today is that in parallel with the expansion of cultural space and environment, it is necessary to pay more attention to the quality of cultural enjoyment, to gradually reduce the gap between rural and urban areas, between fast-growing and slow-growing regions, especially remote and deep-lying areas.

The cultural environment is highly structured in both breadth and depth. That structure can be approached in many different ways such as: dividing into tangible and intangible elements; natural and social factors; existing, completed, selectively inherited elements and elements in the process of arising, forming and developing... The way to divide the cultural environment is only relative. When entering a specific cultural environment, it is necessary to base on the characteristics of the object, objective and subjective conditions to have the correct ways of seeing the cultural environment. In addition, according to the approach to the systematic structure of the cultural environment, it is possible to define the cultural environment with the following five elements: The whole cultural landscape; System of cultural institutions; System of forms of cultural activities; The system of cultural behavioral relations; Cultural people in each community.

The cultural environment is a unified whole, always moving and changing. The elements of the cultural environment have a dialectical relationship with each other, both as a cause and as an effect of each other. People and their cultural behavior are the factors that determine the content, nature and face of the cultural environment. Therefore, building a cultural environment must be carried out synchronously and comprehensively, without neglecting (or omitting) a single factor. At the same time, it is necessary to pay attention to the important factors so that appropriate solutions can be taken to protect and build a healthy, civilized and humane cultural environment in each locality and production unit. This is a matter of great significance both in theory and practice in order to promote social development, especially in the renovation process in our country today.

1.3. Literature reviews

There are many papers on ecological ethics. Some typical papers such as *"Some theoretical issues about environmental ethics"* by Vu Dung. Directly related to ecological ethics is the article *"On environmental ethics"* by Ho Si Quy. The Japanese researcher Tomnobu Imamichi has the article *"The concept of ecological ethics and the development of ethics ideology"*, the translator Nguyen Thi Lan Huong.

The research paper has focused on clarifying the concept of environmental ethics, the constituent elements of environmental ethics, the factors affecting the environmental ethics in general. Although there are still different notions about the concept of environmental ethics, these works are generally united in the assumption that environmental ethics is formed in the process of human impact on nature, it is a system of views, concepts, thoughts, feelings, principles, rules, norms ... regulating and adjusting human behavior in the process of natural gender transformation to serve the human life, ensuring the development of both human beings and the natural world.

Recently, researching on environmental ethics in students has attracted more attention of researchers, including the National Conference on *"Environmental Education in Schools"*, Research Center Natural Resources and Environment with Hanoi National University to coordinate implementation; In particular, in 2009, the National Political Publishing House published a monograph *"Ecological Ethics and Ecological Ethical Education"* by Vu Trong Dung. More concretely, some works focused on studying the ethical education in specific scope and subjects such as: master's thesis in Philosophy *"Environmental ethical education for students of Resource and Environment College of Central in current"*(2014) by Mai Thi Thu Hang;

In the above works, the authors also assessed the situation, analyzed achievements, limitations in environmental ethics of students in Vietnam today. With evidence of serious environmental degradation in many urban areas, cities, craft villages, rivers, and coastal areas, the authors have shown weaknesses in environmental ethics and environmental ethical education in schools. The solutions to improve environmental ethics proposed by the authors are quite comprehensive and feasible; based on relatively focused theoretical research, based on fairly comprehensive assessments and international experience references ... The above mentioned environmental ethical researches achievements have the scope of research at the social level, national level. Only in certain specific cases, ecological ethics in schools were mentioned as an example.

In the social sciences in Vietnam, researches on the cultural environment, and the cultural environment in Vietnam are still very limited at present. Some of these studies include: Author Nguyen Thi Huong with the article *"Building a cultural environment to develop culture and people for sustainable development of the country"* published in the Journal of Political Theory The article has outlined the orientations of the Communist Party of Vietnam on building a cultural environment through congresses. At the same time, the author also believes that: "Cultural environment is the living totality of tangible and intangible cultural factors that surround people in a definite space and time, those factors affect each other and have an interactive relationship with people, in order to develop and promote the role of human being both as a product and as a cultural subject. (Nguyen Thi Huong, 2016). The article has pointed out the content of the task of building a cultural environment in Vietnam today, including: building a synchronous cultural environment, associated with a specific value system and standards; building cultural life; building a system of cultural institutions and cultural landscapes in association with improving the quality and efficiency of activities of cultural institutions; create conditions for people to actively organize community cultural activities. Article *On the current cultural and cultural environment in Vietnam*, author Ho Si Quy. The article has an interesting way of posing the problem when comparing the concept of social environment and cultural environment. According to the author, compared with the concept of social environment, the concept of cultural environment is often used with a less defined meaning, with the outside being the whole of human life and the connotation being the cultural aspect, or the aspect of social environment. cultural; That is, it is almost identical to the concept of social environment in terms of scope, differing only in the aspect of considering culture, but not in other respects. Very rarely the cultural environment is understood to consist of purely cultural activities. The article also analyzes the cultural environment of Vietnam in terms of: ideology - theory; Socioeconomic; social spiritual life and affirmation: never before has the cultural environment in Vietnam been so rich and varied, dynamic and positive, encouraging and tempting, with many opportunities and challenges... like nowadays.

2. Method

The article is based on the theoretical basis of Marxism-Leninism, Ho Chi Minh's thought, viewpoints and lines of the Communist Party of Vietnam, policies and laws of the State of Vietnam on environmental ethics, cultural environment and related issues. Selectively acquire research results published by scientists on environmental ethics, cultural environment. To study the topic, the authors base themselves on the actual achievements and limitations and inadequacies in implementing environmental ethics, cultural environment in Vietnam through 35 years of renovation.

The research is based on the methodology of Marxism-Leninism and Ho Chi Minh's thought to deploy research tasks. Focus on using interdisciplinary methods of social sciences and humanities. Using a combination of methods: History, logic, combining history with logic, analysis, synthesis, comparison, forecasting... These specific research methods are used flexibly and appropriately to have a analyzes, comments and assessments on the issue that the Communist Party of Vietnam continues to promote environmental ethics on constructing cultural environment on sustainable national development.

3. Results

3.1. The relationship between environmental ethics and building cultural environment

Environmental ethics contributes to the formation of a new cultural lifestyle

In the process of national construction and development, we are not only interested in economic development, transforming nature to suit the purposes and aspirations of people, but we also have to renovate and build lifestyle for people towards human values, that is to build a lifestyle, a cultural way of life to behave with the natural environment, towards practicing environmental ethics. In the production process, people create material and spiritual values that not only satisfy people's needs in daily life and consumption, but also create for people to live in harmony, attachment, and friendliness towards nature, towards Truthfulness, Compassion and Beauty through the process of perception and human behavior towards nature.

The Resolution of the 5th Conference of the Central Committee of the Communist Party of Vietnam (Term VIII) in 1998 emphasized the requirements of building a new Vietnamese person: a healthy lifestyle, a civilized lifestyle, thrift, honesty, humanity, respect for rules and regulations, community conventions, and a sense of environment protection and improvement (Communist Party of Vietnam, 1998) . By 2014, in the Resolution of the 9th Central Committee of the XI session on building Vietnamese human culture to meet the country's sustainable development requirements, it continued to emphasize: We can easily accept a new civilization, but it is not easy to build a new cultural lifestyle; new people need to have a new civilized and modern way of life, always loving and attached to nature, then environmental ethics will turn into a habit, a new civilized and modern way of life, always loving and attached to nature, then the culture of friendly behavior with the natural environment becomes a good habit, become a human way of life, an inevitable human behavior. Improving the culture of dealing with the natural environment is also a cultural revolution - the culture of dealing with the natural environment. Improve environmental ethics, improve the culture of dealing with the natural environment and form an environmentally friendly cultural lifestyle is an urgent need in the current period and an indispensable need, the driving force of development, contribute to building a synchronous cultural environment in Vietnam.

Environmental ethics contributes to promoting socio-economic development

In the process of man's impact on nature to create material and spiritual values for society, man needs to consciously control the relationship between man and nature. understand the laws of nature and be able to apply those laws correctly in practical activities, especially activities that produce material wealth for society. Currently, humans are affecting nature in a stronger and faster way, polluting the environment, even destroying the environment. Therefore, it is necessary to build environmental ethics to contribute to the promotion of socio-economic development, when everyone living in society consciously obeys the requirements of natural laws, they will achieve with high efficiency in economic activities, labor productivity and real income of the society will constantly increase, making an important contribution to promoting the country's economic growth. From there, society will invest back into production such as purchasing more production materials, applying modern science and technology to production, improving the professional qualifications of workers, etc. It is important to stimulate social production to develop in both breadth and depth. As a result, the social production is more and more stable and sustainable.

In the relationship between man and nature, man needs to live in real harmony with nature, *"according to nature"*, which does not stop at the fact that man must obey the requirements of the laws but also in the fact that humans have to respond promptly and appropriately to erratic changes of natural conditions such as storms, earthquakes, tsunamis. Nowadays, with the development of science and technology, people have accurate predictions about the change of natural conditions, through which people will actively and actively prevent natural mutations in the direction of minimizing their harmful effects on people and the economy - society, thus, the economy - society society will have conditions to develop more and more.

At the same time, in economic activities, there must be a harmonious and balanced combination between economic efficiency and environmental efficiency, production is developed but the environment is not polluted, natural resources are not exhausted. ensure the survival and development of both humans and nature. There must be a close combination between economic development and environmental protection, in order to maintain the existence of people and nature. In order to survive, people still have to develop production, but are only allowed to develop it within the limits of nature's tolerance for the survival of nature itself, so that the capital of natural resources is used effectively and long lasting. The rational exploitation of natural resources will create good conditions for production development and promote socio-economic development.

In economic activities, people not only use products available from nature, rationally exploit natural resources, but also have to find ways to reproduce the natural resources that have been consumed, regenerate the exploited resources to the extent possible to restore the necessary and indispensable resources in their practice, creating conditions for a continuously reproduced social production and expanding, contributing to maintaining the economic growth rate of the society in a sustainable way. At the same time, the restoration of natural resources also has the effect of protecting and improving the quality of the living environment, helping society to maintain ecological balance, ensuring the existence of all natural resources. species in the natural environment according to its laws of survival and extinction. Thus, environmental ethical practices will make an important contribution to the protection and improvement of the quality of factors of production in society, creating a driving force to promote socio-economic development more and more stably and sustainably, so that life gets better and better, satisfy the material and spiritual needs of people in a healthy natural environment.

Building a cultural environment is a premise for building a harmonious relationship between people and nature

The cultural environment is a product of human society, and in each different community, different cultural environments will be established. In turn, those cultural environments have the power to absorb, sensitize and educate people, turning biological people into social people with typical qualities. Thereby, it will create people who not only know how to evaluate their perceptions and behaviors according to the criteria of what is right, good and beautiful, but more importantly, awaken in them the values of life, the reason for living, the joy of living in harmony between the social environment and the natural environment. Further, forming in people and social subjects a positive life attitude, fighting against actions that destroy the environment and resources, shaping a green lifestyle and green consumption. To build a healthy socio-cultural environment, it is necessary to pay attention to the harmonious development between people and people and the harmony between people and nature. Building the current cultural environment in Vietnam by people and for people, towards values for the community, and at the same time must be directed to each specific person, towards human liberation and human potential. Through building a harmonious relationship between people and people, it will create a social foundation to establish a harmonious relationship between people and nature. Therefore, in order to build environmental ethics, it is necessary to pay attention to policy mechanisms to create sustainable development.

3.2. Environmental ethics in building the cultural environment in Vietnam today

The XIII Congress of the Communist Party of Vietnam (2021) affirmed that awareness of environmental protection has been raised, the State has issued many policies and increased investment in this field. However, besides the achieved results, the Document of the XIII Congress also frankly looked at the weaknesses such as: "Legal awareness on management, economical and efficient use of natural resources, environmental protection. environment, adaptation to climate change is still low… Environmental quality in some places continues to deteriorate; adaptation to climate change is still passive and confusing. Natural ecosystems and biodiversity continue to decline, industry and environmental services, waste recycling, and waste treatment are underdeveloped and backward" (Communist Party of Vietnam, 2021). Currently, environmental ethics is in decline. The violation of legal regulations on environmental protection in organizations, individuals and business entities is taking place very complicatedly. The lack of consciousness also manifests in daily activities such as littering, wasteful use of resources, etc.

Despite being an agricultural country in the process of industrialization and modernization, with the goal of 2045 celebrating the 100th anniversary of the country's founding, becoming a high-income developed country with socialist orientation, Vietnam is also facing many serious environmental problems. With a population of nearly 100 million people, it poses serious problems on people's livelihood, improving living standards, increasing income and environmental protection. Currently, ecological hazards in our country under the impact of industrialization, modernization, climate change, especially the contradiction between development and backwardness, due to the heavy influence of unfinished smallholder farmers' thinking and habits.

Our country's nature, besides being affected by the effects of wars in the past, is now also destroyed by unconscious activities, arbitrary irresponsible attitudes, lack of planning in the exploitation and use of natural resources. natural resources. According to statistics before 1945, forest coverage accounted for 43.8%, now only more than 28% (ie below the alarming level of 30%). The area of arable land that is being eroded has increased sharply to about 13.4 million hectares (Tran Nguyen Tuyen, 2021). The main cause of this situation is shifting cultivation, illegal logging, traffic expansion, hydropower construction... not according to the unified planning. The problem of unreasonable land use planning is wasting this valuable resource of the country. Increasing ecological pollution is a difficult problem today. Many factories discharge industrial and domestic waste, toxic substances from the production process that are not treated seriously, but put directly into the environment. causing environmental pollution, causing diseases to people. According to statistics of the Ministry of Natural Resources and Environment, the country now has more than 5,400 craft villages, Hanoi alone has more than 1350 craft villages, but 95% of production activities pollute the environment, more than 50% cause serious pollution. important (Tran Nguyen Tuyen, 2021). These are small-scale enterprises and production facilities, with generally outdated technology, and have not invested properly in the treatment of environmental pollution and waste.

The problem of polluted wastewater management is more complicated and difficult. According to environmental experts, most rivers and most lakes in Hanoi and some urban areas are heavily polluted. Every year, millions of cubic meters of untreated water are poured into rivers such as To Lich River, Set River, Nhue River, Kim Nguu River, Lu River, etc. According to the Ministry of Natural Resources and Environment, the country currently has 615 industrial clusters, but only about 5% have centralized wastewater treatment systems, nearly 300 industrial parks with a discharge volume of over 2 million m3/day, but there are up to 70% of wastewater has not been thoroughly treated, 23% of FDI enterprises discharge discharges exceeding the allowed standards by 5-12%. According to statistics, every year, the country has about 9,000 deaths and over 200,000 cancer cases detected due to the use of polluted water (Nguyen The Trung, 2019). Along with waste and wastewater, the problem of emissions is also very serious. At the beginning of March 2019, the Green Innovation Development Center (GreenID) of the Vietnam Union of Science and Technology Associations announced the report of Greenpeace organization "On the current state of global air quality in 2018". . According to this report, Hanoi ranks second, Ho Chi Minh City ranks 15th in terms of air pollution in Southeast Asia. According to the Pollution Control Department under the General Department of Environment, Vietnam has about 43 million motorbikes and more than 2 million cars in circulation, mainly using fossil fuels such as diesel and gasoline, which is a major source of smoke and dust, toxic gases into the air (Nguyen The Trung, 2019).

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The concentration of dust in urban areas exceeds many times the allowable norm. The concentration of CO_2 emissions, especially in big cities and industrial zones, exceeds the allowable standards by 1.5 to 2.5 times. In addition, noise pollution is also a problem for residential areas (Tran Nguyen Tuyen, 2021). Besides, the issue of mining, building materials, gold and gems... official and free has also been destroying the ecological environment. The use of mines in many fields is disrupting the balance of the ecological environment. According to many international experts, Vietnam is currently facing many serious environmental problems such as deforestation, soil erosion, over-exploitation of coastal resources threatening ecosystems, biodiversity and genetic depletion. This deterioration in environmental ethics and environmental status is posing hot issues and challenges for Vietnam's rapid and sustainable development in the coming time.

There are many reasons leading to the above-mentioned violations of environmental ethics :

Objective reasons

Vietnam is a country that has to go through fierce and prolonged wars. Currently, it has not escaped from the status of an outdated agricultural economy, the concentration of capital, human resources and technology for the task of protecting environment is still difficult.

The downside of the market economy is a factor leading to the deterioration of environmental quality. Starting from putting the interests first, especially economic interests, the market economy has created a strong stimulus for people in exploiting natural resources.

People's awareness of environmental protection is not high and there has not been a positive change from a small-scale ecological cultural lifestyle to a new ecological cultural lifestyle. Traditional environmental ethics has many positive aspects but still has negative aspects and is not suitable for the new development conditions of Vietnamese society.

Subjective reasons

Due to inadequate awareness of natural laws and people's awareness of environmental protection is still limited. The awareness of the environment and environmental protection of the people in general and the leaders and state managers in particular is still low, not meeting the development requirements of modern society. People's awareness of environmental ethics is still at the emotional level, not yet entering into the lifestyle and lifestyle to become the habits and customs of the majority of the people.

Awareness of environmental sanitation is too low, indiscriminate living habits in some rural areas are also big problems causing environmental pollution and diseases affecting human health.

There are many shortcomings in the enforcement of sanctions and the implementation of the environmental protection function by some relevant agencies. The legal system is not yet complete. The enforcement of the law on environmental protection in the past time has been weak, there have not been strong enough economic, legal and administrative measures to guide and adjust human activities in the direction of "environmentally friendly".

The Party's view of sustainable development has not been recognized, absorbed and respected. Many leaders of ministries, branches, provinces and cities still consider economic development the number one priority. Economic development first, environmental pollution treatment later, while pollution prevention and control is one of the basic principles of environmental protection activities. This ideology has led to the compromise of environmental goals in order to obtain economic benefits.

4. Discussion and Conclusion

4.1. Some solutions to build environmental ethics towards building a synchronous cultural environment in Vietnam

In order to protect environmental resources and sustainable development of the country, it is necessary to promote the construction of a cultural environment and a cultural lifestyle through promoting the roles of three actors: the State, people and businesses, thereby contributing to building successful environmental ethics in Vietnam.

First, the role of the State in building a cultural environment, a cultural lifestyle creates a premise for successful environmental ethics building.

In order to build environmental ethics, it is necessary to promote the role of the State as the subject of policy-making, legislation and management of environmental resources. To do this, the State needs to take the following solutions:

The State through functional agencies should have a specific and effective management mechanism for the cultural lifestyle of the people. The State, through the functional agencies, should have specific regulations and sanctions capable of deterring in order to create a habit of civilized behavior towards the environment. It is necessary to combine laws with customary laws and conventions in natural resource management in general and forest management in particular. Developing environmental protection criteria to create a basis for consideration and recognition of cultural villages, communes and families. Rewarding and commend activities and good examples in environmental protection towards sustainable development.

The State should issue specific regulations to prevent and avoid wasteful and inefficient use of natural resources and the environment. Natural resources and the environment are the assets of the nation, closely related to the survival and development of many generations of Vietnamese people, so the State needs to publicly announce the expenditures of the budget. State (except for secrets related to national defense and security), especially public investment, publicize projects and plannings related to natural resources and the environment. The fact shows that the publicity and transparency associated with the accountability of the state apparatus are very important to overcome the thinking of tenure and group interests in the formation of mechanisms and policies, in the land use or regulation, in public investment and in the use of public assets in relation to natural resources and the environment. To bring about long-term effectiveness, fight waste and effectively use natural resources, it is necessary to change the mindset of people and the whole society towards this evil. Society should consider the waste of natural resources as a social evil, a manifestation of moral degradation and consider this a "national evil".

In order to build environmental ethics, it is necessary to supplement environmental ethics criteria for the contingent of cadres and civil servants. The current cadres, in addition to professional knowledge, must also have a level of awareness about natural resources and the environment, self-discipline in the implementation of environmental ethical behaviors, and persuading people to protect the environment. environment. At the same time, the state needs to have an effective mechanism to prevent group interests between enterprises and state officials in violating regulations on environmental protection.

The State through agencies and departments mobilizes people, businesses, production and business establishments to change their production methods towards sustainability.

Second, the role of people in building environmental ethics.

Building a cultural lifestyle of the community contributes to building environmental ethics. In order to build a cultural lifestyle, it is necessary to selectively inherit the good values of the tradition and at the same time absorb the cultural lifestyle of humanity to contribute to building environmental ethics. The restoration and development of a lifestyle in harmony with nature contributes to repelling pragmatic conceptions of life, pursuing material benefits at the expense of nature. When we care about building a cultural lifestyle, people will pay more attention to the community. That "on the one hand, demonstrates intergenerational justice, the responsibility of the present generation to future generations; On the other hand, it shows the cultural and ethical behavior of the previous generation towards future generations (Pham Van Duc, 2015).

In order to build environmental ethics, each citizen needs to well deal with the relationship between material needs and spiritual needs, between material values and spiritual values. In human life, material life and spiritual life always have a dialectical relationship with each other. Therefore, each of us should know how to harmoniously combine both material life and spiritual life between the interests of humans and the interests of nature, the interests of present and future generations. In order to build environmental ethics, it is necessary to build a movement to save material consumption while promoting spiritual values. "When people pay more attention to the meaning of life, to human morality, to the categories of right, love and responsibility, passion for needs and material comfort will certainly be pushed back and overcome" (Tran Van Binh, 2011).

To build environmental ethics, it is necessary to promote the positive, proactive and creative spirit of each individual and group in environmental protection. Each citizen by specific work can participate in environmental protection propaganda activities, show responsibility for environmental protection such as: helping environmental protection organizations, participating in public activities. , through the mass media and public opinion to fight against the phenomena of violating environmental ethics and overcome.

Third, promote the role of enterprises (production and business establishments) in building environmental ethics. In order to successfully build environmental ethics, promoting the active role of enterprises and production and business establishments is an indispensable requirement, therefore, businesses need to:

Enterprises need to pay attention to cleaner production. The goal of cleaner production is to avoid pollution by using resources, materials and energy in the most efficient and economical way. Cleaner production includes the reduction of negative effects from production, distribution, exchange and consumption associated with the design to dispose of the product. Cleaner production associated with the environmental responsibility of the enterprise is reflected in the specific strategies and activities of the enterprise in which the interests of customers are associated with environmental benefits.

Build organizational culture. Currently, with the trend of globalization and international integration deepening, businesses are facing great opportunities as well as challenges that require improving their competitiveness. through business strategy, technology, productivity, quality... To do this, each enterprise has been and is not only interested in building business ethics. but also build environmental ethics associated with corporate culture. Building corporate culture associated with building environmentally friendly production methods to create quality products that contribute to improving corporate profits.

Implement environmental responsibility associated with protecting customers' interests. Success and business benefits are tied to customers. Ethical and environmental behavior of enterprises reflected in product quality and service attitude can attract customers to products of enterprises. and create trust and motivation for businesses to affirm their brand value through environmental ethics. Thus, when an enterprise implements environmental ethics well, it is the basis for affirming its environmental responsibility to the community. Implementing environmental responsibility is demonstrating business ethics that build the trust of partners, customers and consumers in the business.

Developing and harmonizing strategies of business ethics and environmental ethics in accordance with the development goals of the enterprise. The development of strategies, business ethical standards, and environmental ethics need to be concretized into specific business models and strategies: corporate logo, ethical criteria in business, business strategy Business associated with community benefits through the implementation of social responsibility, through environmental protection should be given importance from the very beginning associated with the process of business formation and development. In order to implement a business ethics strategy associated with environmental ethics, it is necessary to strengthen the dissemination and education of business ethics for employees in the company and group so that they are properly and fully aware of the legal regulations, responsibilities as well as business ethics.

4.2. Conclusion

Environmental ethics including views, concepts, principles, standards of work adjustment, assess, guide and control the behavior of social actors on the environment in a self-conscious, voluntary towards sustainable development (sustainability for people and sustainability for the natural environment). Environmental ethics requires a very high self-discipline in people, demonstrating human social responsibility for the environment (environmental responsibility).

Environmental ethics has a great role in environmental protection and sustainable development of the country . In the current conditions with the impact of social conditions, people still violate environmental ethics, so it is necessary to build environmental ethics. Building environmental ethics in Vietnam today is the process by which social actors with certain roles and positions come up with ways to build unified environmental ethics based on environmental ethical standards in order to forming and perfecting in each citizen the awareness and ethical behavior of the environment on the basis of the current socio-economic conditions in Vietnam today.

5. References

1. Communist Party of Vietnam (1998), *Documents of the Fifth Conference of the Central Committee, term VIII* , National Political Publishing House, Hanoi, p.166

2. Communist Party of Vietnam (2021), *Document of the 13th National Congress of Deputies,* volume 1, Publishing House. National Politics Truth, Hanoi, p.86.87

3. Nguyen The Trung http://hdll.vn/en/nghien-cuu---trao-doi/o-nhiem-moi-truong---thuc-trang-va-giai-phap.html

4. Tran Nguyen Tuyen http://hdll.vn/en/nghien-cuu---trao-doi/mot-so-van-de-ve-moi-truong-o-viet-nam-hien-nay- -thuc-trang-va-gia-phap.html

5. Pham Van Duc (2015), “Sustainable development and the role of social sciences in sustainable development in Vietnam”, Vietnam *Journal of Social Sciences,* (2), p.11

6. Tran Van Binh (2011), *Building culture, morality and lifestyle of Vietnamese people,* Publishing House. People's Army, Hanoi, p.318

THE ROLE OF THE SOFT POWER OF VIETNAMESE CULTURE IN THE DEVELOPMENT OF THE COUNTRY

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Abstract

In the current context of integration and globalization, the soft power of culture plays a particularly important role in creating the position and influence of each nation. Vietnam is a country with many attractive cultural resources to become a soft power. On the basis of outlining the content of soft power of Vietnamese culture, the article analyzes and clarifies the role of soft power of Vietnamese culture in the development of the country. This role is reflected in the following basic contents: The soft power of Vietnamese culture is the spiritual foundation for the development of the country; Favorable conditions are created for international integration to develop the country; the soft power of Vietnamese culture combines with the hard power of Vietnam to develop the country, promoting the country's rapid and sustainable development.

Keywords: *Culture, development, soft power.*

1. Introduction

In 2002, J.Nye, an American researcher published a book titled *The Paradox of American Power: Why the world's Only Superpower Can't Go It Alone*, in which he introduced the concept of soft power. He believes that a country can achieve the results it wants in international political relations, because other countries want to follow them, follow their values, learn and follow the model. their own, hoping to achieve the same level of prosperity and openness as theirs [2, p.154]. From above this meaning can be understood that, in international political relations, through institutions, policies and culture to attract others. That is soft power. That is, soft power is opposite, in contrast to "hard" power - which is coercion by military power, economic power, etc. Soft power is power through attraction, not attraction, not by violence or coercion to force other people or other nation to follow them. Culture is a very broad concept and has many different approaches. But it can be agreed that culture is material and spiritual values created by humans. Thus, it can be understood that the soft power of culture is the cultural values of a nation, which have the power to attract other peoples and cultures of other peoples by oneself, not by way of "assimilation", "coercion", "forced" of the culture of another nation. In the current international integration conditions, promoting the soft power role of Vietnamese culture to develop the country is a matter of great theoretical and practical significance.

2. Method

The author applies the interdisciplinary approach of cultural philosophy, combined with the method of comparison and contrast to explain the soft power of culture in comparison with the hard power and the soft power role of Vietnamese culture for the development of the country.

3. Results

3.1. Soft power of Vietnamese culture

As we all know, the strength of culture is one of the basic components constituting the soft power of a country. It is the values of Vietnamese culture such as the tradition of patriotism, love of peace, the spirit of solidarity, tolerance, altruism, the spirit of peace, the importance of humanity, diligence, love of labor, Self-reliance, self-reliance, the desire to rise up of Vietnamese people, of Vietnamese culture has been, is and will continue to be an attraction for many other peoples.

In addition to spiritual cultural values, Vietnam also has extremely valuable tangible cultural values. Although located in a tropical climate, monsoon, unfavorable weather, many storms, floods, thunderstorms, but Vietnam is a country with many attractive natural landscapes, recognized by UNESCO as the top-ranked natural heritage of mankind such as Sapa ancient rock; Dong Van Plateau; Ha Long Bay; Phong Nha - Ke Bang Cave; many beautiful beaches such as Non Nuoc, Lang Co, Nha Trang..; unique system of rivers, canals and gardens in the South; there are many beautiful islands such as Cat Ba, Con Dao, Phu Quy, Phu Quoc; etc. There are also tangible cultural heritages such as the architecture of Hue ancient capital, Cham towers, relics of My Son holy land, Imperial Citadel of Thang Long;etc. All these tangible cultural heritages contain many attractions, creating cultural attraction for other peoples, other cultures.

The soft power of Vietnamese culture is also reflected in the attraction of other ethnic groups with a unique culinary culture, associated with tropical agricultural products, associated with an elegant, eco-environmental culture. own flavor and color, good for health. Different from Eastern culinary culture and Western culinary culture, in Vietnamese culinary culture, there are dishes such as pho, fried spring rolls, rice vermicelli, rice noodle roll, Hue pancakes, etc. Along with culinary culture Food, culture of healing by methods of traditional medicine and Vietnamese herbs also attracts many foreign tourists. With a tropical climate, Vietnam has many valuable traditional medicines that have the effect of curing diseases, nourishing the body, and enhancing physical health. On that basis, the Vietnamese have created traditional medicines with Vietnamese brands and characteristics. This is also an attraction, attracting tourists and foreign investors. If we can promote the culinary culture and the culture of oriental medicine, we will certainly contribute to promoting this power of culture to increase Vietnam's soft power, on that basis to develop the country.

3.2. The role of the soft power of Vietnamese culture in the development of the country

Firstly, the soft power of Vietnamese culture is the spiritual foundation, the spiritual foundation for the development of the country.

This means that the soft power of culture “determines the direction, manner, and appearance of development. That is, no matter what level of development, people and communities of each society can only feel safe and progress when development does not separate from their traditional identity, inseparable from history, not turning away from universal human values, and not far from humanitarian tendencies” [3, p. 23]. It is based on traditional cultural values that Vietnam chooses the development path for a society "Rich people, strong country, democracy, justice and civilization", in which people are the center, the goal is is also the driving force of development.

The soft power of culture is also shown as a basis for creating consensus in society, supporting truth - good - beauty, fighting evil, evil, falsehood, inhumanity, not because human. In particular, it is cultural soft power that will arouse and bring into play the hidden strength in each people and the whole nation in protecting the integrity of territorial sovereignty, peace and peace of the Fatherland. At the same time, cultural soft power also arouses and multiplies the aspiration for development, making this aspiration become the psychology of all classes of people and in the Government, to create unity and consensus in land development. country. On that basis, promote the country to develop for the people, for the people.

Second, the soft power of culture facilitates international integration to develop the country.

The soft power of culture is like knowledge, the more information spreads, the more it is replicated, the more it is promoted, the more it multiplies its power, the more it develops inexhaustibly like commodity consumption. Therefore, in the context of deep and wide international integration, promoting the soft power of culture in foreign affairs is extremely important. By culture, through culture, the acquisition, attraction, sensibility, ethnicity, and other countries will be effective and sustainable. From surprise to admiration and admiration, they learn about Vietnamese culture in general and the soft power of Vietnamese culture in particular. On the basis of cultural understanding, the soft power of culture combined with feelings of admiration and love will only allow them to receive, feel it, enjoy it, and gradually transform that perception, that knowledge becomes their own culture. At that time, culture has successfully performed the function of persuading, attracting and attracting other people and ethnic groups. Our Vietnamese culture has inherent human values similar to the cultural values of humanity. Therefore, Vietnamese culture has more and more bases and conditions to perform the function of persuading, attracting and attracting other people and other ethnic. In the current international integration, together with political diplomacy, economic diplomacy, cultural diplomacy plays an important role in realizing the soft power of Vietnamese culture. It is no coincidence that the XIII Congress of the Communist Party of Vietnam set the task: *"To ensure the highest interests of the nation - the ethnic on the basis of the basic principles of the United Nations Charter and international law, equality, cooperation, mutual benefit"* [1, p.110], *"proactively and actively integrating into the world comprehensively and deeply; Vietnam is a friend, a reliable partner and an active and responsible member of the international community"* [1, p.162]. When we respect the basic principles of the Charter of the United Nations, respect international law, respect equality, cooperation and mutual benefit of nations and peoples, we have shown the soft power of Vietnamese culture. Vietnam respects other cultures, respects other ethnic groups, values equality and mutual benefit with other ethnic groups, and in foreign affairs we are friends, reliable partners and active members. and responsible in the international community. This motto fully expresses the value of Vietnamese culture and Vietnam's soft power in the foreign policy of our Party and State. Because, in order to admire and attract other people and other ethnic groups, we must first respect them, respect equality and mutual benefit. In political cooperation we clearly represent friends, not *objects*. In economic cooperation we represent a reliable business partner, not their *object*. In international relations, we represent an active and responsible member. In the spirit of being a friend, a partner in economic activities, an active and responsible member of the international community, has shown power in culture, power of the nation and power in the policy of nation. That is the soft power of Vietnamese culture. Like knowledge and information, culture is not exclusive, but pervasive and resonant. The more culture is spread, used and followed, the more the value of culture increases, not "*wears out*" like other consumer goods. Therefore, we must promote the soft power of culture in foreign affairs, serving the development of the country.

Third, the soft power of Vietnamese culture combines with the hard power of Vietnam to develop the country.

In relation to hard power, under the conditions that allow it, the soft power of culture acts as an influence, complement, support, and substitute for hard power. Hard power must use economic power, military power, etc. to force other people, other peoples to follow. Meanwhile, cultural soft power attracts, sensitizes, on the basis of similarities, mutual understanding and consensus among the parties. In international integration, each country has the opportunity to express themselves, each has the right to choose their own development path, the soft power of culture plays an increasingly important role. The hard power of a country may decline over time, but the country's soft power can still be maintained and effective. The soft power of culture has always existed, reflected in the spiritual and cultural values, the material cultural values as well as through the people and policies of that country or nation. The spread of the soft power of culture is through the spread of material cultural values, cultural and spiritual values, and through people and policies of nations and nations. This pervasiveness depends on the level of civilization, humanity, science and practice of cultural values; depends on the quality and personality of people as a representative representative of the soft power of culture. If the similarity of cultural values and human qualities (representing the soft power of culture) of ethnic groups is higher, the spread and exchange of soft power becomes stronge , wider and deeper.

In the current trend of international integration, each country and each ethnic group has the opportunity to spread and spread the soft power of their own culture. However, this opportunity also includes the challenge, the problems of the risk of being "assimilated", attracted by the soft forces of another culture. Therefore, the 13th Party Congress set out the task: "Building Vietnam into an attractive place for international cultural exchange. Selectively acquire the quintessence of human culture in accordance with Vietnamese practice. At the same time, actively raise the resistance of people of all classes, especially young people, to foreign and toxic cultural products; step by step bring Vietnamese culture to the world" [1, p. 147). The fact that the struggle to protect our country's sovereignty over the sea and islands as well as the fight against the Covid-19 epidemic has shown that it plays an important role in the soft power of national culture. We have aroused the love of the motherland, the spirit of solidarity, mutual affection, love, care, etc… of each Vietnamese people, we have enlisted the support of the cause, the support of the cause. compliance with the 1982 United Nations Convention on the Law of the Sea worldwide. Therefore, we are not alone in defending our sovereignty over seas and islands, although this is a problem for Vietnam.

Fourth, the soft power of culture promotes rapid and sustainable development of the country.

The reality of our country's development today has made us realize that the development model based on natural resources and cheap labor has revealed certain limitations. Because natural resources are increasingly depleted, along with that, unpredictable climate and weather changes have adversely affected production; Competitive advantage in cheap labor is also lost. Therefore, Vietnam is transitioning to an inclusive development model - this model is people-centered, with the slogan that everyone is involved, everyone benefits, no one is left behind, no one is back behind. It is a model of growth and development based on the power of creative intelligence of people, for people, for people, which means based on the soft power of culture. It is no coincidence that the 13th Party Congress set the orientation: "Developing a comprehensive human being and building an advanced Vietnamese culture imbued with national identity so that Vietnamese culture and people become endogenous strength, driving force for national development and defend the Fatherland" [1, p.116].

As we all know, our country's economic growth in recent years has mainly relied on natural resources and is reaching its limit, unable to grow more. If we continue to implement this growth model, it will be difficult for us to avoid the middle income "*trap*". While we are striving to turn our country into a high-income developed country by the middle of this century. To achieve this goal, we must transform the growth model based on innovation and application of science and technology. That is, we must innovate the growth model based on the power of people, the soft power of culture. The limitations of natural resources can only be limited and overcome by human innovation, by the successful application of achievements of modern science and technology. Among the factors of production force, human resources are the most basic and core factor, the driving force of development. Humans play the role of activating and determining factors for other factors such as capital, resources, science and technology, etc. These factors can only be effective when used by humans (with a combination between physical strength, mental strength, and potential for innovation) to exploit and use effectively. All these things belong to the soft power of Vietnamese culture and people.

Rapid development is an objective requirement for our country, otherwise we will fall into the middle-income "trap" like many countries and ethnic groups have fallen into. But the important thing is, the humaneness of development and the healthy level of social life are the cultural measure of the development process of a country. This poses the requirement that cultural and humanistic criteria must be taken as the criterion to evaluate development. Therefore, development is fast but must be sustainable. Sustainable development requirements require promoting the soft power of culture in sustainable economic development, sustainable development in culture, people, society and sustainable development in the environment. To do so, there is no other way but to rely on the soft power of the national culture. Practice shows that the cultural values of the soft power of culture (such as truth - goodness - beauty, love for people, tolerance, love for labor, hard work, study, etc .) once violated nothing in society is developed. If there is development, it is only temporary, unsustainable and will definitely have to pay a heavy price. Therefore, the 13th Congress of the Communist Party of Vietnam set out the task to thoroughly grasp the point of view: "Arousing the patriotic spirit, the will to self-reliance of the nation, the strength of the great unity of the whole nation and the aspiration to develop a prosperous and happy country; promote socialist democracy, the synergy of the whole political system and of Vietnamese culture and people, ..." [1, p. 110].

It is not a coincidence that our Party considers "arousing patriotic tradition, national pride, belief and aspiration to develop a prosperous and happy country; Talents, intelligence and qualities of Vietnamese people are the most important center, goal and driving force of the country's development" [1, p. 116].

The practice of fighting against the Covid-19 epidemic as well as against natural disasters and floods over the past time shows that the Party and State of Vietnam have actively sacrificed the economy for people, not for the economy but for people. Therefore, it has aroused, multiplied the soft power of Vietnamese culture, brought the soft power of Vietnamese culture to a new level, created a Vietnamese patriotism, love, care, sympathy, mutual sharing of Vietnamese people, Vietnamese culture with new signs. Surely other countries and peoples will forever admire, enjoy and recognize the invention and invention of "Rice ATM", "Book ATM", "Free Supermarket"; about the joint efforts, solidarity, consensus and synergy of the people with the Party and State of Vietnam in combating the Covid-19 epidemic, as well as fighting floods, floods and natural disasters. The free help and successful treatment for many foreigners suffering from influenza in Vietnam, while the conditions in Vietnam are not rich in economy, not strong in science and technology; not very modern in terms of the health system... will make many countries and peoples around the world admire and admire. That is the soft power of Vietnamese culture, because Vietnam is a country rich in compassion, love, sympathy and understanding of people! That is the soft power of Vietnamese culture - if we can promote this strength, we will have the basis and conditions to develop the country quickly and sustainably.

.4. Conclusion

Through the above analysis, it can be seen that the soft power of Vietnamese culture plays a huge role in the development of the country. In order to promote the values of the soft power of Vietnamese culture, we need to well implement the Resolution 9 of the XI Party of the Party on building and developing Vietnamese culture and people to meet the requirements of sustainable development. steady the country. At the same time, well perform the task of building and promoting the cultural values and strength of the Vietnamese people set out by the 13th Congress of the Communist Party of Vietnam: "Focus on research, identification and construction implementation. national value system, cultural value system and human standards associated with preserving the Vietnamese family value system in the new period” [1, p.143]. Because these are the elements of the soft power of Vietnamese culture that need to be promoted.

5. References

1. Communist Party of Vietnam (2021), Documents of the 13th National Congress of Deputies, Volume 1, National Political Publishing House, Hanoi.

2. Joseph Samuel Nye (1991): Bound to Lead: The Changing Nature of American Power, Basic books, NewYork, Reprint edition.

3. Ho Sy Quy (2017), Some issues on social science, culture, and Vietnam's geopolitical position in the 21st century, Proceedings of the scientific conference., Labour and Social Publisher company limited, Hanoi.

THE COMMUNIST PARTY OF VIETNAM CONTINUES TO INHERIT AND PROMOTE HO CHI MINH'S THOUGHT ON SUSTAINABLE DEVELOPMENT OF THE COUNTRY

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Abstract

Ho Chi Minh's thought on sustainable development is his system of views on the development of political, economic, cultural and social fields in association with the protection of natural resources and the environment, in which people are the center of development to build Viet Nam as a peaceful, unified, independent, democratic, and strong country; fulfill international obligations and ensure the development of the next generation. His concept shows the scientific, revolutionary and humanistic nature, agrees with the modern world's concept of sustainable development, continues to be considered as the ideological foundation and guideline for the Party's actions and the Vietnamese Revolution. It is an invaluable spiritual asset for our Party and nation to continue to successfully implement the country's sustainable development strategy in the current period of national renewal, integration and development.

Keywords: *Communist Party of Vietnam, innovation, sustainable development*

1. Introduction

President Ho Chi Minh lived and operated in an era where the development of the industrial economy had not yet set an urgent need, and the problem of environmental pollution was not widespread, that is, there is no basis for the theory of sustainable development to appear. However, with his strategic vision, in reasoning as well as directing the development of the country, President Ho Chi Minh has always focused on putting people as the center for development, economic development associated with economic development. Cultural and social development and protection of the living environment - these are also the fundamental ideas of sustainable development today. Inheriting and continuing to apply Ho Chi Minh's thought on sustainable development, the Party's policy through each period, especially through each congress, has made great strides in awareness as well as in guiding the implementation of sustainable development in Vietnam.

2. Method

The research is based on the theoretical basis of Marxism-Leninism, Ho Chi Minh's thought, viewpoints and lines of the Communist Party of Vietnam, policies and laws of the State of Vietnam on sustainability development and related issues. Selectively acquire research results published by scientists on sustainable development. To study the topic, the authors base themselves on the actual achievements and limitations and inadequacies in implementing sustainable development in Vietnam through 35 years of renovation. Especially focusing on the changes in awareness and actions to achieve the sustainable development goals Since Vietnam started to carry out activities on a national scale as well as attend and sign commitments at international conferences on sustainable development (from 1991 to present)

The research is based on the methodology of Marxism-Leninism and Ho Chi Minh's thought to deploy research tasks. Focus on using interdisciplinary methods of social sciences and humanities. Using a combination of methods: History, logic, combining history with logic, analysis, synthesis, comparison, forecasting... These specific research methods are used flexibly and appropriately to have a analyzes, comments and assessments on the issue that the Communist Party of Vietnam continues to apply and promote President Ho Chi Minh's thought on sustainable national development in theoretical awareness as well as practical direction.

3. Results

Ho Chi Minh's thought on sustainable development has been interested and researched by many scientists. Some typical works related to the topic: “Book of Development Philosophy - From Marxism-Leninism to Ho Chi Minh” (Huyen, Nguyen Van, 2001); “Culture and Philosophy of Development in Ho Chi Minh Thought” (Lam, Dinh Xuan, & Phong, Bui Dinh, 2007); “The work of Ho Chi Minh Thought - Human values and development” (Tan, Ta Ngoc, 2015)… pointed out the core arguments, propositions, and ideas that contain human values and developed in Ho Chi Minh's thought, has great significance for the revolutionary cause of Vietnam and the world. Human values and development in his thought are the basis for our Party to develop policies and guidelines for economic, political, cultural, social and foreign development, in order to build Vietnam as a developed, people-oriented country.

The Party's policy and views on developing the country in a sustainable, long-term and certain direction, there are also many research works such as: “30 years of renovation and development in Vietnam”, this is a combined work research results of the state program (Huynh, Dinh The, Phu, Phung Huu, Nghia, Le Huu, Hien, Vu Van & Thong, Nguyen Viet, 2015); In general, when assessing sustainable development in Vietnam, there is “Vietnam Report 2035, Towards Prosperity, Innovation, Equity and Democracy” (Ministry of

Planning and Investment & World Bank Group, 2016). Through research works, scientists of Vietnam and the world believe that: The success of 30 years of renovation puts more expectations and heavier responsibilities on the future of Vietnam.

In-depth research on the perception of the Party and the State in implementing sustainable development has the article “Sustainable development in Vietnam - Guidelines and some results” (Dung, Vu Thi Mac, 2019), showing that sustainable development Sustainability is an inevitable global trend and becomes the focus of development strategies of many countries. The work has generalized and systematically on the leadership of the Party for the sustainable development of Vietnam; “Our Party's awareness and resolution of the relationship between innovation, stability and development” (Phong, Tran Van, 2019) has re-organized the entire process of cognitive development and practical direction of the Communist Party of Vietnam. From the 6th to the 12th congress on the relationship between innovation, stability and development.

The research works have initially generalized and suggested the viewpoints, contents and values of Ho Chi Minh's thought on sustainable development, showing that Ho Chi Minh's thought on sustainable development is not only an invaluable asset for the Vietnamese revolution but also has profound contemporary significance.

Through studying the status of sustainable development in Vietnam, researchers have focused on affirming that in order to survive and develop, Vietnam must have policies and measures for economic development but still ensure social justice. National security is guaranteed and associated with environmental protection.

In fact, the Party and State of Vietnam were soon aware of the great role of the country's sustainable development, so in the international perspective, Vietnam is a country that has made commitments as well as roadmap to achieve the United Nations' Sustainable Development Goals. However, the issue of the Communist Party of Vietnam leading the country's sustainable development according to Ho Chi Minh's thought has not yet been systematically discussed and needs to be further studied.

Therefore, the results of the study of the problem: *“The communist Party of Vietnam continues to inherit and promote Ho Chi Minh’s thought on sustainable development of the country”* will contribute to supplementing and enriching the scientific awareness of Ho Chi Minh's ideological values on sustainable development as well as the application of Ho Chi Minh's thought to solving problems development sustainable in Vietnam today. In particular, it will contribute to providing more scientific basis for the Communist Party of Vietnam to continue to apply Ho Chi Minh's thought in the process of formulating guidelines and policies to ensure the sustainable development of the country in the period of renovation, integration and development.

4. Discussion and Conclusion

Values of Ho Chi Minh's thought on sustainable development

The term “sustainable development” does not appear directly in President Ho Chi Minh's expression, but the conceptual content has been discussed by Ho Chi Minh when referring to each element of sustainable development as well as the harmonious combination between them to achieve the goal of sustainable development. Even, President Ho Chi Minh also made many profound, comprehensive, systematic, and forward-looking comments on issues related to sustainable development. In today's modern society, these contents have gradually been proven to be true. Maintain political stability, clean up the apparatus, ensure the sustainable development of the country; comprehensively develop Vietnamese culture and people, creating a driving force for sustainable development; Economic development is the premise, the basis for cultural and social development, in order to eliminate poverty and backwardness, bring enough food, warm clothes and happiness to the people, and bring Vietnam to the next level. progressive countries in the world; Economic development is not “trade-off” at all costs even though the cause of national construction and development after the war requires exploitation of many natural resources. Exploitation needs to be planned, associated with economical, efficient and reasonable use and associated with environmental protection, planting trees causing forests, protecting forests... President Ho Chi Minh had the right perception of Sustainable development, linking economic development with protection of the ecological environment, he initiated the movement “Tree planting festival”. In the economic development of the country to serve the construction of socialism in the North and to support the South, he always emphasized the importance of forest resources, coal, land... He considered this as “gold”, both exploiting for economic development but also having to have a plan for protection, rational use, exploitation of timber combined with afforestation, economical and rational use of coal... In the end of his life, President Ho Chi Minh taught us that we should cremate our bodies and use clean energy sources to protect the environment for us and for future generations. Knowing how to live not only for the common good but also to take care of the interests of future generations is one of the contents of sustainable development, which was not until 1992 when the United Nations proposed in the “Environment and Development Summit” held in Rio de Janeiro.

In Ho Chi Minh's thought, when he emphasized the role and focus of directing the development of political, economic, cultural, social, and environmental fields, these pillars were dialectical, harmonious relationship, not overemphasizing the one and not taking the other lightly. President Ho Chi Minh did not set them apart, but one pillar will be the premise for another pillar. As he once advised: “Those construction works are closely related to each other” (Minh, Ho Chi, 2011). The development of the country is not only shown through quantitative economic figures, but also through qualitative assessments of areas such as culture, society, and environment. And above all, the basis for harmonious unification for all these factors is to take people as the center for development.

The important thing is, not only thinking about the development of the country with the content is the harmonious development, closely linked between the fields of social life, between society and the natural environment, Ho Chi Minh said. Minh always emphasizes that this development must be ensured for future generations. Building and developing the country in Ho Chi Minh's thought is to build and develop a country in a sustainable, sure and long-term direction.

Before his death, his last wish was still the goal of sustainable development of the country: “My last wish is: The entire Party and people of our country unite to strive to build a peaceful Vietnam. peace, unity, independence, democracy and prosperity, and worthy contribution to the cause of world revolution” (Minh, Ho Chi, 2011). Sustainable national development in the view of President Ho Chi Minh is to maintain independence and self-control; meet the material and spiritual needs of the people, ensure democratic and equal rights, and fulfill lofty international obligations. The above striving goals are currently continuing to be inherited and strived for by the Communist Party of Vietnam.

In the 21^{st} century, besides brilliant achievements in science and technology and strong development of economies, mankind is also facing great challenges in terms of politics, culture and society and especially environment. A series of serious problems related to the environment have appeared such as: climate change, biodiversity degradation, pollution of toxic and persistent organic substances, soil pollution, air pollution, water pollution, etc. These challenges are increasing day by day, directly threatening human existence on Earth and forcing humanity to switch from a development strategy that focuses on economic growth to a strategy. Sustainable development, 8 *Millennium Goals* were also added, developing into 17 *Sustainable Development Goals* to match the current situation and requirements of global development.

The vitality and value of Ho Chi Minh's thought for the times, with the progressive development of mankind is something that no one can deny, as General Vo Nguyen Giap once affirmed: “The world is still changing. but Marxism-Leninism and Ho Chi Minh's thought live forever” (Giap, Vo Nguyen, 2016). In particular, Ho Chi Minh's thought on sustainable development clearly shows that value. While, the United Nations officially launched 8 Millennium Development Goals for Agenda 21 on Sustainable Development in 2007, almost all of these goals have been approved by President Ho Chi Minh mentioned and implemented for decades before, such as: eradicating poverty; raising the people's intellectual level, popularizing education; promoting equality between men and women and empowering women; reducing the child mortality rate; maternal health; prevention of diseases; environmental Protection; establishing international relations for development. It can be seen that, although the wording is different, the millennium goals, today's sustainable development goals and development goals in Ho Chi Minh's thought all aim at good, humane values, for human, putting people at the center of development.

The issue of sustainable development has gradually become a global issue, requiring the cooperation and contribution of the whole community. In Ho Chi Minh's thought, this issue was recognized by him early. When answering international journalists about foreign policy, President Ho Chi Minh stated that Vietnam “wants to be friends with all democratic countries in the world”. During the first year of the new State of Vietnam, as President, he wrote letters and telegrams many times to the US President, Soviet leader Stalin and the governments of some countries asking to recognize the independence of Vietnam, building friendly relations with Vietnam. The person who expressed Vietnam's desire and determination to join the United Nations.

After 35 years of Vietnam's renovation, construction and development, besides great achievements in economy, culture, society and increasing position in the international arena, Vietnam are also facing many difficulties and challenges. The war has long since receded, but the consequences of the war left on people and nature in Vietnam are still heavy. The psychology of hot economic development leading to uncontrolled exploitation of natural resources causing the danger of environmental pollution is still common. Environmental management is still inadequate, etc. These difficulties show that the awareness of sustainable development is not really complete, the organization and management of sustainable development is not really tight, human resources are also inadequate for sustainable development has not been properly invested and effectively mobilized and promoted...

Moreover, sustainable development is both a problem for the world and a problem for the development path of each country, including Vietnam. Therefore, implementing sustainable development requires both a roadmap, in line with common commitments, and separate measures and steps to suit the context of the country. In order to solve the problems posed in the implementation of sustainable development today, Vietnam needs to make more efforts, not only perfecting the policy lines on sustainable development, but also raising the awareness of political - social organizations, people on sustainable development. These instructions, from the twenties of the twentieth century, were mentioned by President Ho Chi Minh. It can be said that President Ho Chi Minh laid the foundation and continued to orient and suggest sustainable development in Vietnam. Ho Chi Minh's thought on sustainable development is an invaluable spiritual asset for our country's revolution, has great topical significance in the period of industrialization, modernization, renewal, integration and development with the goal: “Fast and sustainable economic development, striving to turn our country basically into a modern industrialized country” (Communist Party of Vietnam, 2016).

Thus, Ho Chi Minh's thought on sustainable development has profound theoretical and practical value, continuing to orient and suggest for the implementation of the Sustainable Development Strategy in Vietnam today. Ho Chi Minh's thought on sustainable development has similarities, even surpasses those of progressive humanity's view of sustainable development, which is not only valuable to the nation but also has a profound meaning to the times, with the implementation of the global sustainable development strategy. In the context of innovation, integration and development, the implementation of sustainable development in Vietnam, besides the great achievements, also has limitations, shortcomings, development is not commensurate with the potential and position. Many pillars in development are not really sustainable. Therefore, the Communist Party of Vietnam needs to continue to research, orient and propose solutions to apply Ho Chi Minh's thought on sustainable development to help Vietnam develop stronger and stronger as expected. His wish: To build a new Vietnam, which in the new era can be comparable with the great powers of the five continents.

Perception and policy of the Communist Party of Vietnam on sustainable development according to Ho Chi Minh's thought

The Party's process of awareness and policy on sustainable development

The value of Ho Chi Minh's thought is affirmed by the Communist Party of Vietnam: “His thought, together with Marxism-Leninism, is the ideological foundation, a guideline for the actions of the Party and the Vietnamese revolution, is the extremely great and precious spiritual assets of the Party and our nation, forever illuminating the way for the revolutionary cause of the Party and our people” (Communist Party of Vietnam, 2016). Inheriting and affirming the value of Ho Chi Minh's thought, the Communist Party of Vietnam once again affirms that Ho Chi Minh's thought on Vietnam's development is the thought that ensures the country's sustainable development, have national and epochal values: “His thought has been paving the way for our people's struggle to win, becoming sustainable values of the Vietnamese nation and spreading to the world” (Anh, Pham Ngoc & Phong, Bui Dinh, 2018). From the beginning of the renovation period, the Sixth Congress (1986) to the Seventh Congress (1991) and the Eighth Congress (1996), in these congresses, although the term sustainable development has not yet appeared in the the Party's conditions, but it can be affirmed that the chapters and guiding views in the country's development have been directed towards the realization of the country's sustainable development goals. In these documents, it is not difficult to see the common occurrence of the phrases: economic growth associated with progress and social justice; welfare; environmental Protection; implementation of equality between men and women; protection and rational use of resources; against the trend of chasing growth and immediate benefits, harming the environment... Development history has shown that these are all goals of sustainable development in Vietnam and the world. Inheriting Ho Chi Minh's thought, the concept as well as the direction of the Party on the implementation of sustainable development of the country has formed and developed more and more clearly, showing the correctness, science and creativity.

Especially, since the 9th National Congress (2001), the Party's policy on sustainable development has been clearly demonstrated when the field of environment has been really valued and placed in parallel with economic and social development in the goals for developing the country.The rational and economical use of natural resources, together with the protection and improvement of the natural environment, have become an important content in the Socio-Economic Development Strategy 2001-2010: "Fast, efficient and sustainable development. sustainable, economic growth goes hand in hand with progress, social justice and environmental protection" (Communist Party of Vietnam, 2011). The Party advocates that socio-economic development must be closely linked with environmental protection and improvement. Growth is fast, but growth quality must be ensured, that is, growth quality must be improved with a growth model that focuses on balanced investment, not only in the economic field, but also in investment in people. education, health care, renewable resources and environmental protection to ensure the sustainable development of the country.

In the Party's concept, sustainable development is to ensure the simultaneous development of all three pillars of economic, social and environmental sustainability. Economic growth must go hand in hand with the realization of social progress and justice, which is to improve capacity and create opportunities for everyone to bring into full play their talents, participate in the development process and enjoy the benefits. development results. As a subject, people have the opportunity and ability to catch development opportunities. At the same time, socio-economic development must be closely associated with environmental protection and improvement, and environmental protection requirements are considered an important criterion in evaluating development solutions. With the viewpoints on sustainable development identified, the 9th Congress approved the 10-year socio-economic development strategic goals (2001 - 2010) with contents focusing on sustainable development such as: Bringing our country out of underdevelopment, significantly improving the people's material, cultural and spiritual life; creating a foundation for our country to basically become a modern industrialized country by 2020; human resources, scientific and technological capacity, infrastructure, economic potential, national defense and security are enhanced; socialist-oriented market economic institutions are basically formed; Vietnam's position in the international arena is enhanced.

In 2004, in order to realize the Party's stance that has set forth and implement international commitments on sustainable development, the Government issued the *Strategic Orientation for Sustainable Development in Vietnam (Agenda 21 of the Government Vietnam – Agenda21).* The content of the Strategy includes long-term goals, principles, priority areas, policy directions and organizational measures to implement sustainable development.

Strategic orientation sets out a policy framework for sectors, localities, and social organizations to design and implement action plans towards their sustainable development goals. With long-term development strategic orientations, the Strategy document is regularly reviewed, supplemented and adjusted to suit each stage of the country's development, updating new perceptions to improve the sustainable development path in Vietnam. Agenda 21 sets out the key goals and principles for sustainable development in Vietnam. In particular, the overall goal of sustainable development is to implement the orientation set out in the 2001-2010 Socio-Economic Development Strategy of the Ninth National Party Congress. The specific objectives of the three aspects of development, namely economic, social and environmental protection, no matter how developed, must ensure a close, reasonable and harmonious combination with each other.

The 10th Party Congress (2006) has drawn 5 great lessons after realizing the development perspective and also the guiding thought on socio-economic development for the next period (2006 - 2010). In particular, the first lesson concluded is the lesson on rapid and sustainable development. Rapid and sustainable development are two sides of the same issue, expressed at both the macro and micro levels, demonstrating the comprehensiveness of the development strategy. In the Five-Year Plan (2006 - 2010), an overall goal has been set, although economic development is emphasized as a premise for development, but the prerequisite is still “effective” along with “sustainable”: “Accelerate economic growth, achieve important changes in improving the efficiency and sustainability of development, and soon bring our country out of underdevelopment” (Communist Party of Vietnam, 2006).

By the 11th Congress (2011), the view of sustainable development was reflected throughout the Party's document. The first of the five development perspectives stated in this Strategy is: “Fast development is associated with sustainable development, sustainable development is a requirement throughout the Strategy” (Communist Party of Vietnam, 2011). In the Party's concept, the Party always attaches special importance to the quality, efficiency and sustainability of development, demonstrating the consistency in awareness of the relationship between development and sustainable development as well as the relationship between development and sustainable development. rapid growth and sustainable development. Specifically: sustainable development is the basis for fast development and rapid development to create resources for sustainable development. Rapid and sustainable development must always be closely linked in the country's socio-economic development plans, plans and policies.

At the 12th National Congress (2016), sustainable development was expanded, deepened, and penetrated into all areas of social life. It can be seen that at the very beginning of the title, Section II of the Political Report, it is affirmed that “Fast and sustainable development, striving to turn our country basically into a modern industrialized country” (Communist Party of Vietnam, 2016). Our Party has set a goal by 2020 to ensure rapid and sustainable development on the basis of macroeconomic stability: to ensure harmony between economic growth and cultural development, human development, practical implementation. progress, social justice, ensuring social security, environmental protection, and sustainable social development. During the 12th National Congress, for the first time, the implementation of the United Nations 2030 Agenda was included in the tasks and solutions to implement cultural and social development and improve people's living standards: “Implementation: United Nations 2030 Agenda, effectively integrating sustainable development goals into socio-economic development plans of the whole country, each sector and each locality” (Communist Party of Vietnam. 2016).

The 13th Party Congress (in 2021) takes place in the context of the Party's assessment: “sustainable development becomes an all-encompassing trend in the world” (Communist Party of Vietnam. 2021), Agenda 2030 of the United Nations continues to be mentioned and is considered an issue that “has great influence on the mode of growth, economic cooperation, trade and investment in the world” (Communist Party of Vietnam, 2021). The issue of rapid and sustainable development of the country is paid special attention by the Party when seriously looking back at the advantages and limitations, as well as pointing out some experiences and orientations for the country's development institutions in the period of 2021 - 2030 is: “Continuing strongly renewing thinking, building and completing synchronously the institutions of sustainable development in terms of economy, politics, culture, society, environment... trouble, difficulty; awakening all potentials and resources, creating new impetus for the country's rapid and sustainable development” (Communist Party of Vietnam, 2021). The key tasks in the 13th Party Congress term are determined to include 6 tasks, 2 of which are in the field of environmental protection and sustainable development. The second task, affirms the need: “to mobilize, allocate and effectively use resources, create motivation for rapid and sustainable economic development” (Communist Party of Vietnam, 2021). Task 6 also defines: “Strictly manage, rationally and effectively use land and resources; protect and improve the environment; proactively and actively implement solutions to adapt to climate change and extreme natural disasters” (Communist Party of Vietnam, 2021)

The Party's policy on sustainable development today

2020 is considered to be an extremely difficult and challenging year when the COVID-19 pandemic rages, causing great loss not only to the global economy but also dangerously affecting all fields of social life in countries, including Vietnam. In such circumstances, the issue of global cooperation against the pandemic becomes more and more urgent, and it also proves President Ho Chi Minh's vision of the era on sustainable development, on building a new world with civilized behavior and fulfillment of noble international obligations, including solidarity to fight the epidemic, is extremely right.

Continuing to inherit and apply President Ho Chi Minh's thought on sustainable development, the Communist Party of Vietnam soon had appropriate guidelines and policies to help the country overcome difficulties before the attack of the epidemic, which is highly appreciated by the international community. In 2020, not only effectively fighting the epidemic, along with that, Vietnam also highly promotes the strength of solidarity of the whole people, overcoming the difficulties of historical floods, bringing the lives of central people early return to stability. Once again, the concept in sustainable development of the country “no one is left behind”, “willing to sacrifice some economic benefits to protect the safety and health of the people” was adopted by the Party and State. Vietnam's country “said coupled to do”, showing the superiority, humanity and goodness in the Party's guidelines and directions on sustainable development of the country.

In the context of international implementation of the global goals on sustainable development, as an active member of the United Nations, the National Action Plan for the implementation of the 2030 Agenda for Sustainable Development was issued under Decision No. 622/QD-TTg of the Prime Minister. The plan clearly states 17 Vietnam's Sustainable Development Goals (VSDG) by 2030, including 115 specific goals, corresponding to the global sustainable development goals (SDGs) adopted at the Association United Nations Summit. A set of 158 sustainable development indicators that help provide “real evidence” for the process of monitoring, monitoring and evaluating the implementation of sustainable development goals in Vietnam has also been issued. The action plan has demonstrated the efforts and commitment of the Government and the State of Vietnam in the implementation of the Sustainable Development Goals. Based on actual conditions, Vietnam has made adjustments to specific targets compared to the United Nations and has obtained certain results, initially highly appreciated, since then, every year, Vietnam's sustainable development ranking has increased significantly.

Together with *the 2030 Agenda Programm*, the Government of Vietnam and the United Nations have developed a joint strategic plan to integrate the Sustainable Development Goals with the Socio-Economic Development Strategy (2011-2020) and Socio-economic development plan (2016 - 2020). This plan focuses on four main areas: Investing in people; ensure climate adaptability and environmental sustainability; prosperity and cooperation; promoting justice, peace and inclusive governance are used to inform how the Sustainable Development Goals are being implemented. Under the leadership of the Party, the concept of sustainable development has been integrated by the Government throughout the Socio-Economic Development Strategy for the period 2011 - 2020, the Socio-Economic Development Plan for the 2011 - 2020 period. 2015 and the period 2016 - 2020, have been and continue to be integrated in the Socio-Economic Development Strategy for the period of 2021 - 2030. Therefore, after 35 years of renovation under the leadership of the Party, “our country has never had the opportunity, potential, position and international prestige as it is today” (Communist Party of Vietnam, 2021).

In terms of achievements, the macro-economy is stable, the scale and competitiveness are increased, the economic structure is gradually rationalized, and the economic integration is proactive and in-depth. The economy has continuously maintained a good growth rate, from a country in the group of poorest countries in the world, Vietnam has come out of underdeveloped status, becoming a middle-income country and a dynamic economy market. Vietnam has joined most international organizations, becoming an active and responsible member in activities of the international community. In 2020, under the impact of the COVID-19 pandemic, the global economy declined, many countries fell into negative growth, but Vietnam's economy was still one of the very few countries in the world that achieved positive growth, “GDP growth in 2020 still reached 2.91%, which is the highest growth rate in the world” (Communist Party of Vietnam, 2021). In 2020, Vietnam was elected by the United Nations General Assembly with a very high number of votes of confidence, almost absolute, for the second time becoming a non-permanent member of the United Nations Security Council. Vietnam's position in the region has also increased dramatically when Vietnam holds the chair of ASEAN and has made great contributions to the common prosperity of this region. In addition, social security issues have been paid attention and guaranteed, sustainable poverty reduction, material and spiritual life of the people have been increased markedly. Natural resource management and environmental protection have made positive changes, more proactive in responding to climate change and disaster prevention, the sustainable development index has increased many levels. According to the United Nations: “Vietnam's sustainable development index in 2017 increased 20 places to 68/157 countries and territories. Vietnam's sustainable development index in 2019 ranked 54/162 countries and territories, thus, 34 steps up compared to 2016 and 3 steps up compared to 2018” (United Nations Development Programme, 2018).

However, there are also limitations, inadequacies and difficulties that need to be overcome for Vietnam's development to be truly sustainable. The economy faces many difficulties, challenges, potential risks, and development is not really sustainable. The development of culture and society is still slow, not commensurate with the economic and political development of the country. Natural resources are exploited unsustainably, management and use efficiency is not high. Environmental pollution is still widespread and leaves serious consequences. In the process of national development, especially in the integration period with the aim of turning our country into an industrialized country soon, the demand for exploitation and use of natural resources is increasing, requiring management solutions, reasonable and effective use, while there are still some obstacles and conflicts in the Laws leading to difficulties in implementation. The decline and degradation of natural resources takes place in many places. Faced with the successes achieved as well as the remaining difficulties in the process of implementing sustainable development of the country, it is even more demanding that the Communist Party of Vietnam continue to study and effectively apply Ho Chi Minh's thought on the principles of sustainable development.

Continuing to inherit and promote Ho Chi Minh's thought on sustainable development, the Communist Party of Vietnam leads the country's development consistently with the goal: "Continue to develop rapidly and sustainably the country; closely linking and synchronously implementing tasks, in which socio-economic development is the center; Party building is key; cultural development is the spiritual foundation; ensuring national defense and security is vital and regular" (Communist Party of Vietnam, 2021). Specifically, Vietnam's development policies focus on efforts to minimize the impact of growth on the environment and adapt to climate change. Many strategies and plans to promote green growth and sustainable use of natural resources are being implemented, which are initially effective. Thus, the views and direction of the Party on sustainable development have been gradually developed and perfected, the pillars of sustainable development have appeared clearer, have a closer relationship with each other, suitable and promoting the advantages of the path of national development that President Ho Chi Minh, together with the Party, State and people of Vietnam have chosen: National independence is associated with socialism.

5. References

1. Anh, Pham Ngoc & Phong, Bui Dinh. (2018). *Ho Chi Minh Thought on innovation, integration and development.* Hanoi, Vietnam: Publisher Labor, p.9
2. Ministry of Planning and Investment and World Bank Group. (2016). *Vietnam 2035, Towards Prosperity, Creativity, Equity and Democracy.* Washington DC: Publisher World Bank
3. Government of the Socialist Republic of Vietnam. (2017). *National action plan to implement the 2030 Agenda for Sustainable Development*
4. Dung, Vu Thi Mac. (2019). Sustainable development in Vietnam - Policy and some results, *Party History Magazine,* (12), p.49-53
5. Communist Party of Vietnam. (2001). *Document of the 9th National Congress of Deputies.* Hanoi, Vietnam: Publisher National politics, p.162
6. Communist Party of Vietnam. (2006). *Document of the 10th National Congress of Deputies.* Hanoi, Vietnam: Publisher National politics, p.185
7. Communist Party of Vietnam. (2011). *Document of the 11th National Congress of Deputies.* Hanoi, Vietnam: Publisher National politics, p.98
8. Communist Party of Vietnam. (2016). *Document of the 12th National Congress of Deputies.* Hanoi, Vietnam: Publisher National politics, p.8, p.21, p.76 & p.299-300
9. Communist Party of Vietnam. (2021). *Document of the 13th National Congress of Deputies (Volume 1).* Hanoi, Vietnam: Publisher National politics Truth, p.61 & p.207
10. Communist Party of Vietnam. (2021). *Document of the 13th National Congress of Deputies (Volume 2).* Hanoi, Vietnam: Publisher National politics Truth, p.322, p. 324,

p.335 & p.337

11. Giap, Vo Nguyen. (2016). *Ho Chi Minh Thought and Vietnam's revolutionary path.* Hanoi, Vietnam: Publisher National politics Truth, p.400

12. Lam, Dinh Xuan & Phong, Bui Dinh. (2007). *Culture and philosophy developed in Ho Chi Minh's thought.* Hanoi, Vietnam: Publisher National politics

13. Minh, Ho Chi. (2011). *Full episode (Volume 8)*. Hanoi, Vietnam: Publisher National politics, p.266

14. Minh, Ho Chi. (2011). *Full episode (Volume 11)*. Hanoi, Vietnam: Publisher National politics

15. Minh, Ho Chi. (2011). *Full episode (Volume 12)*. Hanoi, Vietnam: Publisher National politics, p.624

16. Minh, Ho Chi. (2011). *Full episode (Volume 13)*. Hanoi, Vietnam: Publisher National politics

17. Minh, Ho Chi. (2011). *Full episode (Volume 14)*. Hanoi, Vietnam: Publisher National politics

18. Minh, Ho Chi. (2011). *Full episode (Volume 15)*. Hanoi, Vietnam: Publisher National politics

19. Huynh, Dinh The. Phu, Phung Huu. Nghia, Le Huu. Hien, Vu Van & Thong, Nguyen Viet. (2015). *30 years of innovation and development in Vietnam.* Hanoi, Vietnam: Publisher National politics

20. Huyen, Nguyen Van. (2001). *Development Philosophy - From Marxism-Leninism to Ho Chi Minh.* Hanoi, Vietnam: Publisher National politics

21. Phong, Tran Van. (2019). Our Party recognizes and resolves the relationship between innovation, stability and development. *Journal of Political Theory,* (1), p.3-8

22. Tan, Ta Ngoc. (2015). Ho Chi Minh Thought - Human values and development. *Journal of Political Theory,* (5), p. 8-15

23. United Nations Development Programme. (2018). *Report on the National Voluntary Review of the Sustainable Development Goals of Vietnam.* Extract from: www.vn.undp.org

COOPERATION BETWEEN UNIVERSITIES IN VIETNAM IN LECTURER DEVELOPMENT

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Abstract

The fundamental and comprehensive renovations of university educations have become an urgent requirement of the current Vietnamese education. Facing the trend of globalization, internationalization and industrial revolution 4.0 have posed many challenges for universities and lecturers in Vietnam. It is time for universities to connect and cooperate in the orientation from the State in developing their lecturers.

Keywords: *Cooperation, development, higher education, lecturers*

1. Introduction

The trend of globalization, internationalization, and industrial revolution 4.0 currently has set an urgent need for fundamental and comprehensive innovations in education and training, especially in university education. Series of issues from the planning of training institutions, renovation of management mechanisms, policies, training programs, etc., have been carried out, including the teaching force - the core part of university education.

One of the current important goals of universities is to develop teaching force in both quantity and quality, ensuring that there are enough lecturers with high professional qualifications and innovative pedagogical skills with competent foreign language and computer skills to adapt well to the tasks of teaching and scientific researches in the new era. That requires teachers to be planned and trained to update educational research achievements as well as applications of science, technology, and communication in their working; to assess student learning outcomes according to competency approach, and to enhance curriculum development.

In universities around the world, the lecturer development is not the sole responsibility of any individual teacher or university, but it is a common task of the industry and universities to connect, collaborate, and share experiences to develop teaching force.

The above problems have been addressed by universities in some countries such as the UK, Korea, etc in actively linking and creating networks, regularly making professional exchange forums with the participation of a large number of lecturers in different professional positions.

2. Method

To clarify the necessity of cooperation between universities in lecturer development, the article presents some typical experiences of university education in some countries and clarifies the actual situation of quantity and quality of teaching force at universities in Vietnam.

The two selected countries are the UK and South Korea - where the cooperation between universities has been formed for many years by the model of an association between university education institutes

The analysis of the current situation on the quantity and quality of university lecturers in Vietnam is based on statistics of the Ministry of Education and Training from 2013 to 2019. This is the time when the Law on University Education 2012 took effect and is also the time to organize the implementation of a fundamental and comprehensive renovation of university education following Resolution No. 29-NQ/TW dated November 4th, 2013 of Central Committee of the Communist Party of Vietnam.

From the analysis of the structure of the quantity, quality, and professional qualifications of the Vietnamese teaching force, the article analyzes the weaknesses in the cooperation between universities in Vietnam today and offers some recommendations on roles of the Government and the Ministry of Education and Training, roles of universities, and models of an association between university education institutes in Vietnam.

3. Results

a) Experience in some countries around the world

Experience in the United Kingdom

In the UK, the lecturer development is led by the Universities Council for the Education for Teachers (UCET). This is an independent organization established in 1967 by universities, colleges, and other educational institutions to connect and cooperate constructively in training and fostering teachers; support members to upgrade the quality, sustainability, and professionalism of teachers, and promote researches in university educations across the UK and globally. UCET works on the following aspects:

- Act as a focal point for collecting and exchanging information about job positions in higher education institutions and providing recruitment information to the society to attract suitable candidates for teaching positions at universities and colleges which are members of UCET.

- Organize regular and periodic conferences and seminars for members who are managers and lecturers to discuss all issues related to higher education, methods, and pedagogical practical skills of teachers.

- Design and organize basic and advanced training programs for university lecturers that have a positive impact on learners, in a way that is consistent with UCET's values and principles, through the sharing of information, promulgating and championing relevant research and providing networking opportunities.

- Sponsor for researches related to university education, methods, and pedagogical practical skills of lecturers.

- Pro-actively monitoring the changing social, political and economic environment and helping UCET's members plan and adapt appropriately.

- Share information with members of UCET by publishing advisory materials; conference and seminar documents; formal responses to Government consultations; scientific research reports and newsletters.

UCET performs as a national forum for the discussion of issues related to training, lecturer development, and researches about education and training in the university sector, and provides a network to exchange information between members of universities and colleges.

Experience in South Korea

Korea Council for Universities Education (KCUE) was established in 1982 as an intermediary between the Government and universities that seeks to promote the development of universities through the mechanism of autonomy and cooperation between universities; represent the common voice of universities to the Government and the National Assembly of Korea and is responsible for implementing projects authorized by the Government. As of 2020, more than 200 universities have participated in KCUE.

Through the process of building consensus and cooperation among universities, KCUE plays the role of a bridge between them and between universities and the Government by representing the voice, needs, and requirements of universities in front of the Government and orientalize and consult for the development of universities members.

KCUE is the only consultancy agent for universities in Korea. Through the association and cooperation among members of universities with the orientation from the Government, KCUE has consulted, collected, and represented opinions of university members on current issues and policies, seek to solve the problems facing the universities, and made policy proposals and proposed to the Congress and Government. In addition, KCUE shares information and collaborates with university consultancy agencies around the world to promote the globalization of university education in Korea and provide training programs for university lecturers to upgrade their professional capacity.

Compared to the UK's UCET, KCUE has a broader scope of activities, covering many aspects of higher education to promote and improve the quality of university education. The full role and functions of KCUE:

- Conduct research on higher education;
- Address common issues to policy makers and educators;
- Maintain quality assurance of institutions;
- Coordinate university admissions system;
- Provide training to university faculty/staffs;
- Provide information on university to public;
- Support high education internationalization and globalization.

Particularly within the scope of activities to develop the teaching force, KCUE is the center providing high-quality training programs for the lecturers and managers, and service staff. In details:

- Provide high-quality training programs for faculty and staffmember to develop competencies and sharpen skills.
- Provide systematical and continuous opportunities for faculty and staff to enhance their expertise in areas necessary for the operation of universities.

b) Reflect on Vietnam

In Vietnam, the development of teaching staff has always been an important issue in universities' education renovation. Resolution No. 29-TW/NQ dated November 4th, 2013, declared the task of "Developing teachers and managers, meeting the requirements of education and training renovation" by "building resource plans and training plans and strengthening teachers and educational managers in association with the needs of socio-economic development, assurance of security, national defense and international integration"; "strongly renovating the goals, contents, training methods, retraining, fostering and evaluating learning and training results of teachers according to the requirements of improving the quality, responsibility, ethics and competence of professional force" [1].

From 2013 when the Law on Universities Education 2012 officially took effect to 2019, the number of universities and the number of students and lecturers increased each year, in which the group of public universities accounted for a large proportion, up to 72.6% in 2019. From 2013 to 2019, the number of lecturers increased by 2.77 times, and the number of students increased by 2.33 times, in which, the non-public group tended to significantly increase upward.

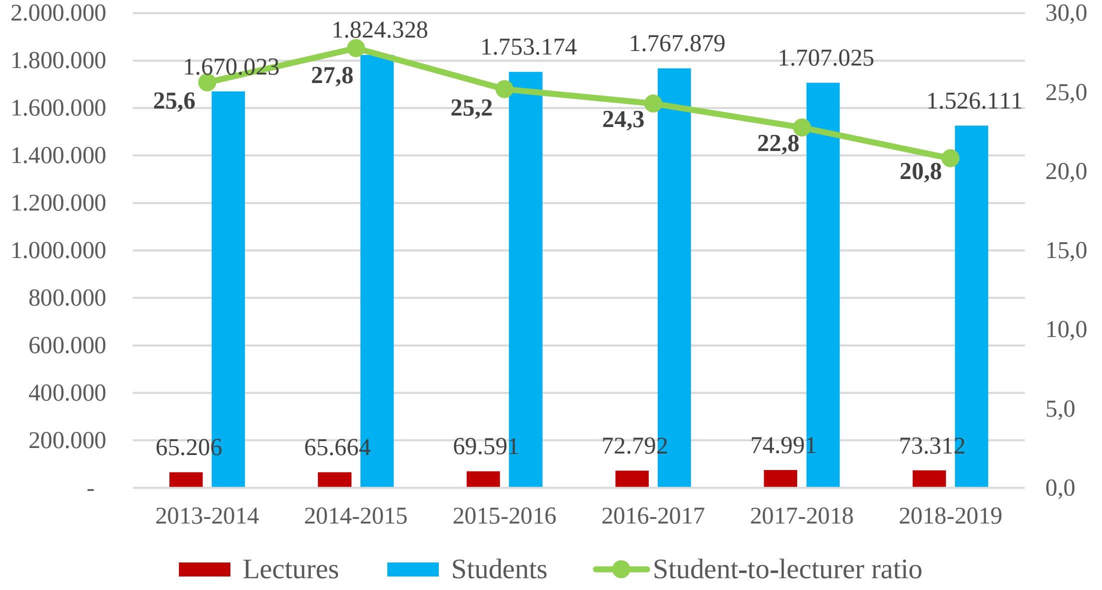
Table 1: Number of universities, lecturers and students over school years

School year	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
Number of University	**214**	**217**	**223**	**235**	**236**	**237**
- Public	187	189	163	170	171	172
- Non-public	27	28	60	65	65	65
Lecturer	**65.206**	**65.664**	**69.591**	**72.792**	**74.991**	**73.312**
- Public	52.500	52.689	55.401	57.634	59.232	56.985
- Non-public	12.706	12.975	14.190	15.158	15.759	16.327
Student	**655.428**	**539.614**	**1.753.174**	**1.767.879**	**1.707.025**	**1.526.111**
- Public	1.493.354	1.596.754	1.520.807	1.523.904	1.439.495	1.261.529
- Non-public	176.669	227.574	232.367	243.975	267.530	264.582

Source: Statistics of the Ministry of Education and Training over the years, www.moet.gov.vn

However, the number, proportion, and structure of teachers have not met the immediate and long-term needs. The student-to-lecturer ratio has decreased to 20,8:1 but compared to countries with advanced universities education in general, it is still low. In such countries, the ratio ranges from 15 to 20:1 [3].

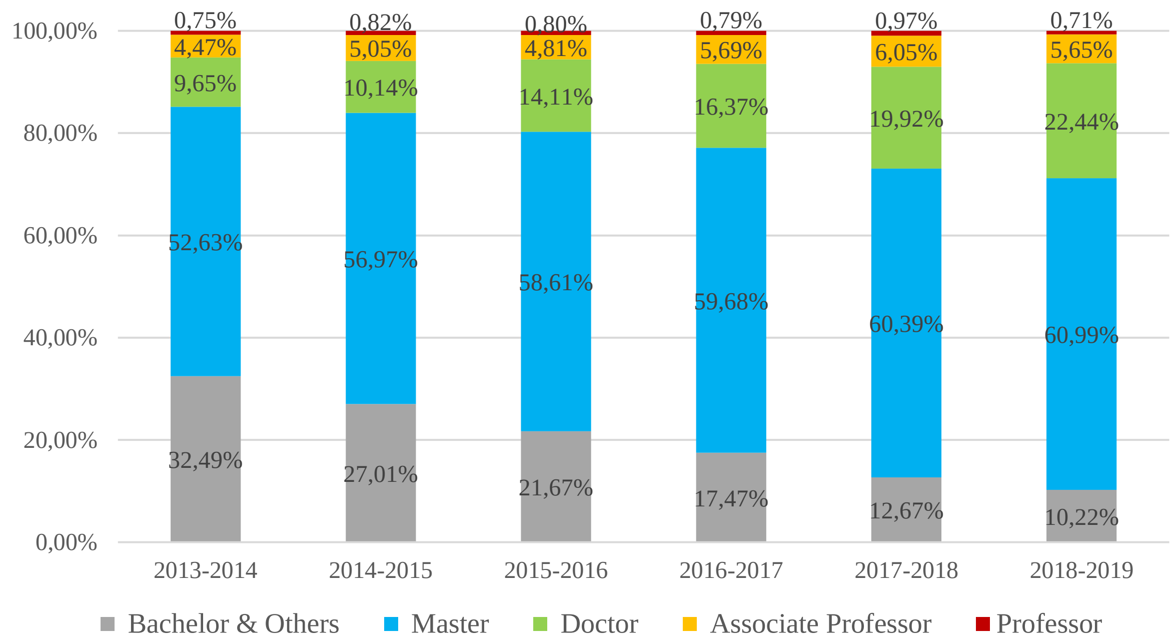
Figure 1: Number of lecturers, students, and student-to-lecturer ratio over school years



Source: Statistics of the Ministry of Education and Training over the years, www.moet.gov.vn

The current quality of university lecturers is not commensurate with the development of the country and international integration, and there is a lack of highly qualified lecturers.

Figure 2: Structure of lecturers by academic qualifications



Source: Statistics of the Ministry of Education and Training over the years, www.moet.gov.vn

The percentage of lecturers who are professors and associate professors over the country only reached 6.35% in 2019, the rate of doctors reached 22.44%, and masters accounted for 60.99%. The quality of Vietnamese university lecturers is much lower than the goal of the education development strategy, which is that by 2020 Vietnam will have at least 25% of the lecturers holding PhDs [4]. Besides, the foreign language and computer skills of the lecturers are still not high, and the number of lecturers capable of teaching in English is small.

The development of university teachers still lacks the connection, cooperation, and exchange of experiences with each other. Many universities have set up departments and centers to perform the function of international cooperation (including domestic cooperation), but the efficiency is not high because each university performs the cooperation in their ways and their resources are also limited. Especially, there is a scare of collaboration between universities in sharing and exchanging faculty resources as well as in training and upgrading teaching force.

4. Discussion and Conclusion

In the context of our country's deeper and more comprehensive international integration with countries around the world and within a region, the training of human resources not only meets domestic needs but also participates in the allocations of labor and international cooperation. Each university has different strengths in terms of the number, qualifications, experience of the teachers to resources, facilities, technology, etc., which requires a connection with each other to supplement, minimize existing weaknesses and create sustainable development in the future, including the use of human resources, finance, facilities, etc. in lecturers development.

Therefore, Resolution No. 29-TW/NQ has emphasized the connection among university education institutions in developing the teaching force through "deploying solutions, models of communication, linking between training institutions, especially universities with science and technology organizations, especially research institutes" [1]. These connections are not simply between schools and schools, institutes and institutes, but the interweaving link between schools and institutes, from which schools can expand, not only the vision but also create broad information channels to adopt new knowledge.

From that, it is necessary to organize an increasingly close and comprehensive association among university education institutions including national universities, regional universities, universities, and scientific research institutes in reinventing university education in general and lecturers development in particular.

Looking at the global experiences, the association between universities in developing teaching staff has been formed for a long time, as a requirement and an inevitable need of managers and lecturers.

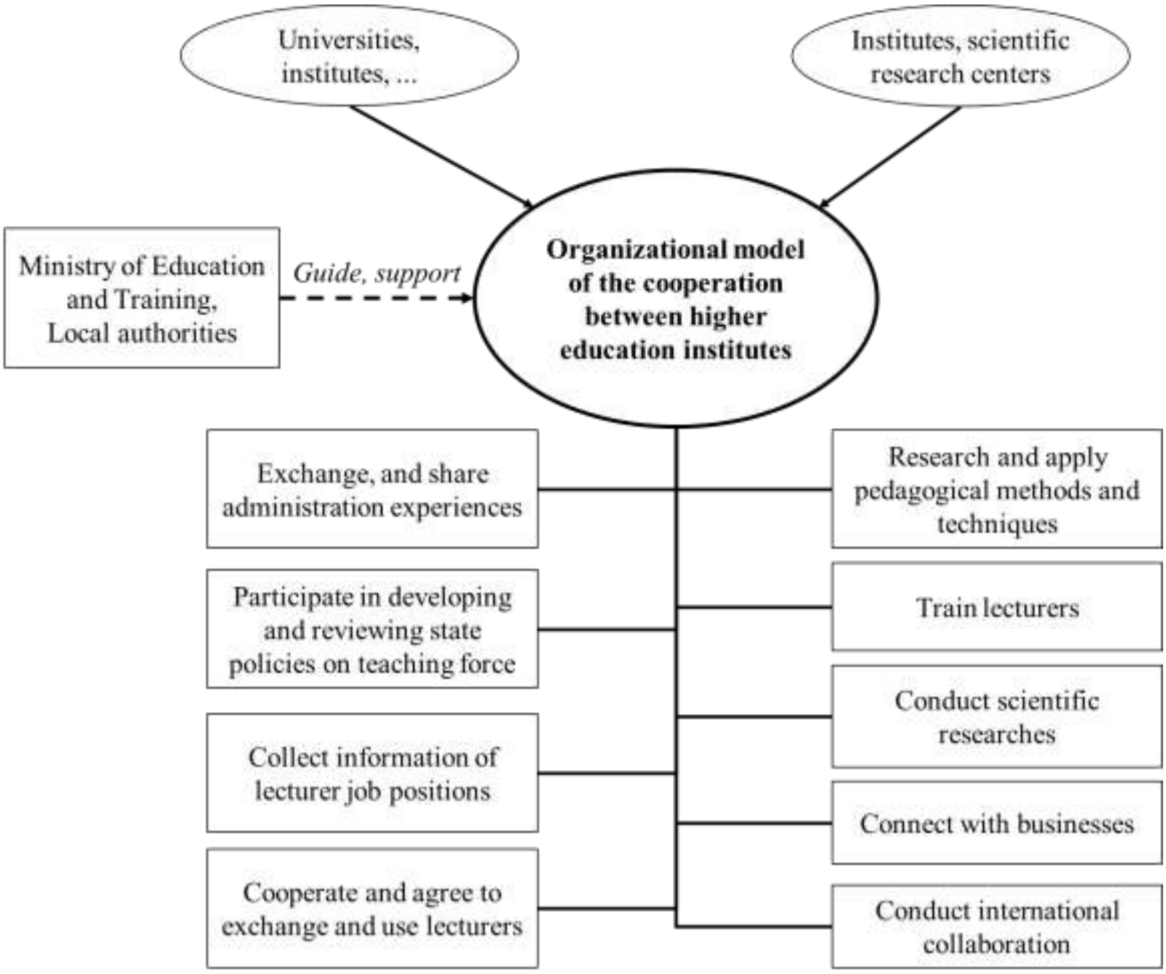
Concerning university education in Vietnam, when the policy of university autonomy is being strongly piloted, the roles of state management in education and training is changing from giving orders to becoming the one who promotes, supports, and guide, the formation of cooperation between universities education institutions needs the orientation, expedition, and support of the state management.

In particular, the National Assembly and the Government need to develop and issue legal documents regulating association activities between universities to create a legal corridor and orientation for this activity. The Ministry of Education and Training and local authorities need to direct and guide universities to build and form connections between universities education institutions, firstly between local schools; determine the mechanism, resources, and direction of operation; pay attention to invest and create new motivation for universities to shake hands to cooperate and support each other to develop based on proactive cooperation and linkage between universities. In addition, the two National Universities of Hanoi and Hochiminh City, and regional universities also need to promote their pioneering roles and foster the remaining universities.

The model of the association between universities in the participating localities, with resources and operating budgets from the universities themselves, with partial support from the State and local authorities.

The organizational model and operational aspects of this affiliate can be visualized through the following diagram:

Figure 3: Organizational model of the association between higher education institutions



The association between universities operates on the initiatives of cooperation, exchange, and sharing among universities education institutions in the following aspects:

- Is a place for cooperation, exchange, and sharing of information and experiences among universities in management and the development of universities education in general and the development of lecturers in particular.

- Represents the interests of member universities and promotes the development of lecturers through state policy research and also proposals on various areas of higher education.

- Act as a focal point to collect information on the demand for lecturer positions of university members.

- Develop a mechanism for collaboration and exchange of lecturers among universities. This helps to limit the shortage of lecturers among universities in the short term, and it is also a solution to increase income and experience for competent lecturers.

- Is the center for scientific researches on pedagogy; studying and designing training programs, fostering pedagogical skills, applying scientific and technological achievements in teaching activities.

- Is the focal point to organize scientific researches, organize large-scale seminars towards building a database of scientific research results to support scientific research activities of lecturers in universities and other institutions and organizations.

- Gathering resources of member universities together to support and promote external linkage activities such as: linking with businesses, international cooperation in scientific research, and application development faculty members.

5. References

1. Central Committee of the Communist Party of Vietnam (2013), *Resolution No. 29-NQ/TW dated November 04th, 2013 on "Basic and comprehensive innovations, meeting requirements of industrialization, modernization in socialist-oriented market economy & international integration" approved by Central Conference 8 (the 9th time),* Hanoi.

2. KCUE (2019), *Korean Council for University Education [Brochure],* http://english.kcue.or.kr/board/bbs/board.php?bo_table=About_05_01

3. Nguyen Van Phong (2020), *State management of lecturers development at public universities*, Journal of Political Theory No. 9-2020, Hanoi.

4. The Prime Minister of Vietnam (2012), *Decision No. 711/QD-TTg dated June 13, 2012 approving the "Strategy for development of education",* Hanoi.

5. UCET (2019), *Strategic plan 2020 – 2025 [Brochure],* https://www.ucet.ac.uk/mission

6. https://www.moet.gov.vn/

7. https://www.ucet.ac.uk/

8. http://www.kcue.or.kr/

ROLE, IMPACT OF CULTURE ON HUMAN RESOURCES QUALITY AND ECONOMIC DEVELOPMENT IN VIETNAM TODAY

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Abstract

Culture is created by man. With the function of orienting and training people according to the values of truth - goodness - beauty, culture is capable of building and forming positive values of human resources to contribute to the cause of economic development - society of the country. There is a close relationship between culture, quality of human resources and economic development. Promoting the role and value system of culture to human resources will contribute to the creation of high-quality human resources, and high-quality human resources will create potentials for economic development. On the basis of analyzing the role and impact of culture on the quality of human resources and the economy, the article proposes some key solutions to promote the role of culture in human resource development and economic development in Vietnam today

Keywords: *Culture, economy, human resources quality.*

1. Introduction

Currently, we are building an advanced culture imbued with national identity based on the view of sustainable development between people and nature, people with people and the development of people themselves. Cultural development cannot fail to refer to the human resources of society in the process of participating in the preservation, promotion, development and creation of cultural values; and cultural development cannot but be associated with economic development. Today, in the context of globalization, Vietnam is a developing country with low per capita income, in order to avoid the risk of lagging behind in terms of economy, science - technology, education - culture. Focusing on improving the quality of human resources, being able to adapt and be creative in the current conditions is an important solution in the socio-economic development of the country.

2. Method

On the basis of using methods of analysis, synthesis, systematization and generalization of relevant documents on culture, quality of human resources and economy; the article analyzes the role and impact of culture on the quality of human resources and economic development; on that basis, to propose key solutions to promote the role of culture in human resource development and economic development in Vietnam today.

3. Results

3.1. Culture, human resources, the role and impact of culture on the quality of human resources

** Cultural*

Although it appeared early in linguistic life in both the East and the West, it was not until the eighteenth century that the word culture was used as a scientific term. And since then, culture has become a concept mentioned by many researchers and analysts in the humanities: ethnology, sociology, history.... The concept of culture is therefore also become more multifaceted, richer. Although in the past few decades, due to the position and role of culture being increasingly affirmed in human life as well as in the sustainable development of countries, the concept of culture is being mentioned more and more often, became popular and penetrated into all human activities and inseparable in all areas of social life such as: labor culture, school culture, leadership culture, culture business, traffic culture, network culture, consumer culture....

From different perspectives, experts in each field want to come up with their own definition of this concept. Therefore, up to now, there have been hundreds of definitions of culture. These definitions complement each other, contributing to enriching mankind's knowledge of culture.

Through many definitions of culture, in general, the concept of "culture" can be understood in two main meanings: in the broad sense and in the narrow sense.

In a broad sense, culture is the totality of material and spiritual values created by man in history through human activities to satisfy his material and spiritual needs.

In a narrow sense, culture refers to one side, one area of social life, that is, the spiritual life of society, distinguishing cultural life from material life such as the economy. Specific areas of human life such as culture in daily life, religious life, spirituality, festivals, customs, practices, ethics, lifestyles of individuals people, communities, of a nation….

Each definition of culture is reasonable, because it is a broad category that scientists exploit it under different approaches, but it helps people to imagine what culture is and what culture is. things. The difference is due to the approach and research objectives. But they all agree on the most common and basic issues and are expressed in the following basic characteristics:

Firstly, culture is a unique characteristic of man, a product created by man in the course of his long history, therefore, culture is imbued with "humanity". Cultural products are created through human creative activities. That activity takes place in three basic areas: people are constantly learning, practicing, and developing all their inherent abilities to perfect themselves, creating for themselves a cultural personality to meet the requirements of society; Humans are constantly fighting and renovating to perfect their society, making each individual and community have an increasingly happy life, reaching for high ideals; Humans are constantly active in exploring nature, renovating, conquering and adapting to nature to build a perfect and perfect cultural nature. It is thanks to these creative activities that the society is constantly developing.

Second, culture is what counts. Not everything man-made is culture, but only what man-made has value is culture. Everything towards truth, goodness and beauty is culture.

Third, culture is both stable and stable and transformative, developing because culture is always preserved, inherited and created. Culture crystallizes the values created by humans, preserved, preserved and handed down from generation to generation, forming relatively stable and sustainable traditional cultural values.

Fourth, culture is class, national and human. The class character of culture is reflected in the ideological regulation of the ruling class towards the direction of cultural development, content and ideology of culture. Culture development in the direction of progress, positive or conservative, backward depends on the class nature of the oriented culture. In addition, each culture is associated with a certain nation, created by the people of that culture, so it is imbued with the bravery and character of the nation.

** Human Resources*

Human resources are understood as the total professional qualifications that people accumulate, capable of generating future income (Beng, Fischer & Dornhusch, 1995). Human resources, according to Prof. Pham Minh Hac (2001), is the sum total of the labor potential of a country or a locality willing to participate in a certain labor job.

When it comes to human resources, people talk about qualifications, structure, and responsiveness to the requirements of the labor market. The quality of human resources is reflected in the knowledge, skills and attitudes of employees. The classification of human resources by occupations and fields of activity (industry, agriculture, and services) is very popular in our country today, but when switching to the knowledge economy, the classification of labor according to access to jobs and occupations of workers will be more appropriate. The workforce is thus divided into information workers and non-information workers. Information workers are divided into two categories: knowledge workers and data workers.

Data workers (secretaries, technicians, etc.) work mainly with encrypted information, while knowledge workers are faced with idea generation, or prepare for encoding information. Management labor lies between these two categories. Non-information labor is divided into labor producing goods and labor providing services. Non-informational labor is easily coded and replaced by techniques and technology.

Thus, it is possible to classify the workforce into 5 categories: knowledge workers, management workers, data workers, service workers, and goods production workers. Each of these types of labor has different contributions to the creation of products. The high or low level of knowledge and intelligence in the labor product depends mainly on the contribution of the knowledge workforce, management and to what part of the data labor in our country, the rate of unskilled labor Information is still very high in the structure of the labor force, so goods have a low rate of intelligence. In order to increase competitiveness in the international market, it is necessary to rapidly increase the percentage of intellectual property in goods in the coming time.

** The role and impact of culture on the quality of human resources*

From a cultural perspective, deep research into the quality of human resources as the driving force of human creativity (from competence to artistic style and aesthetic enjoyment in culture) can be seen. the motivation for creative activities is the mechanism of spiritual enjoyment as a specific direct benefit, not a direct material benefit. The capacity to form aesthetic enjoyment is the ability to be human, which is the intrinsic forces in man or subjective sensibility in the creative subject.

The process of socializing the human and material resources of society and the process of personalizing the individual's levels, creative capacity and aesthetic perception, cultural creative subjects are two-sided, two-sided. parallel process, making the guiding principles of artistic and cultural activities. This is the fundamental driving force of human cultural creation activities. Meanwhile, in the rather special field of spiritual creative activity, which is the field of artistic creation, the specific motivation is the source for human spiritual enjoyment (aesthetics) through practice. human labor and creativity.

The impact of culture on human resource quality is expressed in the following aspects:

Firstly, focusing on building human resources in the fields of creative labor, promoting personal capacity in the fields of economy, politics, society, education and technology in combination with creating a working environment. convenient, modern work, avoiding brain drain.

Second, orienting creative activities of individuals and society, ensuring the values of truth - goodness - beauty of tradition in modernity, constantly developing and enhancing the human values of Vietnam. nation. Building an advanced culture imbued with national identity.

Third, focus on positive cultural factors in order to promote the dynamism and originality of individuals' creative abilities in the trend of cultural development, promoting the process of cultural socialization. In the process of building and developing Vietnamese culture, the influence of culture on the quality of human resources is aimed at building a comprehensive human being who is qualified in terms of ideology, morality, and style. life and cultural personality, to meet the requirements of the period of industrialization and modernization of the country and international integration.

3.2. The role and impact of culture on economic development

The relationship between culture and economy is the basic relationship in the process of socio-economic development of nations. This is a dialectical relationship and plays an important role in maintaining the economic, political, cultural and social stability of each country. The role and impact of culture on economic development is shown as follows:

Firstly, culture is both the goal and the driving force of socio-economic development.

Culture is the goal of socio-economic development. The goal of socio-economic development is, after all, for people, but it is people with culture, economic construction and development must aim at building a rich people's society, strong country, and democracy. , fair, civilized, people are prosperous, happy, comprehensive development. Therefore, culture serves as an immediate and long-term goal of economic development.

Culture is the driving force of development. Culture is not only the goal but also the driving force of development. It is thanks to culture that people become the leading factor in the process of production and creation of human values. In particular, thanks to the great values of spiritual culture (science, technology, management knowledge...) can create high-quality human resources - the most quintessential part of the productive force. . Then it is also thanks to culture that people are freed from ignorance and darkness in order to highly promote the creativity and development of society, especially in the fields of economy and science - technology.

In this day and age, the source of a nation's wealth is not only natural resources, capital, techniques and technology, but an increasingly important and decisive factor is human resources, which is potential. human creativity. This potential lies in the culture, intellect, morality, soul, personality, lifestyle, will, energy, talent and work proficiency of each individual and community. Thus, the most valuable resource, the most precious capital is people, culture, high quality human resources, knowledge and wisdom in the knowledge economy.

Reality in the world shows that many countries have many natural resources but are very poor; On the contrary, some countries are poor in natural resources but very rich in economy, because they attach importance to improving people's knowledge, developing education and training, training high-quality human resources, fostering talents ... that is to say, attach great importance to culture. After all, the most valuable resource is people.

Second, culture is the basis for the sustainable development of the economy.

Sustainable and safe development is the eternal goal of every social system. Development must not only be considered in terms of mere material things, but also must include the spiritual aspects of society, that is, cultural and development issues must be taken into account. Development and culture, culture and development are two sides of the same goal of existence and achievement of all communities and mankind. It is culture that is the factor used to regulate sustainable and safe development, towards the right, the beautiful, the good, the reasonable.

To achieve that goal, it is necessary to have a high development in economy, material and technical foundations, science and technology... But that alone is not enough and very one-sided, if understood. Economic construction and development is simply growth, growth at any cost, even at the expense of social, cultural, and human dignity benefits...

In fact, humanity has been paying the price for fast and one-sided economic development, growth is not associated with sustainable development. In 1996, the United Nations Development Program (UNDP) recommended five types of bad growth, including: 1- Growth without employment, which is growth that does not go hand in hand with expanding job creation opportunities. .. 2- Growth without conscience, that is, the fruits of growth are mainly for the rich, while the poor enjoy little, the gap between rich and poor is widening; 3- Growth without a voice, that is, economic growth without the expansion of democracy, limiting the population's demands for greater participation in social life; 4- Rootless growth, which is the growth that makes the cultural life of people become dry; 5- Growth without a future, ie the present generation squanders the resources that future generations need, including the environment and natural resources.

Any development that is not associated with culture is a crippled development that is heavily technical and inevitably leads to social injustice, leading to the rich-poor divide and social division.

3.3. Solutions to promote the role of culture in the development of the quality of human resources and economic development in Vietnam today

Firstly, building people, cultural lifestyle.

The construction and development of Vietnamese culture must firstly aim at building a comprehensive human being with sufficient qualities of ideology, morality, lifestyle and cultural personality, meeting the requirements of economic development. economic, social and requirements of the period of international integration. The development of human resources in Vietnam is built on the foundation of respecting and protecting human rights, forming the Vietnamese human personality, converging full of good qualities, imbued with traditional human character. Vietnam, that is:

- Having a spirit of patriotism, national self-reliance, promoting internal strength, having the will to learn and rise.

- Having a healthy lifestyle, a civilized, thrifty, honest, humane lifestyle, obeying the law, respecting community conventions, taking care of community building.

- Constantly improving knowledge, lifelong learning; independent thinking and self-responsibility, and a spirit of cooperation; work effectively in the organization, according to the professional group. Having an open mind to the new, dynamic, creative, making efforts to approach and apply the most advanced knowledge of science and technology in the world to serve the development of the country.

- Exercise physical strength, improve physical condition, cultivate, accumulate knowledge, professional skills and human ethics.

- Building family unity, harmony, equality, discipline and order, ensuring stable and developing economic life; promote the spirit of solidarity, mutual love, voluntariness, self-governance, democracy and mastery capacity in community activities, building a healthy social environment, and protecting the ecological environment.

Second, continue to supplement and perfect cultural policies for human resource development and the economy.

To support the development culture, it is necessary to apply many different policies, suitable to the development situation. In the early stages of socio-economic development, the cultural sector is supported by the State as a key, both ensuring cultural development and contributing to improving the people's spiritual life. As the economy has developed better, the role of the private sector and businesses has been increasingly affirmed, and indeed has become the main and important sponsor of culture. The active participation of the private sector is encouraged by tax policies and preferential fees for cultural and artistic activities. On the other hand, when some cultural fields have become highly profitable entertainment businesses, the State may not need to support and tax to generate investment income back into the cultural industry.

In addition, the level of investment of the State in culture must correspond to the level of economic growth. Effectively, openly and transparently use the State's investment sources, with focus, focus, priority on mountainous areas, border areas, islands, ethnic minority areas and some types of art Traditional art needs to be preserved and promoted.

Constantly interested in building a culture in the economy. Create a legal cultural environment, a transparent, progressive and modern market for cultural products for businesses to participate in building and developing culture. Building corporate culture, entrepreneurial culture with a sense of respect for the law, keeping credibility, healthy competition, for sustainable development and defense of the Fatherland.

Promoting national consciousness and spirit, encouraging the entire people, first of all, businesses and entrepreneurs to build and develop reputable Vietnamese brands in the domestic and international markets.

Third, build economic culture, human resource culture, of which the most important are corporate culture, business culture and entrepreneurial culture.

Corporate culture.

In order for enterprises to become a gathering place, promoting all human resources, multiplying the value of each individual human resource, contributing to the sustainable development of enterprises, it is required that enterprises Build and maintain corporate culture. Corporate culture is the culture of an organization, so it's not just communication culture or business culture as we often think, but it's all cultural values built during the process, the existence and development of the enterprise, influencing the emotions, thinking patterns and behaviors of all members in the enterprise, making the difference between enterprises.

The core of corporate culture is the spirit and values of the enterprise. According to researchers, corporate culture has 5 components, which are: management and business philosophy; motivation of individuals and organizations; prescribed process; information exchange system; movement, rite, ritual.

Business culture.

In a broad sense, business culture is an aspect of culture in society, a culture in business activities, including all material and spiritual values, methods and results of human activity, created and used in business processes.

Business culture manifests itself through all aspects and relationships of business activities, in business organization and management; manifest in business communication. Specifically, the implementation of corporate social responsibilities, such as making full contributions to the state budget, protecting the environment, respecting ethical codes in social relations, business relations, etc. business...; in the ethical qualities, talents and style of the businessman.

In addition, business culture is also reflected in the cultural and spiritual activities of the enterprise. Business culture is influenced by many factors, such as social culture, social institutions, cultural differences and exchanges, as well as the process of globalization.

Business culture has a great role and effect in production and business activities. When culture crystallizes into business activities, it will form a cultured business method, it is an honest and upright way of doing business, stimulating healthy competition, without harming the good traditions and customs of the nation, creating a close relationship between manufacturers, traders, businesses and consumers on the principle of mutual benefit. Only when implementing a cultured business model can high efficiency and sustainable development of the subject be combined.

Entrepreneurial culture.

Entrepreneurial culture can be understood as belonging to the line of individual culture formed in the environment of a successful entrepreneurial culture. It is the entire capital of knowledge and experience expressed as values and behavioral patterns accumulated into an individual to create an entrepreneurial culture - a person with aspiration to get rich, knowledgeable to get rich, dare take risks to get rich by organizing business activities, continuously creating high added value, constantly increasing personal and business assets.

Building corporate culture and entrepreneurial culture with a sense of respect for the law, keeping credibility, and healthy competition for the sustainable development of the country.

Fourth, attach economic growth and human resource development to the realization of social progress and justice.

Social progress and justice are two parallel goals of social development. On the one hand, the ultimate goal of economic development is human development, the ultimate goal of socialism is to realize social progress and justice. On the other hand, economic growth at the same time helps people have more opportunities, access to cultural values, and move society forward. Therefore, building a culture in the economy for the sustainable development of the country needs to ensure the harmony between economic growth and social progress and justice.

Social progress is the movement of society from low to high level, from backward to civilized and modern. According to our Party, social progress during the transition to socialism in our country includes the following criteria: 1- The productive forces develop with increasing scientific content with appropriate production relations in accordance with the socialist orientation; economic growth fast, high quality and sustainable; 2- The people's right to mastery over all aspects of social life is guaranteed; The socialist rule of law state of the people, by the people and for the people is pure and strong; democracy is promoted; discipline is respected; 3- Culture, education - training, science and technology are expanded, people's intellectual level is developed, people-to-people relationships are healthy, bad habits and social evils are promoted. backward; 4- The ecological environment is protected and improved; 5- People have the conditions to gradually develop physically, intellectually, morally and professionally; have an increasingly prosperous, free and happy life; contribute and enjoy the fruits of development equitably.

Social justice is an expression of social progress. The content of the concept of social justice is very broad, so although this concept is very common and popular, it is very complicated and difficult to uniformly measure.

In general, social justice is the fairness in income distribution, development opportunities and conditions for realizing development opportunities. Thus, social justice is a very broad concept that includes economic, political, cultural and social factors. The main measures of social justice are the human development index (HDI), the Lorenz curve, the GINI coefficient, the level of poverty, the level of satisfaction of basic human needs.

4. Conclusion

The development of culture is associated with historical and social conditions, creating conditions for cultural activities, and culture also brings a new face to society. The new cultural elements of society originate from the new nature and level of labor. Culture promotes development and is the result of development, a measure of human and social development. Perfecting humanity, human personality, developing a just and civilized society, for human freedom and happiness, that is the highest cultural value. That is also the deepest goal of culture. At present, the investment in effective development of human resources not only strengthens the endogenous creative labor source of the national culture, but also enhances the ability to master technology, competitiveness and absorb modern scientific achievements.

5. References

1. Communist Party of Vietnam (2016), *Document of the 12th National Party Congress*, Office of the Party Central Committee, Hanoi, p.126.

2. Nguyen Tiep, Textbook of Human Resources, Social Labor Publishing House, Hanoi, 2008.

3. Pham Minh Hac (1996), *Human issues in the cause of industrialization and modernization*, National Political Publishing House, Hanoi.

4. Tran Kim Dung (2006), *Human Resource Management*, Statistical Publishing House, Ho Chi Minh.

THE PROCESS OF TAKING OVER AND UNIFYING THE BANKING SYSTEM IN VIETNAM AFTER 1975 - POLICIES ON RESOLVING CONFLICTS DURING THE TRANSFER PROCESS

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Abstract

Unlike 1945, after the successful August Revolution, the revolutionary government could not take over the Indochina bank, which was still in the hands of the French at that time, however, one of the successes of the revolution after the liberation of the South and the reunification of the country in 1975 was that the revolutionary government took over the entire banking system of the Saigon regime. The article clarifies about one of the economic management policies of the Vietnamese government after the liberation of the South Vietnam in 1975. Through the study of the process of merging and unifying the banking system between South and North Vietnam, on the basis of original documents from the National Archives Centers and State Bank Archives, the article shows the ways that the Vietnamese government took to minimize conflicts during that transfer. The article shows two main measures by which the Vietnamese took over and unified the banking system: First of all, it made careful calculations based on the legal basis to build the legality for the takeover and inheritance of the entire banking system of the former Saigon's regime as well as its assets inside and outside Vietnam. Second, even while the country was still at war, it had prepared material and human conditions for the process of bank takeover and unification. The use of staff of the former Saigon's regime as an important force in the process of merging and unifying the banking system had contributed to minimizing the friction of the transfer process.

Keywords: *Unification, Banking system, Economic policy*

1. Introduction

When any country is invaded and divided, the damage to the territorial unity and integrity is always shown most clearly. Therefore, national unification is a long and complicated process. That unity is reflected in many fields, in which it is especially important in terms of territory, institutions and economy.

After April 30, 1975, in Vietnam, there were two entities: the North was a centrally planned economic model, while in the South, due to the policy of colonialism the capitalist elements had penetrated strongly into all economic sectors and oriented the South's economy to develop along the capitalist path. Especially at this time, the situation of money circulation in both regions of the country was quite complicated, while the banking systems in the two regions were also built according to different models.

Meanwhile, money and banking, which are reckoned as the nervous system of the economy, were well prepared for takeover and unification after liberation day. The Vietnamese government had issued many legal documents, forming a system of policies on monetary, credit, payment and foreign exchange to operate monetary and banking activities uniformly across the country. Therefore, the study of the banking unification process in Vietnam since 1975 will contribute to the identification and assessment of the Vietnamese economy in this period in general and the economic management and administration of the Vietnamese government in particular in a more specific, positivistic and profound way.

The article focuses on clarifying the process of unifying the banking system in Vietnam after the liberation of the South and reunification of the country. The article points out the main reasons contributing to minimizing conflicts of interest, legal as well as emotional in the process of transferring and unifying the banking system.

Up to now, historical and economic researchers have had a lot of research works, monographs on Vietnam's banking activities, banking history from historical or economic perspective:

- *Vietnamese authors:*

In 1981, the book titled "*30 years of Currency - Credit - Banking*" of the State Bank of Vietnam provided knowledge about currency, credit and finance in Vietnam through historical periods and on different regions of the country such as the North, the Central and the South. In particular, the work introduced and analyzed the history of the Vietnamese currency, along with images of money samples over time, the role of the national bank in credit allocation and currency issuance.

On the occasion of the 50th anniversary of the establishment of the State Bank of Vietnam, in the special issue of Banking Review in 2001, scholars, former bank leaders, and bank officials or those who participated in the bank takeover after the liberation of the South published a number of articles. Typical were articles such as: "*Unifying the Country, Unifying the Monetary -Banking System*" by Pham Ngoc Phong, "*The Journeys of Operation and Struggle on the Finance - Currency - Banking front*" by Hong Linh, "*Taking Over the Southern Banking System in 1975*" by the author with the pseudonym N.C.T, "*Journey to the Office Central Bureau of the South to Take Over Saigon - Gia Dinh*" by Le Hoang. These works were about the takeover of Saigon's banking system. Some of the works were the memories of those directly involved in the takeover. The takeover policies, the preparation for the unification of the two South - North banks have been mentioned vividly and truthfully in the above articles.

One of the prominent researchers on modern Vietnamese economic history was Dang Phong The book "*History of Bank for Foreign Trade of Vietnam 1963-2003*" by Dang Phong published in 2003, records the achievements of the Bank for Foreign Trade of Vietnam in different revolutionary periods, especially the time of implementation of aid for the southern revolution during the years of resistance against the US and the early period of market economy access. The work also analyzes Bank for Foreign Trade of Vietnam's activities, the takeover and currency exchange in the South of Vietnam in the early days after liberation. In 2015, Duong To Quoc Thai published the article "*The Process of Taking over and Reorganizing the Banking System in South Vietnam after liberation (1975 - 1979)"* on the Journal of Historical Research, No. (474), p. 38-49, 75; The article analyzes the process of restructuring the banking system in the South by the Provisional Revolutionary Government of the Republic of South Vietnam with the main tasks such as: establishing state management rights over the entire banking system; take over vaults, mortgage shops, records of all kinds, books, invoices, vouchers...

In 2016, the State Bank of Vietnam published the work "*History of Vietnam Bank*", National Political Publishing House, Hanoi. This work records important milestone of the banking industry in both the South and the North Vietnam, in which chapters 9, 10 and 11 of the book refer to some banking activities in Vietnam since 1975.

- *Foreign authors*

Ten years after reunification, in 1985, Rüdiger Machetzki, published the book "*Vietnam in 1985: The Fettered Economy*" published in Southeast Asian Affairs (1986), pp. 353-365. The work refers to the economic development results of Vietnam after 10 years of reunification The author believes that although Vietnamese leaders see this period as a "shining" chapter in Vietnam's modern history, there were setbacks in the economic field. According to the author's assessment and conjecture, the economic reforms in the years 1979-1985 only led to patchy results and political and ideological opposition.

In 1989, Tetsusaburo Kimura - scholar of the Kyoto Institute of Developing Economies published the work: *The Vietnamese Economy 1975-1986 Reforms and International Relations*. The work is a macro analysis of the Vietnamese economy after reunification, emphasizing the level of economic growth and the inefficiency of foreign aid. The author believes that when "reunifying" the country, the government of the Socialist Republic of Vietnam has applied the economic model of the North to the South. The consequences of the process of "Northernization" led to an economic crisis across the country. Although Vietnam carried out partial "reforms", it ended up falling into a financial and economic crisis after the September 1985 monetary reform.

With the same interest in research on Vietnam's economy in the transition period, in 1996, Adam Fforde and Stefan de Vylder published a book "*From Plan to Market: The Economic Transition in Vietnam*", Boulder and Oxford: Westview Press. The book consists of 9 chapters that deal with aspects of Vietnam's economy during the transition period that began when North Vietnam adopted the command economy model under the government of the Democratic Republic of Vietnam and was extended until the post-unification period (1957-1979).

The above studies have brought a multi-dimensional view of the Vietnamese economy, Vietnamese government's economic policies and limitations of the Vietnamese economy after the reunification of the country. However, most of the above works have not explored deeply into Vietnamese government's specific measures and policies to minimize conflicts in the process of transferring and unifying the banking systems of the South and North Vietnam as well as difficulties in diplomatic and monetary relations that Vietnam was facing at this time. The use of original documents, which are executive instructions and investigation and statistical data on the financial and banking situation of the former Saigon government and of foreign banks during that time in Saigon, which are stored at the Archives Centers in the above works, is still missing. This article will try to supplement the above limitations.

2. Method

Historical method and logical method are the two main methods used in the research process. The article exploits many original sources of documents stored at the National Archives Center II - where most of the documents and reports on economic activities in general and the operation of the banking and monetary system in the last days of the Saigon regime were concentrated. At the same time, the article also exploits other important archival materials currently being kept at the National Archives Center III and the State Bank's Archives with records on government policies and currency's situation as well as the operation of the State Bank of Vietnam after the reunification.

3. Result

3.1. Situation of taking over and unifying the banking system in Vietnam after 1975

With a brilliant military victory on April 30th 1975, the Vietnamese revolution entered a new phase: From war to peace, from half of the country divided and dominated by neo-colonialism to an independent and unified country.

In the economic field, after the liberation of the South, the Central Office for South Vietnam issued a Resolution on maintaining the economic status quo for a period of time to ensure stable life for the people. However, when the resolution was presented at the 24th Conference of the Central Committee of the Communist Party of Vietnam, it was not accepted. The majority of delegates at the meeting wanted to immediately unify on an economic model, because they believed that after peace, Vietnamese government could organize business better than the economic model of the former Saigon regime (Dang, 2001, p.91). By the time the Conference officially issued the Resolution, this trend was even more confirmed: In favor of renovating and eliminating non-socialist economic sectors, economic management in the North's style, nationalization of bourgeoisie economic property and basic, turned them into the ownership of the entire people and were managed by the State (Communist Party of Vietnam, 2004, p. 408).

The guidelines and policies on monetary and banking unification were affirmed in the 24th Conference Central Executive Committee of the Communist Party of Vietnam, dated September 29, 1975 as follows: "It is imperative to renovate and build urgently banking system, expand the operation of state banks and professional banks of the State serving production and business; abolish all private banks; Depending on the case, it is possible to allow the opening of a number of international banks on the basis of reciprocity between our country and foreign countries; Soon to unify banking system in the whole country" (Communist Party of Vietnam, 2004, p. 418). Thus, in terms of directions as well as tasks, the Central Government had resolutions indicating relatively fully that monetary-banking unification was an important step in the chain of completing the reunification of the country.

In July 1976, Vietnam was reunified in terms of the State administration, and the official name of the country was "Socialist Republic of Vietnam" (Office of the National Assembly, 2003, p. 304-305). The management of the country was under the responsibility of the Council of Ministers, the Government of the Socialist Republic of Vietnam. All apparatuses of ministries and branches in both regions, which previously temporarily held two titles of two different regimes, had officially merged. After the consolidation of the banking system in the two regions, the first State Bank Directors' Meeting was held in Hanoi (May 1976). The meeting discussed and decided on major policies and measures in banking activities of the whole country. Since then, the principle of unified centralized management in the monetary, credit and banking fields, the principle of import and export management, and the issuance of money in the State Bank system had been thoroughly understood and strictly followed in the whole system.

The State Bank of Vietnam was the central agency of the Government Council and was a sector-wide economic accounting organization, performing the unified state management of credit, payment, issuance and cash management. As an instrument of the State dictatorship of the proletariat, the State Bank of Vietnam unified its organization according to the principle of democratic centralism. The General Director of the State Bank leads and directs all aspects of activities of the entire State banking industry, was responsible to the National Assembly and the Government Council for the activities of all State Bank agencies in the whole country.

The State Bank system consists of 3 levels: Central Bank; Provincial and city banks; Banks of districts, towns, neighborhoods and concentrated economic zones.

According to the State Bank of Vietnam statistics, right in the first year of unifying banking, the revolutionary government quickly took over the banking system of the former government in the South Vietnam, keeping assets (including: money, gold and silver precious metals, documents) safe, liquidating private banks, immediately building a revolutionary State Bank system, establishing a banking organization in provinces, cities, districts and about 1,000 transaction offices (Prime Minister Office, Social Republic of Vietnam, 1976, p. 62).

3.2. Policies on resolving conflicts in the process of merger and unification

** Building legitimacy for the takeover, unification*

After liberation of the South, while the State was facing difficulties in capital to serve the 5-year economic plan (1976-1980), the South was able to revoke tens of millions of dollars of goods, foreign currency and could use hundreds of millions of dollars of foreign credit. However, the revolutionary government had to deal with a very complicated and difficult situation in monetary, credit and payment operations:

- Foreign exchange assets of the former Saigon’s regime were scattered in foreign banks (large amounts of foreign currency, bullion, standards were located in US banks and other countries blocked by the US).

- Foreign currency balances of foreign exchange banks under the Saigon’s regime were also located in foreign banks. These banks had not confirmed their balances and had not acknowledged the revolutionary government in South Vietnam as owners.

- Exports of merchants under the former Saigon’s regime as of April 30, 1975, which had not yet been confirmed by foreign countries for payment. Goods imported by trade and aid were scattered at many ports abroad[73].

Thus, although foreign currency and gold were within reach, it was not easy to revoke because many problems related to the US and its allies were one of the obstacles to the above work.

At the request of the US Department of State, the US Treasury Department announced the seizure of any assets that North Vietnam might have in the US and prohibited all financial and commercial transactions between Americans and North Vietnam people. Besides, the attitude of the authorities in Hong Kong and Singapore, although they want to help Vietnam, on the other hand, were under pressure from the US. The authorities had an unequivocal attitude, asking Vietnam to send lawyers to court to reduce US pressure on them. Some boats (such as Vung Tau 260, Patrick, Truong Hai, Hong Van, Bong Hong 9 and 109 motor fishing boats) had changed their names, changed flags, and operated mainly within Singapore, Thailand, Malaysia and Philippines, so it was very difficult to detect (Prime Minister Office, Social Republic of Vietnam, 1976, p. 60).

In addition, the export business of the capitalist banks located in South Vietnam was very complicated. Importers (overseas) may dispute about the quantity and quality of goods, including whether they were received or not. In many cases, importers (foreigners) pay directly to foreign banks or the Vietnamese who had evacuated, regardless of whether the importers' branches locating Saigon. They took advantage of unfinished business opportunities in the period of transferring between old and new regime (Prime Minister Office, Social Republic of Vietnam, 1977, p. 50).

The liquidation of banks in the South was also difficult because the Letter of Credit (L/C) had been sent to the exporter (foreign) but the item code had not been sent or had already been sent but lost along the way. There were cases where the goods had arrived, the

[73] The specific situation was as follows: trading firms of Hong Kong, Singapore, Japan... still kept Vietnamese goods without reporting. Goods at Saigon port were still stagnant: over 1,000 tons, while some items need to be delivered quickly such as cigarette filters, new medicines, shaving blades, and auto parts. If left them for a long time, they would be destroyed.
According to the Bank for Foreign Trade, imported goods that had been paid for but had not been received were $30 million. At that time, the quantity of goods exported but not yet collected was 3.000.000 USD. The assets of the embassies and diplomatic facilities of the former Saigon’s government abroad include 19 buildings, 65 cars and a large number of office equipment, houses, air conditioners, vehicles and other property. The foreign currency of the Saigon embassies abroad was about 47.350 USD and the local currency was 68.568 USD, excluding the money in the banks of the US allies and US. (Prime Minister Office, Social Republic of Vietnam, 1976, p. 3)

import department of Vietnam had received the goods but had not yet paid the payment between the bank and the foreign exporter because of the lack of payment records.

In addition, there were many unsettled checks and bills of exchange between intermediary banks and agents, between domestic and foreign customers. Moreover, foreign exchange blocked by the US, therefore, this issue of liquidation and foreign payment had been long, difficult and complicated for the Bank for Foreign Trade of Vietnam and for the handover later.

Therefore, in the first period after liberation, the policy of the Government of Vietnam was to only take over the banking system to avoid losing important assets and foreign currencies of the former Saigon's government, which were currently located abroad. Especially to create legitimacy in inheriting the assets (gold, foreign currency) left by the former Saigon's regime, on June 6, 1975, just a few dozen days after liberation, the Revolutionary Government Provisional South Vietnam signed Decree No. 04/PCT/75 dated June 6, 1975 allowing the National Bank of Vietnam to resume operations and allowing operations in all fields of currency and credit, payment, foreign exchange management, gold and silver and precious metals, gems. For previous deposits and savings, indebted banks (including foreign banks) were responsible for payment and transfer the books to the National Bank of Vietnam in the South. The National Bank of Vietnam in the South also undertaken all external-banking operations, encouraging the concentration and use of all foreign exchange and foreign currency sources to promote import and export activities beneficial to the national economy (The State Bank, 1976, p.1-2). This was an important legal basis for the takeover and liquidation of banking system of the former Saigon's regime.

As such, the Government and State of the Democratic Republic of Vietnam quickly found an appropriate approach to the takeover and unification of the banking system through some spectacular institutional stepping stones to synchronously handle the turning points of financial, monetary and banking life in half of the newly liberated country from the very first days of that special historical period. That was to allow the former National Bank of the Saigon regime to operate again but with a completely new nature, becoming the National Bank of the Provisional Revolutionary Government of the Republic of South Vietnam, which was the legal basis for inheriting the assets of the former Saigon's regime inside and abroad.

However, unlike the previous Financial-Banking Institution in the liberated area, the National Bank of the Provisional Revolutionary Government split assumed its duties in the new situation. The national banking system includes both a treasury organization, and state-owned banks such as the Agricultural Development Bank, the Industrial Development Bank, and the Vietnam Commercial Bank. Therefore, the branches of the National Bank in the localities had taken over the facilities and assets of the old banking system (including records, headquarters, vehicles and machines: computers, cars, safes…). At this time, the Politburo of the Central Committee also immediately made a decision that the new currency should not be changed immediately, but still kept the transaction name of the National Bank and the money of the former Saigon's regime for a while. This was considered a wise decision because it had created conditions for maintaining international relations, to recover the foreign currency assets, gold and silver of the old regime, and it had helped the Provisional Revolutionary Government of the Republic of South Vietnam to continue as a membership and capital at world monetary organizations such as IMF, WB, ADB...

Along with institutional building, in foreign policy, the Government of Vietnam had firmly grasped and applied international law and justice to fight for the establishment of inheritance rights to assets and credits, which could be used. From June 1975, when the Provisional Revolutionary Government of the Republic of South Vietnam decided to establish the National Bank of Vietnam on the basis of the takeover of the National Bank of the former Saigon's government, the Vietnam Commercial Bank (new)- *Viet Nam Thuong tin was* also born, with its own legal status and seal[74]. This was related to Vietnam's inheritance of foreign exchange rights for the later years.

When the Provisional Revolutionary Government announced the sole legal inheritance of the Provisional Revolutionary Government of the Republic of South Vietnam, from then on, periodically the balances on the accounts of Vietnam both capital and interest were regularly confirmed by foreign banks. On that basis, the new revolutionary government could in turn use the balances scattered at banks in New York, London, Paris, Singapore, Los Angeles to serve the purpose of economic construction and remedial war. According to the policy of the National Bank of Vietnam, Viet Nam Thuong tin was ready to restore and develop equal friendship relations and banking transactions with all banks in the world without any distinguish the political and economic regimes of each country[75].

The takeover of Viet Nam Thuong Tin shows the smart thinking of the Vietnamese Government in solving problems and conflicts in terms of economy and foreign policy between our country and many countries around the world. It is clear that the Vietnamese government not only accepts this bank to enforce the liquidation policy, ensure the public interests and legitimate interests of residents and "non-residents", but also uses the legal name of Viet Nam Thuong Tin, which was under the management of the Provisional Revolutionary Government of the Republic of South Vietnam, to take over the market according to the principle of inheritance. Thus, in a very difficult and sensitive context, Vietnamese Government used a flexible and flexible strategy. All foreign banking activities were still in the name of the National Bank of Vietnam and Viet Nam Thuong Tin. The purpose of the Provisional Revolutionary Government of the Republic of South Vietnam was very clear: until July 1976, when the country was unified administratively, according to the Resolution of the National Assembly of the Socialist Republic of Vietnam, the domestic

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[74] Vietnam Commercial bank (Viet Nam Thuong tin) was a large public commercial bank of the Saigon government, accounting for nearly 60% of the market share of foreign business activities of Saigon and the whole of South Vietnam before reunification.

[75] The legal basis of this inheritance was clearly explained in Notice No. 02/NH/75 dated 4/7/1975 of the National Bank of Vietnam in the South of Vietnam. Article 1 of the Notice clearly stated: All monetary, credit and payment transactions with foreign countries can continue to operate under the control of the National Bank of Vietnam (General Department of Foreign Exchange). (The State Bank, 1975, p. 3).

and foreign activities of the new National Bank have been gradually transferred to the Bank for Foreign Trade and the State Bank of a unified Vietnam.

Thanks to the above measures, the verification of inheritance rights with overseas assets in the name of the Provisional Revolutionary Government of the Republic of South Vietnam had obtained positive results. Until January 31, 1976, the work of protecting and recovering assets of the former Saigon's government abroad achieved the following results:

Regarding goods and ships:

For imported goods: According to the report of the staff of the former Saigon government, the imported goods paid for was 66.1 million USD (including foreign currency that had been advanced for kerosene and fertilizer). The Ministry of Foreign Trade had just revoked: 1436 tons of goods (milk powder, welding rods, chemicals, new medicines) valued at 2.896.984.71 USD; 465 tons of white cement sold in Japan for 2.700.000 yen, converted into 9000 US dollars; the amount of fuel, auto parts, and Honda parts recovered in Japan was 9,573 kg were brought to Hai Phong, and 15,618 kg were brought back to Saigon.

Regarding exports: According to reports, exported goods had been sent with a value of over 3 million USD, but the Government of Vietnam had only obtained 127 sets of certificates worth 866.187,70 USD and 262.769,17 Franc. Until December 31, 1975, Vietcombank only recovered 226.716,34 USD. Preliminary value of recovered goods recovered was 3.132.701,50 USD.

Number of boats recovered 6 ships 8.970 DWT (two ships of unknown tonnage). Among these, there was a damaged Truong Xuan ship sold at the price of scrap metal at HK$299.522 (remitted to Vietcombank) and another ship was transferred to Saigon and handed over to Sovosco for use. The estimated value of these 6 ships was about 1.000.000 USD. In addition, 9 DC3 aircraft engines and spare parts were delivered to the Civil Aviation Administration with a value of HK$300.000, equivalent to 60,000 USD (Prime Minister Office, Republic of Vietnam, 1976, p. 2-3).

About foreign currencies: In total, more than 4,700,000 USD was recovered, mainly because the delegation we sent to Hong Kong and Singapore recovered on the spot. However, until April 7, 1976, according to the Foreign Trade Bank's report on foreign currency issues:

(1) Early recoverable foreign currency for use (excluding in US banks) was 70.198.023 USD;

(2) The foreign currency that haD been owned, but continues to maintain the status quo (gold and deposits in the IMF, BIRD, IDA, SFI, ADB) including contributions to the international agency were: 61.680.395 USD.

(3) The foreign currency that the Vietnamese government had the right to own, but had not been able to recover because it was deposited in American and American banks: 130.709.447 dollars (Prime Minister Office, Social Republic of Vietnam, 1976, p.1).

The revolutionary government fought wisely to maintain normal relations such as: Conducting international payment operations according to common practice with foreign banks; actively using new credit relations with banks and international monetary and financial institutions. As a result, imports had been gradually recovered which were scattered at overseas ports; determined the revolutionary government's sovereignty over the former Saigon government's assets, foreign exchange and gold deposited at foreign banks and international monetary organizations (IMF, WB, ADB), and succeeding as members to replace the former Saigon's administration at these organizations.

Next, the Vietnamese government also soon established credit relations with a number of capitalist and nationalist countries. By all means, the Vietnamese government had grasped the foreign reserves of foreign currency and gold and silver left by the former Saigon regime and the number of imported goods scattered abroad to take measures to protect and recover; The Revolutionary Government also soon opened agency relationships with banks in a number of countries, to receive money transfers from abroad to Vietnam for individuals and other non-commercial payments; struggled with foreign banks to use our foreign currency reserves, which were blocked by the US. Those were the ways that were both flexible and ingenious but also very resolute, minimizing the loss of property for the country.

Thus, right after the National Bank in South Vietnam was established, in reality, the bank had been placed under the centralized and unified direction of the Bank State of Vietnam. The regulations and regimes on monetary - credit and payment of the socialist banking system in the North had been systematized and re-compiled with necessary adjustments in content to suit the actual operation of the National Bank system in South Vietnam at that time.

**** "Old" and "new" banking cadres - the way to use people for the transition process***

Months before the liberation of the South, the Vietnam Communist Party and Government of Democratic Republic of Vietnam prepared policies, measures and forces to take over the southern banking system after liberation.

Even during the fierce war, leaders of the State Bank of Vietnam had a strategy of "planting people". In 1968 alone, the banking industry mobilized nearly 360 officials from the central and local levels in secret batches to the South to support the finance and banking industry to build a base. Participating in the takeover of the banking system in the South after liberation was Mr. Tran Duong, Deputy General Director of the State Bank of Vietnam, who was previously mobilized by the Central Government to supplement the Central Finance Committee of Central Office for South Vietnam. The force taking over also included cadres who were "rehearsed" through the Tet Offensive in 1968. Especially Mr. Lu Trieu Phu (Lu Minh Chau) was previously assigned by the "Viet Cong" to work at Saigon's bank since 1965; he also joined the military administration (Le, 2001, p.21).

Along with the cadres "located in the area" mobilized from the North, participating in the takeover of the banking system of the former Saigon's regime, there were the officers who had matured in foreign banking after years of operating in the "Hong Kong - Beijing - Moscow - Paris" quadrilateral that belonged to the line of B29 (special payment unit) during the anti-American resistance war. Some other officers were rotated for long-term internships at Euro bank-Paris. In addition, there were a number of bank staffs who received long-term training in China, the Soviet Union, and Czechoslovakia.

With a force of cadres returning from the liberated zone, the revolutionary government quickly took over the banking system of the old regime, keeping assets safe, money, gold, silver, metals, gems, documents… immediately built a revolutionary state-owned banking system, establish banking organizations in provinces, cities, districts and transaction offices.

The first task to be performed was to immediately seize the National Bank of the former Saigon's regime to control the money-issuing apparatus. On May 1, 1975, the delegation of officials, under the direction of the head of the military management department of the bank Lu Minh Chau, took over the National Bank at 17 Ben Chuong Duong, Viet Nam Thuong Tin at 79 Ham Nghi and all other banks only on May 1, 1975. In the provinces, the Finance Committee in the Military Committee took over the local bank branches. The Bank's Military Management Board had sealed and protected all types of assets; cash fund, local currency, metals, gems and bank documents to prepare for the next step. The revolutionary government confiscated all assets of public and public banks, including: National Bank (Central Bank), Industrial Development Bank, Technological and Commercial Bank, Rural Banks and Industrial Development Fund (under the National Bank), and Viet Nam Thuong Tin. For private capitalist banks (16 banks of Vietnam and 14 banks of foreigners), the operation was suspended. These banks had to liquidate assets and pay off loans with their old customers, according to their inventory records.

After grasping the money issuance tool and holding the vault of the National Bank of the former Saigon's government and centralizing the cash fund of private banks with a total of 150 billion VND (of which the National Bank was 125 billion), the revolutionary government used the above money as a means of spending, in which it spent most of the money to meet the needs of the army, buy rice in the Mekong Delta, and provide aid to the people in provinces of zone V and two provinces of Tri – Thien (Pham, 2001, p.6). It can be said that, thanks to carefully preparing a strong team of cadres to take over and strictly complying with the instructions of their superiors, the takeover took place quickly and smoothly.

In the process of taking over and unifying the banking system in Vietnam, besides pressure from countries like the US and its allies, the process also suffered from other objective impacts such as loss of money's documents, records and papers of the properties of the former Saigon's government, banks and credit institutions operating under the old regime. The loss of these records made the process of verifying, recovering and liquidating assets of the Saigon's banking system more difficult. In particular, in the last days of the Saigon regime, the bankers either fled or dispersed their assets, making the solvency of the banks very low after the revolutionary government took over. Cash balances and deposits at the National Bank of private banks were only 9.5% of the total deposits of the people at the bank. More than 30% of the total deposits raised by banks were used to buy bonds, but at 100% risk at that time. The rest was used for lending, most of which were subject to unforeseen risks (borrowers had fled abroad, production and business had stalled, or assets were destroyed by war...) (Pham, 2001, p.7).

Faced with that situation, the Government of Vietnam had commented: "Banking takeover is a major policy, requiring a comprehensive takeover, stability must be maintained after the takeover, and the policy of national harmony must be well implemented" (Dinh. H., Nguyen. L., Han. H., Dao. T., 2001, p. 64). To implement the above policy, the Government of Vietnam had set up the Liquidation Committee to recover the assets of the former Saigon's government abroad. This committee consists of specialized staff in the fields of banking, foreign trade, finance and diplomacy to search, verify, supplement and complete thousands of documents to ensure the accuracy and legality of the documents. At the same time, the Vietnam Communist Party and Government of Vietnam also consulted and used some employees of the former Saigon government, mobilized extensive cooperation, and properly resolved the interests of the industry owners and merchants in the South who were the owner of the goods or the account holders in a foreign country.

The cadres who used to work in the banks of the former Saigon's regime continued to work under the direction of the Revolution government. At that time, the prestige of the revolution was great, so they were very impressed. At the meeting in the great hall of the National Bank, regulations were disseminated to the executives who were the heads of the departments, assigning specific responsibilities to the cadres who had worked for the former regime (Dinh. H., Nguyen. L., Han. H., Dao. T., 2001, p. 66). Moreover, after liberation, the Vietnam Communist Party and Government of Vietnam advocated using the intellectuals at Viet Nam Thuong Tin - the largest bank allowed to do foreign exchange business and foreign payments of the former Saigon's government to keep money in another country. At that time, the number of staffs of Viet Nam Thuong Tin who held with 2-doctorate degree was more than 50 people, they were proud to be Vietnamese and they thought that Vietnamese people should try to protect Vietnamese property, including that property in another country.

At the end of the 70s, when the work of liquidating banks, especially foreign banks, faced many difficulties, on March 14, 1979, the Government Council issued Decision No. 114 regulating the handling of the banking system of the former Saigon's regime in South Vietnam. In this work, the concerned agencies had mobilized to the maximum extent people who were knowledgeable about the assets and accounting situation of that bank, such as the members of the Management Board of these banks. According to the eyewitnesses' judgment (officials who used to work in the Southern Economic and Finance Department such as Tran Duong, Ba Chau, Ba Dung, Le Van Tu, Nam Hai...), employees of the banks of the former government generally good, most of them were salaried people, they would do well when they understand the guidelines and policies of the revolution government.

The former regime's policy of using officials from the banking system had brought positive results. The documents were kept completely, later the revolutionary government used it to effectively manage the banks. Even the administrators and executives of the former banks clearly saw their responsibilities before the people and revolution's government. The employees of the public and private banking system also understand the leniency and concern policy of the revolution to solve jobs according to each person's level and ability in the general difficult situation at the beginning of the unified country.

Thanks to the right, timely and accurate policy of the Government of Vietnam, thanks to the efforts of officials, including those who served for the former Saigon’s regime, participating with a pure "heart"... The takeover of the Southern banking system in 1975 had achieved results according to the optimal plan. The takeover operation was done quickly and neatly. All assets of precious metals, gems, cash funds in local and foreign currencies, records, books, papers and documents of banks were managed and sealed for processing.

4. Discussions and Conclusion

After the liberation day (April 30 1975), the situation of Vietnam had many advantages but also many difficulties and challenges, but in a short time, the Vietnamese Communist Party and Government of Vietnam quickly unified the country in terms of administration, from that unification of economic, cultural and social aspects. Money and banking were considered the lifeblood of the economy, so the unification of the monetary and banking system had been urgently implemented, which was one of the pioneering fields in the unification of the country. The entire banking system of the former regime was managed and used by the new government. All cash in the Treasury and other valuable assets were inventoried and preserved to avoid any loss to the outside. This was considered a fairly flexible takeover policy and was suitable for the practical context of Vietnam at that time. In addition, during the unification of the banking system, the steps were carried out methodically and closely, from the takeover stage, determining the legal basis, to the unification of the administrative apparatus, and the appropriate use of human resources to ensure that the unification went smoothly. This approach showed efficiency and minimized conflicts in the transfer process.

In fact, in the process of merging and unifying the banking system between the South and North, although inevitably tough measures such as nationalization of state-owned banks, the revolutionary government had oriented towards policies that quite flexible and suitable for practical contexts of Vietnam. These policies aimed at stabilizing the situation, social life and production activities, avoiding major socio-political disturbances and facilitating economic circulation after the war. Those policies also aimed at national harmony plan, using local and mobile human resources, using the number of employees of former banks who were enthusiastic for the revolution government. At the same time, the Vietnamese government's banking system takeover policy was also very skillful, ensuring the implementation of the principle of national inheritance in the international financial - monetary market, ensuring the maximum recovery of the assets that the new revolutionary government was inherited, serving the restoration and construction of the country after the war.

5. References

1. Communist Party of Vietnam. (2004). *Van Kien Đang toan tap*. Vol. 36. National Political Publishing House.

2. Dang, P. (2012). *Economic Thinking in Vietnam*. Tri Thuc Publishing House.

3. Le, H. (2001). Journey to the Central Office for South Vietnam to participate in the takeover of Saigon - Gia Dinh. *Banking Magazine*. Special Issue. 20-22.

4. Dinh. H., Nguyen. L., Han. H., Dao. T. (2001). Taking Over the Southern Banking System in 1975. *Banking Review,* Special Issue. (2). 64-67.

5. Office of the National Assembly. (2003). *Lich su Quoc hoi,* National Political Publishing House.

6. Pham, P. (2001). Unifying the Country, Unifying the Monetary and Banking System. *Banking Review*. (3).

7. Prime Minister Office, Social Republic of Vietnam. (1976). *On the recovery of assets of the Saigon puppet government abroad after liberation in 1975-1976*. National Archives Center III. Phu Thu tuong Font. File No. 3878.

8. Prime Minister Office, Republic of Vietnam. (1976). *Report of the Prime Minister's Office on the Protection and Recovery of Assets of the Former Puppet Government abroad until January 31, 1976*. National Archives Center II. Phu Thu tuong Font. File No. 3887.

9. Prime Minister Office, Social Republic of Vietnam. (1976). *Report of the State Bank on Banking Affair in the South and the Direction in the Time to Come 1976*. State Bank Archives. Font No. 01. Catalog No. 03, File No. 264.

10. Prime Minister Office, Social Republic of Vietnam. (1977). *On the liquidation of banks of the old regime in the southern provinces in 1977*. National Archives Center III. Phu Thu tuong Font. File No. 3966.

11. The State Bank. (1975). *Announcement on the Operation of the National Bank of Vietnam in the South in 1975*. State Bank Archives. Font No. 01, File No. 235.

12. The State Bank. (1976). *A set of Documents of the State Bank on the Regime of Commission Remuneration in Credit Cooperatives in 1976*. State Bank Archives. Font No. 01, File No. 255.

ONG BON'S BELIEF AND FESTIVAL OF THE CHINESE IN BINH DƯƠNG PROVINCE (STUDY CASE: PHUOC AN TEMPLE IN CHANH NGHIA WARD, THU DAU MOT CITY)

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Abstract

The Chinese in Binh Duong worship the gods in the community at the temples, palaces such as Thien Hau Thanh Mau, Quan Thanh De Quan especially Ong Bon and many other gods. However, for each dialect group, there is a specific worship for each religious object. Phuoc An temple festival is one of the typical festivals of worshiping the deity of the Chinese in Binh Duong. This festival has formed a belief system of the Chinese community with the same a traditional profession that we need to preserve from technology, heirloom experience to the rituals and cultural activities of the community with over hundred years. The Chinese in Binh Duong have a rich spiritual and cultural life, it makes the customs more meaningful and valuable before the integration trend. The article introduces the general belief and festival of Ong Bon at Phuoc An Mieu.

Keywords: *belief, Chinese, festival, Ong Bon, Phuoc An temple*

1. Introduction

The Chinese came to settle in Binh Duong through each wave of migration, influenced by many historical factors, settled down and developed in different regions. In which, the largest and earliest residences are in the areas such as: Lai Thieu, Bung, Chanh Nghia, Phu Cuong, Tan Phuoc Khanh, etc. According to each language community group: Fujian, Guangdong, Chaozhou, Hakka (Huynh Ngoc Dang, 2010). The Chinese has a common feature that is preserving the community's traditional cultural values in terms of customs, practices, folk beliefs and religions. Typical and most prominently expressed through the religious facilities and festivals still preserved to this day.

Belief and festival of Ong Bon at Phuoc An temple is one of the typical festivals of the Chinese custom of worshiping Ong Bon in Binh Duong. This festival has formed a belief system of the Chinese community with the same occupation, a traditional occupation that needs to be preserved from techniques and heirloom experiences to rituals and cultural activities of the community that have been attached over a hundred years. Through the beliefs and festivals of the Chinese community in Binh Duong, further clarify the ethnic characteristics, cohesion and community development of the Chinese.

As the Chinese in other provinces and cities in the South of Vietnam, the Chinese in Binh Duong has a rich spiritual and cultural life. They carry, preserve and maintain the traditional rituals of their fathers attached to the professional community. It is this feature that makes the ritual more meaningful and valuable. The scope of this paper, author would like to refer to the belief and worship of Ong Bon at Phuoc An temple at Chanh Nghia ward, Thu Dau Mot city, Binh Duong.

2. Method

To achieve the research objectives, we use the theoretical research method, the data used by the author in the paper is secondary data. The paper knows how to select, collect, analyze and synthesize documents on the culture of the Chinese community in Vietnam, in the Southern and in Binh Duong. In which, we dig deeply into Ong Bon's beliefs and festivals of the Chinese community in Binh Duong and selected Phuoc An temple as a case study on the basis of ethnographic description.Depending on the basis of theoretical research and analysis of these documents and data, we withdraw some values and meanings about Ong Bon's belief and festival at Phuoc An temple - a typical tangible and intangible cultural heritage of the Chinese community in Binh Duong in the context of cultural exchange and integration with ethnic groups.

3. Result

3.1. A summary of Ong Bon's belief of the Chinese in Binh Duong

The Chinese in Binh Duong mainly includes 4 dialect groups: Fujian, Guangdong, Chaozhou, Hakka. As exiles, belief becomes an important need in life as a spiritual support, helping them to stabilize and develop. The beliefs of the Chinese are very diverse and rich in many aspects. In addition to the tradition of worshiping grandparents, ancestors, the Chinese in Binh Duong worship Thien Hau Thanh Mau, Quan Cong, Ong Bon, That Phu Dai Nhan[76] who are the protectors and blessers of the clans, every profession, and each family in their native land are maintained on the new land they are living in (Huynh Ngoc Dang, 2010).

For the Chinese, Ong Bon[77] is a common noun in the region calling the gods brought by the Chinese from their native homeland to worship. “Bon” means “root”, “Ong Bon” means “ancestor”. Actually, “Ong Bon” is just a symbol, similar to a “Phuoc Duc Chanh

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[76] is the ancestor of the clans (families): Luc, Chu, Quach, Tieu, Trieu, Ly and Chau. This is also the main symbol of Ong Bon of the Chinese community – the Ly clan from Fujian in the area of Phuoc An temple (Chinh Nghia, Thu Dau Mot). The Ly clan of the Chinese in Binh Duong is also known as That Phu Dai Nhan.

[77] *The customs of festival of Ong Bon pagoda*, updated at: https://hoangnguyen1608.wordpress.com/2014/03/02/phong-tuc-le-hoi-chua-ong-bon/.

Than" of the Chinese, although each dialect group has its own conceptions and beliefs about this god.

The Chinese Fujian in Cholon has concretized Ong Bon as Chau Dat Quan – a mandarin of the Nguyen Dynasty. The Chinese Chaozhou and Haina in the Southwest region are concretized as Tam Bao Thai Giam Trinh Hoa - a man of the Ming Dynasty. The Chaozhou people in Hoi An are concretized as Phuc Ba Tuong Quan (Ma Vien). The Guangdong people in Cholon believe that theii Ong Bon is the God of Earth, but the Chinese with the Vuong clan of Fujian origin in Binh Duong believe that their Ong Bon is Huyen Thien Thuong De and the surname Ly of Chaozhou origin for their Ong Bon is Ly's ancestors.

As presented above, unlike the Chinese communities in other areas, the Ly community from Fujian in the area of Phuoc An temple (Chinh Nghia ward, Thu Dau Mot city) worships Ong Bon as their ancestors: Luc, Chu, Quach, Tieu, Trieu, Ly and Chau. This is also the main symbol of Ong Bon here. They also worship Phuoc Duc Chanh Than that they call ong Dia, which is the local god of the land, and the Phuoc An temple festival in Chanh Nghia ward, Thu Dau Mot city. One of the typical festivals of Ong Bon's custom of the Chinese in Binh Duong.

In Binh Duong, currently there are five temples to worship Ong Bon. These include the palace worshiping their obligation of the Vuong clan in Binh Duong Vuong such as: Phuoc Vo Dien (Chinh Nghia, Thu Dau Mot), built in 1885; Ngoc Hu Cung (Lai Thieu, Thuan An), built around 1971; Phuoc Tho Duong (Hung Dinh, Thuan An), built around 1934; Phuoc Nghia Duong (Tan Phuoc Khanh, Tan Uyen), built around 1936. The Ly clan has a temple to worship Ong Bon called Phuoc An Mieu (Chinh Nghia, Thu Dau Mot), built in 1980. This temple was built by the Ly clan, in addition to worshiping the ancestors of the seven families as above, it was also worship hall of Ly clan, so it was also called Ly Thi Gia Mieu (Nguyen Viet, 2014).

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Like the temples and shrines of the Vietnamese, the temples of Ong Bon are i ntegrated with many gods such as: Truong Thien Su (Truong Dao Lang - Han Dynasty), Bao

Cong (Song Dynasty), Canh Chu Ton Vuong, Linh Tu Ton Vuong, Cuu Thien Huyen Nu (Ha Truc, 2012).

According to Mr. Ly Hiep Son, 70 years old (in 2019), the head of the Ly clan in Chanh Nghia said that his Ly clan originated from Tuyen Chau, An Khe district, Fujian through Vietnam up to his generation is 4^{th} generations. Phuoc An temple probably appeared from that time. Right next to the temple of Ong Bon is worship of his Ly clan. Every year, the temple organizes three days of worshiping Ong Bon in the year (lunar calendar): (1) on the 16^{th} of January is the tour, (2) on the 12^{th} of August is anniversary of the birth, on the 12th of October is anniversary of the death. In particular, every year, on the day of birth, Phuoc An Temple holds worshiping ceremonies, but once every three years, the festival is held for three days and three nights. The wooden stelae are solemnly placed in the street engraved with the names of the deceased to 7 generations (of which 3 generations are people who originally lived in China, 4 generations are people who have moved to Vietnam to settle down. According to the elders, Chanh Nghia is the place with the earliest ceramic craft in Binh Duong. This is a hereditary profession, maintained when they migrated to Chanh Nghia, Binh Duong. From this cradle, ceramics continued to develop in the other areas in Binh Duong (Source: Author's in-depth interview in 2019)

3.2. Ong Bon’s festival of the Chinese at Phuoc An temple through ethnographic description

As described in part 1, every year, Phuoc An temple holds a ceremony to worship Ong Bon in 3 days. In which, August 12^{th} is the most important, the festival is held once every three years, so the author only presents this festival in this paper.

Overview of Ong Bon’s festival at Phuoc An temple

Although not as crowded as Thien Hau Thanh Mau’s festival, but Ong Bon’s festival also shows typical beliefs, associated with the main occupations of the Chinese. This is also considered as one of the important festivals of their year.

Ong Bon’s festival in Phuuoc An temple takes place from 11^{th} to dawn on the 14th day of August (lunar calendar). There is a big ceremony every three-year, with a performing and singing troupe. In the remaining years, the worshiping ceremony only takes place without inviting the singing group and the worshiping ceremony takes place only in one day, the main ceremony is August 12^{th} (Huynh Ngoc Dang, 2010).

Not only the structure and object of worship, but also the calendar and worshiping rituals of Phuoc An temple in Chanh Nghia are similar to Phuoc An temple in An Khe, China. This shows that the Chinese migrants to Thu Dau Mot to preserve and maintain the festival tradition in their native homeland. Many Chinese in Chanh Nghia said that sometimes there are still people with the Ly clan here come to An Khe, China to visit relatives, old hometown, and sometimes they even try to arrange to go on the right occasion to worship Phuoc An temple. In An Khe to give thanks, to show gratitude towards the source, etc. As for the Chinese in Chanh Nghia, whether they move to Cholon to trade or to Thuan An, Tan Uyen, etc. continue to make ceramics, on the occasion of worship Phuoc An temple ceremony also returned to Chanh Nghia to attend the ceremony. It makes Phuoc An temple festival become a gathering day for not only the Ly clan, the Chinese who make ceramics at all over Binh Duong, but also the Vietnamese.

As mentioned above, That Phu Dai Nhan[78] (Ha Truc, 2012) is the object of worship of Phuoc An temple, but in the days of worshiping ceremony, according to custom, Quan The Am Bo Tat and Hong Hai Nhi; Bao Sinh Dai De; Quan Cong, Chau Xuong and Quan Binh who were worshiped in Quan The Am pagoda not far away were also invited to Phuoc An temple to witness the ceremony (Huynh Ngoc Dang, 2010).

In the early morning of August 10th, the board of administrators sent seven men to Quan The Am pagoda make procession the statues of Quan The Am Bo Tat, Hong Hai Nhi, Quan Cong, Chu Xuong, Quan Binh and Bao Sanh Dai De to Phuoc An temple to attend the ceremony. After burning incense and praying of administrators, the statues of these gods are invited to the temple. One person asked for an incense burner, the rest held a statue in one hand and three incense sticks in the other, walking in a line to the temple. After the festival of Phuoc An temple ended, at dawn on August 14, the board of administrators did a ceremony to farewell these gods to the pagoda. Please also say more, when Quan The Am pagoda organizes worship ceremonies, the board of administrators also organizes to invite (statue) the Tieu clan (one of the That Phu Dai Nhan, supposedly the biggest role) to Quan The Am pagoda to attend the ceremony.

The positions of the statues are arranged during the festival days as follows: statue of That Phu Vuong Gia Cong (That Phu Dai Nhan) is in the top row and behind. In front of and the middle is a statue of Quan The Am Bo Tat, close to the right is Hong Hai Nhi. On

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[78] on the other hand, Ong Bon of the Ly clan is also worshiped by Fujian, including 7 clans: Lich, Chu, Quach, Tieu, Trieu, Ly and Chau. According to legend, during the Eastern Han Dynasty (25 - 220), there were more than 300 soldiers who went to Truong An to be a candidate. They were romantic people, liked poetry and singing, so they often gathered together and performed in a cave, so Truong Tien Su, whose name was Truong Dao Lang, was the maker of talismans. is the magician in the palace - jealous and seeks harm. He conspired, made the king drunk and then issued a decree to kill all those soldiers. Truong Dao Lang brought the king's edict, made a spell to make the cave's door collapse, burying all 300 people. The ghosts of the soldiers constantly appeared asking the king why he killed them. The king brought the dream and asked Truong Dao Lang. Truong Dao Lang then took a bamboo tube, made a spell to trap all of their souls and then dropped them into the river to float to the sea. But that bamboo tube did not drift into the sea, but washed up on the shore. The beggars found it strange, immediately picked it up, opened the cloth covering the top of the bamboo tube, and immediately the souls of the men escaped and reappeared to ask the King. The King this time understood the situation, both regretting that he had accidentally killed people unjustly, and mourning their talent, so he issued an edict for anyone in which family to be the great person of that family and who in the region, people in that area set up shrines to worship. An Khe district, Phuoc Kien province has 7 people, so they set up a temple to worship them.

the far right is the statue of Bao Sanh Dai De. On the left is a statue of Quan Cong and two generals: on the right is Chu Xuong, on the left is Quan Binh. According to the Chinese concept, Bao Sanh Dai De is a medical god, has the function of protecting everyone's health, is it related to childbirth?

In front of and right next to the altar of the main hall, a great drum is placed; on the left is the gong. On both sides in front of this altar, there are also seven pots of clean water and seven towels, for That Phu Dai Nhan to wash. After bathing, changing clothes for the statues, the board of administrators burned incense at all the altars in the temple. Each censer lit three incense sticks.

The offerings in the ceremony are mainly vegetarian and dried foods, such as dried shiitake mushrooms, dried persimmons, dried bamboo shoots, noodles (raw, in long rolls), moon cakes and other pastries… Next accordingly, a wooden box is opened, inside contains 8 long iron trees, sharp as needles (three large trees each about 2.5m long and five small trees about 1.5m long), which the Chinese call "skewer". These eight iron trees are mounted on the largest incense burner in the middle of the main altar of Phuoc An temple (Dinh Van Hanh, 2010).

Outside and on the left and right sides of the temple door, two palanquins are also attached with sharp swords. On the back are three upright swords, the middle one is long, the two sides are shorter, the blade is turned forward, the two handrails are also attached with two swords that turn the blade upwards. The surface of the chair and the place to place the legs are sharp iron spikes. This is a palanquin (chair) that is not meant for ordinary people to sit on.

❖ **Festival progress**

- August 11th

As soon as the new day of August 11th, the festival begins with the ceremony of opening the drum. The ceremony begins when the shaman wears a black hat, a red ao dai, beats a drum (small drum held in his hand) to the sound of gongs. The shaman used three incense sticks to draw charms on the drum surface, then clamped three incense sticks together with the drumstick to beat for a long time. Then the shaman shook the bell to the beat of the gong. The shaman just shook the bell to the beat of one beat while praying. All the board of administrators performed the worshiping ceremony together, each person holds three large incense sticks, prays, bows three times, and then burns incense. After burning incense, each person bows twice. Next is the burning of joss paper. After each ritual, people burn a lot of joss paper.

The shaman stood in front of the altar of the main hall, took out the book to read, and at the end of each passage, the worshipers made one bow. Then the shaman went to the altar in front of the door, read the book, and after reading it, it was placed on the altar. The shaman asked for a hexagram. Hexagram as expected, the shaman continued to shake the bell, the left hand was placed on his chest and prayed.

At 9:00 am is the ceremony of building adoration and singing “Boi”. At the beginning, a large drum is placed in front of the temple yard, after worshiping including the heaven, the earth, the gods (each time, one sound is struck in front and on the left and right sides of the drum wall) there are three drum beats, the singing program begins. On the stage, after the performance of Tay Du Ky, one of member of the troupe sang, danced, and bowed three times. A god uses a mirror to project in all directions and dances to the rhythm. In the temple, the shaman still worships according to the ritual of burning incense, kneeling and praying in the sound of gongs and drums. The prayer of the shaman earnestly invites the gods to attend the ceremony, expressing gratitude, admiration and thanks for blessing a peaceful life, successful business, praying for favorable rain and wind… On stage, the music is getting busier and faster. Three men in the role of Phuc - Loc - Tho appeared to open the show.

Before the singing troupe performed, eight actors dressed up as Bat Tien, in turn entered the temple to worship, pray, and ask for his command to help and bless them. The troupe humbly invites That Phu Dai Nhan to enjoy the plays they will perform. Each actor plays a character and prays for something specific.

The worshiping ceremony takes place three times in the morning, noon and afternoon. These three ceremonies continued to be repeated in the days that followed. The board of administrators offered vegetarian food, and people offered many offerings, regardless of whether they were vegetarian or not.

At each ceremony, the main worshiper is still the shaman. He wears a red long dress, wears a black hat, always prays with his mouth, holds a bell in his right hand and shakes to the beat of the drum “tung tung khuong, tung tung khuong” creating a rushing sound.

In the evening, the day before the main ceremony, the shaman and the board of administrators went to the riverside to worship. Leading the delegation was a man holding a red flag, followed by those carrying incense burners, lanterns, and offerings. The shaman prayed for good things at the simple altar on the ground at the water's edge… The ceremony ended with the burning of joss paper. Then the group returned to the temple. Music in harmony along the way. When approaching the temple, the shaman blew a long horn, then continued to worship at the temple.

People put joss paper, mace with many sharp iron nails, and talismans on a large mat in the middle of the temple, then stand up the wrapped papyrus mat. The top of the mat is tied, covered with objects inside, and the worshiping ceremony begins. At this time, the shaman, wearing a black long-dress, performed the ceremony while blowing the horn. After praying, the mat is opened. The charms on the mat are glued to the palanquin, wrapped on skewers, wrapped in swords on the palanquin, and glued to the tables on the palanquin, where the feet are placed. Drums, gongs as well as all other sacrifices in the temple are tagged with charms. The talismans are written on yellow and red paper, glued in pairs, in the shape of an X. The two longest skewers and the two short skeins that had previously been placed on the censer are also taken down and wrapped in charms and built it on the side of the palanquin (Dinh Van Hanh, 2010). The sound of gongs and drums was bustling, and the people attending the ceremony were bustling in and out. All join in the excitement of preparing to welcome the most important day of the festival.

- August 12th

August 12th is the main ceremony. Legend has it that this is the birthday of Dai Nhan with the Tieu clan, the “biggest” saint in the “That Phu Dai Nhan”.

From early in the morning, people on foot, by car, bring offerings to the saints. The procession of pilgrims and worshipers is getting longer and longer from early morning until midnight, etc. In the four days of the festival, the 12th is the day most people come to offer the ceremony.

People bring a lot of offerings, depending on the ability of each family. The offering can be a whole roast pig or just a piece of roasted meat of about one or two kilograms. Vegetarian foods, dry foods such as shiitake mushrooms, dried bamboo shoots, moon cakes, homemade cookies made into large ones (from glutinous rice flour, sugar, coconut filling, green beans, persimmons), sponge cakes (also self-steamed, the material is just flour, chicken seeds, sugar). Cakes are sold in the market, fruits of all kinds and lots of joss paper… that people offer to That Dai Nhan.

But perhaps the following dishes are indispensable, almost every family brings offerings. It's “Banh To”. Banh To is made with glutinous rice flour, sugar, sprinkled with sesame on the surface and then steamed. Banh To symbolizes the ancestral offering ceremony. Since it is a popular item to offer to the ancestors, the name itself implies gratitude. A second offering is noodles, known locally as hair noodles. Raw hair noodles, whole, the longer the better. This is because it symbolizes longevity. Long noodles mean only long hair and beard and only long life has long hair and beard… Therefore, hair noodles are also an offering often offered in celebration of birthdays and long life celebrations of the Chinese. A third type of offering that abounds in the offerings that locals bring is red-painted duck eggs. The Chinese believe that a raw duck egg, painted red on the outside, symbolizes good fortune, so it is a good offering to offer to That Phu Dai Nhan. The management board of the temple also offers hundreds of red painted duck eggs so that everyone who attends the ceremony can bring them home, and offer them to the ancestors as a dish and fortune, a blessing to wish for (Source: Interview by author in 2019).

People who come to make worship and offer items to That Phu Dai Nhan are considered as a answer sacred ceremony to the saints who have supported and helped their families to be lucky, peaceful and prosperous in the past time; praying for the saint's continued support in the future with the promise to return to pay in next period. The festival is full of pay meaning and blessing. This is not only reflected in the offerings, prayers and supplications but also in the rituals performed.

Food offerings will be brought home by the owner after the saint has “enjoyed” to eat with his family and relatives in his own home. The people on the management board also went home to eat, not at the temple. This is a unique feature of the festival. The organization of a party as a thank you will be held by the management board at the end of the ceremony at a local restaurant. Absolutely no eating at the temple. When people come to offer offerings, the worshipers pray in the steady beat of drums.

Around noon, the management board organizes the worshiping ceremony from 11:00 a.m to 13:00 p.m (Ngo’s worshiping), also known as That Dai Nhan ceremony. Immediately after this ceremony is Dao binh’s worshiping. The ceremony lasted about an hour. This is the biggest ceremony of the whole festival. In this ceremony, there are rituals to offer offerings to That Dai Nhan, to pay tribute to ancestors. In addition to making offerings at the temple, descendants of the Ly clan also offer offerings to their ancestors from the street with the meaning of wishing their ancestors a long life. People call it the ceremony to wish Ong Bon.

The ceremony of Dao binh is the ceremony of worshiping the soldiers of That Dai Nhan. The shaman is the person who administers the offering and the ritual. The ceremony of Dao binh begins when the shaman shakes the bell and leads the army. In the right hand the magician shakes the bell, the left hand holds the horn and a playing card. The shaman walked while praying. Next to the shaman is a man holding three incense sticks, a man holding a small drum beating to the beat, another beating a gong. Behind the four men is a young man holding a bamboo top, with a few leaves above it like a small tree, and a large chain on his shoulder. This young man is considered the officer of the army of seven teenagers that followed. These seven teenagers were all wearing knitted bamboo hats with high tops and holding red painted wooden sticks. These trees are considered as “command trees”. The shaman and the members of the management board said that these seven teenagers probably represent the seven soldiers of the That Dai Nhan. They do not confirm this because no one has explained it to them, just following the tradition.

The army lined up in the above formation, went five rounds from the temple to the road, then back to the temple. When the army arrived in front of the main altar of the main hall, the youth played the commanding officer chanted the phrase “pi hổ”, while the seven youths playing the role of soldiers said the “pi hổ” (pi-ô). The sound of gongs, drums and bells rang throughout the movement of the army. People offer five tables of offerings from worhip hall, the offerings are foods. When asked what the chanting and answering “pi hổ” means, most people hardly know, only conjecture. Dao binh’s ceremony ended with a lot of joss paper (Dinh Van Hạnh, 2010).

August 12th is also the anniversary of the theater profession's death anniversary. Therefore, from early morning, the singing troupe has returned to serve the festival, also makes chickens and ducks, cooks delicious dishes, prepares to worship the craft ancestors. Around 9 o'clock the offerings were offered. An altar is placed in the center of the stage with many hearty offerings: roasted pig, boiled chicken, sticky rice, fruits, cakes, flowers, tea, etc. In front of the altar is a tiger mask, in front is a incensory.

According to Chinese seniors in Chanh Nghia, That Dai Nhan is a talented person who loves music and art, so this is also an opportunity for the troupe to sing to their ancestors and offer to That Dai Nhan, not only offerings but also special plays. While making offerings to the theatrical profession, the troupe's actors also made offerings in front of the altar of That Dai Nhan.

Around 4:00 p.m, when the troupe was performing the play, a elder man about 55 years old possessed by god (Dinh Van Hạnh, 2010). Standing in front of the shrine, facing the stage, dancing while drawing a circle in the air.

The gongs and drums rose rapidly. The possessed person to the front of the stage to watch the performance of the troupe. He danced, people helped him get off his shirt. He pulled out his long skewer, held it in his hand, and continued to dance. A member of the organizing committee wore a red skirt at the waist, a white bib with a front pocket (later many people put money in that pocket). People throw a lot of rice and salt towards him. After holding the skewer and dancing for about 20 minutes, he used the skewer to pierce one cheek, with both hands outstretched, tightly grasp the skewer and continue dancing. About 15 minutes later, she walked towards the palanquin and then quickly sat down and stepped on the sharp iron pole. He sat on a palanquin and watched singing for about 30 minutes. On the stage, the play was still performed by the actors, although those attending the ceremony were only interested in watching the old man in awe and awe. After leaving the palanquin, he slanted red flag waved as if to express a hidden meaning. At that moment, he jumped onto the altar and sat down. He signaled, suggested to light three incense sticks, then said what the gods sent, everyone bowed. He took many offerings on the altar and delivered them to everyone. The skewer through the cheek bone was pulled out and transferred to the altar of That Phu Dai Nhan. As soon as the skewer was pulled out, a piece of dried leaf was applied to the wound, but if you looked closely, you could see that there was bleeding. The board of administrators made prostrations and prayers about what he was told by the gods, while he continued to dance. People continue to put on two palanquins two pearls with sharp iron nails.

According to the saying of possessed person, this time was entered by Na Tra Thai Tu. Na Tra is one of the four popular and powerful gods in the beliefs of the Chinese. The custom of worshiping the four gods namely Huyen Thien Thuong De, Quan Am Bo Tat, Na Tra Thai Tu, Nam Trieu Dai De and the festival of this belief in Binh Duong has many unique features that attract people's attention.

The possessed person is any person who comes to the ceremony, not selected in advance, nor does he has any martial arts. They are a random selection of gods who entered for some reason unknown to outsiders. It is often said that people who are “light-hearted” are easy to get on. Usually every three years, there is a new singing troupeto get up, but only once in a while, there is an occasional show, not often. The spirit will convey prophecies or rebuke that only the possessed person who can hear and “speak back”.

According to the people's opinion, a lot of possessing spirit is not good, it is a bad omen. Legend has it that before 1952 and the years 1965-1975, each time Phuoc An temple held a festival to increase a lot. At that time, Chanh Nghia was in turmoil and business was difficult. If they want to avoid disasters and bad things, they have to calm down the evil so that the villagers can be at peace. People exorcise evil spirits and avoid harm by pouring a long pile of charcoal, about 6 meters long, fans it to burn, then the shaman makes offerings, prays, expresses wishes, and asks for. The shaman jumps over the fire first, and then the entire village jumps over to stop the evil spirits and pray for the safety of the disaster.

- August 13th

On August 13th, the festival continues with three main ceremonies: morning, afternoon and evening. The management board offer of offerings. The shaman worshiped with the same ritual as the previous day. People continue to come to give thanksgiving and pray for good things.

During the festival, people arganizes “xin keo” and “xin xăm” for those who come to make offerings. It can be said that this is an activity that attracts many people who want to be told by the gods their lucky or fortune. People who come to worship, when leaving, do not forget to ask for talismans (red paper peace amulet and yellow paper evil charm) to stick on both sides of the main door. There are also many people who ask for a lot of talismans to stick all the main and side doors in the house, as many doors as asking for so many pairs of charms. Sometimes talismans are also glued to important items.

In addition, the management board organizes to make many different large and small lanterns with different prices and is completely supportive for the festival so that people can come home both to pray for good luck but also through it to offer gifts to the gods. It is believed that bringing these things home is a blessing and a prosperous business in the near future.

In the evening, as usual, the management board holds a meeting to evaluate three years of operation, elect the executive board for a new term and invite guests to a party. An art program imbued with the cultural identity of the Chinese really attracts visitors.

At midnight, the Ton Vuong's ceremony will take place. The shaman offers incense and worships to the sound of gongs and drums. The troupe sang offerings, each person offered a prayer to the tune of the song. Then, one by one, each actor, one by one, came to the altar of the main hall to worship. Each actor bows three times and bows three times. The leader of the group sang offerings and made vows on the altar of That Phu Dai Nhan.

At the end of Ton Vuong's ceremony, the shaman reads the book and turns it into gold and silver. The shaman prayed in Chinese language and asked for "xin xăm". After that, the shaman just prayed according to the results of "xin xăm" and bowed to the eight directions, one bow in each direction. The shaman blew a long horn and ended the ceremony of Ton Vuong.

- August 14th

At dawn on August 14th, at 3 o'clock, Ong Bon festival in Phuoc An temple ends with the farewell ceremony. After the worshiping ceremony, the shaman thanked the gods, the ceremony was to see off the gods invited to attend, the worshiping statues were brought back to Quan The Am's pagoda. The shaman prayed for peace and the ceremony ended.

3.3. Ong Bon's beliefs and festival at Phuoc An temple of the Chinese in Binh Duong: value and meaning

Chinese folk beliefs in Binh Duong are quite diverse in terms of types, from the temple of Thien Hau Thanh Mau to the temple of Quan Thanh De Quan, That Phu Dai Nhan, Huyen Thien Thuong De, etc. show the preservation of traditional beliefs of the Chinese when settled in the new land of the South of Vietnam.

The gods worshiped by the Chinese in Binh Duong are those who have a great influence on their real life in the process of migrating and immigrating to a new land. Those are the gods that they believe have blessed them on the way of migration, the floating road on the sea, and the folk gods they bring from their homeland so that they can always remember their roots.

Chinese worship facilities in Binh Duong annually organize sacrifices associated with festivals. In the worshiping ceremony at the temples of Ong Bon of the Chinese, including Phuoc An temple, there are often anomalous magical elements of Taoism nature such as: skewer, spirit possession, sitting on a nail chair, walking on a wooden table, etc. which they normally cannot do. These are also mysteries that can only be explained by beliefs and magical elements in folk beliefs. Although the festival has Taoism colors, it still shows the basic cultural value, which is the cohesion of the community even if it is only a local community. In Taoism, there is a form of co-incarnation, there are shamans who practice rituals but without excessive superstition. The people who do this work also have a normal life, they have their own jobs to make a living and only participate when there is a festival.

The festival also preserves many traditional ceremony and festival elements. The festival has the participation of performances of Hat Boi, Cai Luong singing with many ancient Chinese fairy tales.

In Binh Duong, the folk beliefs of the Chinese are prominently expressed in the form of festive activities that attract a large number of attendees, both Chinese and Vietnamese. Ong Bon's festival at Phuoc An temple of the Chinese in Binh Duong is a form of religious and cultural activities that are both social and spiritual. It is both spiritually satisfying and creates a close bond belong ethnic communities (Chinese, Vietnamese, Khmer, Cham, etc.) Chinese beliefs and festivals in Binh Duong in general and Ong Bon festival in particular have become a typical local culture, contribute to embellish the traditional cultural colors of the resident communities in Binh Duong. At the same time, it also contributes to enrich the Vietnamese national cultural identity.

In summary, Ong Bon's beliefs and festivals at Phuoc An temple are typical tangible and intangible cultural heritages of the Chinese community in Binh Duong. These heritages have been contributing to the preservation and promotion of typical cultural values of the Chinese in the South in general and the Chinese in the Southeast in particular in the context of cultural exchange and integration with Vietnam. nations.

1. Conclusion

Learn about the Ong Bon's beliefs and festivals of of the Chinese in Binh Duong in general, and in the Phuoc An temple in particular, shows a common motif. It is the worshiping ceremony of a clan that makes traditional ceramics in Binh Duong. But the festival of Ong Bon at Phuoc An temple with other areas in Binh Duong have formed the belief system of the Chinese community with the same occupation, a traditional occupation that needs to be preserved from traditional techniques and experiences to the rituals and cultural activities of the community that have been associated with that profession for more than a hundred years

These beliefs and this festival contain human values, honoring careers, paying tribute to ancestors, helping exiles overcome difficulties, sharing difficulties, and believing in their spiritual support as saints that are also their ancestors, can protect their lives, bless their difficult and challenging business. Although it is a festival of a Chinese clan specializing in ceramics, but the festival of Ong Bon at Phuoc An temple has attracted a large number of residents in Binh Duong, from the Chinese to the Vietnamese, from the ceramicists of the Ly clan and not from the Ly family to those who do not work in ceramics participated, created a vibrant and meaningful career festival. In addition to the cultural value, many rituals of the festival are very strange and attractive, capable of attracting tourists.

Ong Bon's belief and festival at Phuoc An temple is a folk belief and festival, a cultural heritage that contributes to enriching cultural characteristics of Binh Duong in particular and the Southern in Vietnam in general. Therefore, it should be recognized, preserved and promoted, to serve the goal of building an advanced Vietnamese culture imbued with national identity.

2. References

1. Dinh Van Hanh (2010), *The festival of Phuoc An temple (Chanh Nghia ward, Thu Dau Mot town, Binh Duong province)*, Binh Duong province.

2. Huynh Ngoc Dang (2010), *The Chinese in Binh Duong – History and current status*, Binh Duong Historical Science Association, Binh Duong province.

3. Phan An (2005), *The Chinese in the Southern in Vietnam*, Social Science Publishing House.

4. Nguyen Viet (2014), *The customs of Ong Bon's festival*, updated on June 20th, 2020 at: https://hoangnguyen1608.wordpress.com/2014/03/02/phong-tuc-le-hoi-chua-ong-bon/.

3. *Features of the festival of Ong Bon temple of the Chinese in Binh Duong*, updated on June 20th, 2020 at: https://www.ansapbinhduong.com/le-hoi-mieu-ong-bon-binh-duong/.

4. Ha Truc (2012), *Legend of some gods worshiped at Phuoc An temple, Chanh Nghia ward, Thu Dau Mot town, Binh Duong province*, updated on July 28th, 2020, at:

http://www.sugia.vn/news/detail/750/truyen-thuyet-ve-mot-so-vi-than-duoc-tho-tai-phuoc-an-mieu-phuong-chanh-nghia-thi-xa-thu-dau-mot-tinh-binh-duong.html.

EXAMINING THE IMPACTS OF OUT-OF-CLASS STUDENT ENGAGEMENT ON STUDENT COMPETENCIES IN THE CONTEXT OF BUSINESS STUDENTS IN VIETNAM

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Abstract

Since the mid-1990s, the topic of "student engagement" has received considerable attention in the literature, especially in higher education, for its robust correlation with many desirable and positive educational outcomes, such as student retention, students' satisfaction, persistence, academic achievement, social engagement, and personal development. While in-class student engagement has been largely researched as it happens in the primary environment of learning, out-of-class student engagement seems to receive less attention. However, some researchers favor the approach that for students at higher education, out-of-class environment is crucial to contribute to their complete development. With regards to an increasing and undeniable role of student competencies for business students, this paper attempts to examine the relationship between out-of-class engagement and student competencies. This paper starts by reviewing literature related to student engagement and out-of-class engagement of students at higher education, and the linkage between out-of-class student engagement and student competencies. It then provides exploratory and confirmatory factor analyses on two different samples of 491 and 492 business students in Hanoi to conclude about the relationship between out-of-class student engagement and student competencies.

Keywords: *Agentic engagement, out-of-class engagement, student competencies, student engagement*

1. Introduction

Since the mid-1990s, the topic of "student engagement" has received considerable attention in the literature, especially in higher education, for its robust correlation with many desirable and positive educational outcomes, such as student retention, students' satisfaction, persistence, academic achievement, social engagement and personal development (Appleton, Christenson, & Furlong, 2008; Astin, 1984; Chickering & Gamson, 1987; Finn, 1993; Finn & Zimmer, 2012; Fredricks, Blumenfeld, Friedel, & Paris, 2005; George D Kuh, 2003; Lei, Cui, & Zhou, 2018; Newmann, Wehlage, & Lamborn, 1992; Ernest T. Pascarella & Terenzini, 2005; Voelkl, 1997).

Eccles and Wang (2012) emphasized that "*There is no doubt that "engagement" is currently a very hot topic in the broad field of school achievement".* Kahu (2013) also agreed that *"Student engagement is widely recognized as an important influence on achievement and learning in higher education and as such is being widely theorized and researched"* (page 758).

Though there are variations of student engagement concept with different definitions and different components, student engagement in higher education is generally accepted to cover two main contexts of in-class (or academic) and out-of-class (or non-academic) environments (Finn, 1989; Fredricks et al., 2005; Gunuc & Kuzu, 2015). While in-class student engagement has been largely researched as it happens in the primary environment of learning, out-of-class student engagement seems to receive less attention. In a literature review of student engagement by Trinh (2020), among 17 concept definitions of student engagement, there are only 10 definitions mentioning out-of-class engagement while 16 out of 17 including in-class engagement. However, some researchers favor the approach that for students at higher education, out-of-class environment is crucial to contribute to their complete development (Audas & Willms, 2001; Finn & Voelkl, 1993; Trowler, 2010).

Regarding important school achievements at higher education, skills and competencies have been considered as increasingly essential for students seeking employability after graduation. The importance of equipping students with competencies has been emphasized by the society and employers (Humburg, Van der Velden, & Verhagen, 2013). In Vietnam, the graduate skills gap has been discussed and emphasized, but still very few researchers paid attention to the great benefits that student engagement can make on students' skills and competencies (Tran, 2017). Foster and Rahinel (2008) was among those who mentioned this relationship in their research, but just focused on how faculty can impact in-class student engagement to help improve student competencies. To the best knowledge of the author, no research has so far addressed the impacts of out-of-class student engagement on the development of competencies at higher education.

Therefore, this paper will examine the relationship between out-of-class engagement and student competencies, with a focus on business students for the undeniable role of competencies for graduate business students.

This paper starts by reviewing literature related to student engagement and out-of-class engagement of students at higher education, and the linkage between out-of-class student engagement and student competencies. It then provides exploratory and confirmatory factor analyses on two different samples of 491 and 492 business students in Hanoi to conclude about the relationship between out-of-class student engagement and student competencies.

2. Method

2.1. Literature review

2.1.1. Student engagement concept

There are different terms and definitions for the concept of "student engagement". This concept was initially mentioned to as "time on task" (Tyler, 1930s, cited by George D. Kuh (2009)) and "quality of effort" (Pace, 1960–1970s, cited by George D. Kuh (2009)). Later on, Astin (1984) introduced "student involvement" to indicate the level of physical and mental energy that students spent on educational experiences. Other studies then continued to develop new aspects related to student engagement and student interaction with school in educational activities, including social and academic integration (Tinto (1987) cited by Ghori (2016)), participation-identification (Finn, 1993), and student engagement (G. Kuh, 1991; Ernest T Pascarella, Pierson, Wolniak, & Terenzini, 2004).

While the concept of "student engagement" became more popular, variations of this concept definition have been found with quite similar components but not entirely consistent (Appleton et al., 2008; Fredricks, Blumenfeld, & Paris, 2004; Fredricks & McColskey, 2012; Furlong et al., 2003). Fredricks et al. (2004) argued that this is a complex, multidimensional concept, and its conceptualization is still far from reaching an overall agreement. Other authors also proposed that further research should focus to clarify the concept and its components, and on how to measure these components (Fredricks & McColskey, 2012; Glanville & Wildhagen, 2007; Lei et al., 2018; Sinatra, Heddy, & Lombardi, 2015).

In this paper, the concept of student engagement proposed by Kuh et al. (2007) will be used, in which, student engagement is conceptualized as "*students' participation in educationally effective practices, both inside and outside the classroom, which leads to a range of measurable outcomes*".

In terms of the concept of "student engagement", some early scholars proposed a two-dimensional model of engagement, including behavioral (such as participation, effort, positive practices) and emotional (care, belonging, values and positive emotions) (Finn, 1993; Marks, 2000).

In a later period, a large number of studies have focused on identifying aspects of the concept of "student engagement" and have been quite consensus on the three aspects of this concept, including: (1) cognitive (conscious engagement, engagement in learning), (2) behavioral (participation in social and community activities), and (3) emotional (affection, affection) (Appleton et al., 2008; Fredricks et al., 2004; Yazzie-Mintz, 2007).

The most recent model introduced by Reeve and Tseng (2011) proposed to add agentic engagement as the fourth component since they believed students can actively participate and actually contribute to the education process, and therefore affecting to the learning outcomes of their owns (Lawson & Lawson, 2013). Later studies have confirmed the validity of agentic engagement as “a distinct and an important construct” (Jang, Kim, & Reeve, 2016; Reeve, 2012; Sinatra et al., 2015).

2.1.2. Student engagement theories

In order to explain and better understand student engagement, we’ll look into student engagement theories. There are two main lines of research on school successful performance over the last three decades: (1) the research studies related to Engagement Theory (ET) which closely linked to drop-out prevention and at-risk students – key authors of this approach can be named as Astin (1984), Finn (1993), Newmann et al. (1992), Christenson et al. (2008), and (2) the research studies related to psychological motivation theories, such as Self-Determination theory and Flow theory with key authors like Bandura (1986), Deci and Ryan (2000), Skinner and Pitzer (2012), Eccles and Wang (2012), Csikszentmihalyi, and Shernoff, Csikszentmihalyi, Schneider, and Shernoff (2014).

In his Student Involvement Theory, Astin (1984) defines student involvement as “*the investment of physical and psychological energy (of the student) in academic experience*”. He described a highly involved student as someone who spends more time to study, shows more effort in doing homework, and/or interacts more frequently with other students and teachers, and he assumed such involvement would lead to student learning and development. This theory provides a foundation for the behavioral component in the concept of student engagement. However, the main drawback of this theory is that it did not attempt to explain the mechanism of student engagement, how it works and how it interacts with other factors in the educational environment.

Therefore, many researchers started to move away from education-based theories to psychological and management theories to explain student engagement and further investigate its constructs, precursors and outcomes (Burch, Heller, Burch, Freed, & Steed, 2015).

Self-determination theory is originally a theory of human motivation and personality in social contexts (Deci & Ryan, 2012). The core idea of this theory is about human intrinsic motivation to explore, to learn and to possess knowledge of what surrounds them. “*When these needs are met by social contexts or activities, people will engage constructively with them; when these need are thwarted, people become disaffected, that is, they withdraw, escape, or act out*” (Skinner & Pitzer, 2012). This theory has set a theoretical ground to understand student engagement as a human social behavior and explained different mechanisms through which students have different level of engagement or disengagement in the school context, in which cognitive and emotional engagement play very important roles.

In the Flow theory, according to Nakamura and Csikszentmihalyi (2002), flow is a “state of deep absorption in an activity that is intrinsically enjoyable”, as we can observe artists or athletes focusing on their play or performance. Based on this Flow theory, one must simultaneously experience concentration, interest and enjoyment in an activity in order for flow to occur (Csikszentmihalyi 1997, cited by Shernoff et al. (2014)).

According to this theory, student engagement is affected by class and school environments as well as other contextual and personal factors. However, it's students who are the key actors of this mechanism where they boost their concentration and interest to a certain level where flow actually occurs and turns into their deep engagement in learning activities (Shernoff et al., 2014). This theory provides a strong support for the agentic component in student engagement concept as it confirms the proactive role of students in their own engagement process.

Based on these theories, this research will take the approach of a four-typology concept of student engagement in examining the relationship between out-of-class student engagement and student competencies in the context of business and management students in Vietnam.

2.1.3. Out-of-class student engagement

At college and university, students will have more opportunities to interact with the broad school community, not just limiting within their classroom, as they need to prepare for the real-life environment. Therefore, student engagement at higher education is often associated with the school community (Bryson, 2010; Fullarton, 2002).

Out-of-class engagement (or non-academic engagement, campus engagement), is to refer to the engagement with the school community, participation in social activities, sense of belonging and valuing university of students (Gunuc & Kuzu, 2015; Hausmann, Schofield, & Woods, 2007).

Participation in university activities, or behavioral engagement in the out-of-class context, is seen in students' participation in non-academic activities, membership of clubs and student associations, involvement in sports and other extra-curricular activities (Finn, 1989; Willms, 2003). Regarding feelings of belongingness or attachment to school, this emotional component refers to feelings of being accepted and valued by their peers, and by others at their school, and sense of being a part of the school environment (Voelkl, 1996; Willms, 2003). The other cognitive aspect of engagement refers to "valuing school" which is concerned with "*whether or not students value school success – do they believe that education will benefit them personally and economically*" (Voelkl, 1996).

In the out-of-class context, agentic engagement can be operationalized as initialization of or proactive participation in extra-curriculum activities, and in some cases, participating in school governance (Finn, 1993).

Reeve (2013) made a clear categorization of those four dimensions based on two criteria regarding forms of engagement. He concluded that "*a difference among these four forms of engagement lies in (1) proactive and reactive behaviors, and (2) internal and external responses*". Agentic engagement is the only proactive form of engagement as it is defined as student' initiated activities, which is different from the other three reactive forms of behavioral, emotional and cognitive engagement. At the same time, emotional and cognitive engagement are internal forms of engagement as they are not easily observable. Behavioral and agentic engagement are categorized as external forms because students will demonstrate these forms of engagement in an explicit and observable manner.

Figure 1 summarizes those forms of engagement in a model as followed:

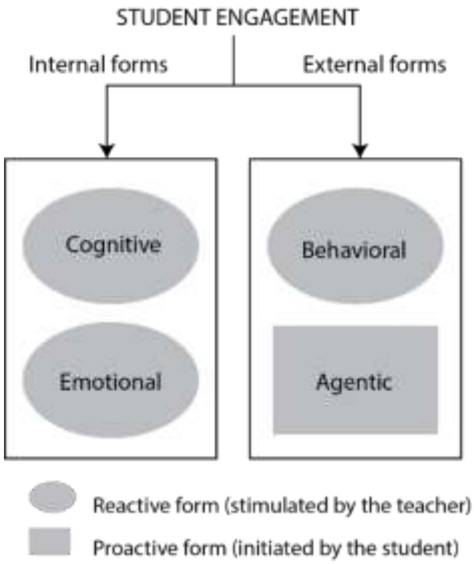


Figure 1: Forms of student engagement

Source: Montenegro (2019)

2.2. Conceptual framework and measurement instruments

2.2.1. Student engagement and competencies

Ernest T. Pascarella and Terenzini (2005) asserted that students "*become more mature, knowledgeable, and focused during college in thinking about a career*" based on their research results in three decades. Students at higher education therefore are expected to be more conscious about their competency development.

And the way that students develop such important skills and competencies is through activities, interactions, and engagement at school, especially by out-of-class activities.

"*These extracurricular activities are recognized widely [...] as providing students with opportunities for leadership, for personal growth and for developing a sense of commitment to the well-being of the wider community. They offer students opportunities to apply skills learned in the classroom in an applied setting, for them to learn the value of* *teamwork, competition and cooperation, individual and group responsibility."* (Fullarton, 2002) (pp.1)

Holland and Andre (1987) also found very similar results that participating in activities in school helps students "*to acquire new skills (organizational, planning, time-management etc.)*". Extracurricular activities are said to "*provide an opportunity for students to develop these skills in a less formal setting than the classroom*" (Fullarton, 2002).

Such results show potential relationships between out-of-class student engagement and student competencies. In their research about higher education, Barth, Godemann, Rieckmann, and Stoltenberg (2007) concluded that key competencies for sustainable development are mainly formed during the interaction between students and different contexts created by the university, namely academic context and extracurricular activities outside the classroom. In other words, these competencies are developed through student participation and student engagement.

Coates (2005) suggested that while institutions and teachers are to provide necessary resources for students to develop at school, it is essential that students need to interact with these conditions "in ways that will lead to productive learning". It means that in the course of interaction with the class and school environment where students demonstrate their 'quality of effort' (Pace, 1982), students gain their achievements by "*challenging themselves to learn, interacting with new ideas and practicing the communication, organizational and reflective skills*" (Coates, 2005).

When students participate in extracurricular activities or live in a campus residence, they have joined in a broader environment outside their classroom which gives them more opportunities to interact with their peers and develop themselves. They therefore may gain social competencies and strengthen their connectedness with school ((Fredricks et al., 2005), Jordan & Nettles, 1999; Knifsend & Graham, 2012, cited by (Lawson & Lawson, 2013)). Other researchers who study impacts of college experience also agree that what happens outside the classroom, or termed as extra-curriculum activities, contribute to valued outcomes of college, e.g., student learning, cognitive and social development (Janosz, 2012; George D Kuh, 1995; Liem & Martin, 2011).

Therefore, main hypotheses are predicted as follows:

H1: Out-of-class behavioral engagement has a positive impact on student competencies.

H2: Out-of-class emotional engagement has a positive impact on student competencies.

H3: Out-of-class cognitive engagement has a positive impact on student competencies.

H4: Out-of-class agentic engagement has a positive impact on student competencies.

2.2.2. Out-of-class student engagement measurement

Based on literature review, the author collected some student engagement instruments from various research studies. These instruments were then put in a table to compare their usage and to match with the research objectives. A suitable instrument to measure student engagement should be used for undergraduate students, cover three to four constructs of student engagement, and explicitly include out-of-class engagement.

Among 14 student engagement instruments being collected, student self-report is the most popular data collection method for all questionnaires – only one other instrument used teachers' report as a supplementary method besides student's self-report. There are four questionnaires used for undergraduate students, but no questionnaires specifically used for students in business and management. Eight out of 14 questionnaires used both in-class and out-of-class forms of student engagement. Those instruments include sub-scales and items to measure behavioral, emotional, and cognitive engagement for out-of-class context. Regarding agentic engagement, there are only items to measure in-class engagement in the instrument developed by Reeve and Tseng (2011). Out-of-class agentic engagement was only mentioned in the level 3 and level 4 of student participation by Finn (1993) and need to develop more items to measure.

A final list of 17 items collected from suitable instruments as follows: 5 items of Valuing used for out-of-class cognitive component, 6 items of Sense of belonging used for out-of-class emotional component, 4 items of Participation used for out-of-class behavioral component; and 2 items from out-of-class Agentic engagement.

All these items were then translated into Vietnamese by an expert Vietnamese translator working in the education field. After that, the translated version was reviewed by another Vietnamese university lecturer who is proficient in both English and Vietnamese. Minor adjustments were made to the translated list of items.

As a result of the literature review, the out-of-class agentic engagement was not much researched and lack of measurement instrument. Therefore, expert interviews and focus group were chosen as qualitative research methods to generate possible new items to measure out-of-class agentic student engagement in the context of business and management students in Vietnam. The author invited three experts in the field of student's psychology and behavior with more than 10 years of experience to join expert interview and did a group focus discussion with eight students. Each expert interview lasts from 48 minutes to one hour. The focus group took place in one hour and 45 minutes.

Main findings from expert interviews and focus group discussion show that: (1) Interactions between students and their friends, faculty staff, and school on social network (e.g. Facebook) were mentioned as an emerging aspect of student engagement. Those interactions demonstrate various components and levels of engagement, consisting of commenting on Facebook, sharing events and spreading awareness, giving advices, and protecting the reputation of the school; and (2) Active participation in extracurricular activities can be displayed in the form of membership of club management board and event organizers.

Based on the findings, two new items were added to measure out-of-class behavioral engagement, and five new items were added to measure out-of-class agentic engagement.

2.2.3. Student competencies and its measurement

Unlike in high schools, at colleges, students often study different subjects, in larger classes, communicate with different teachers and interact with many different peers. Teaching and learning methods change, requiring students to be active for their self-study and take more responsibility for their learning process (Ernest T. Pascarella & Terenzini, 2005).

The current fast changing social and economic development in the new millennium requires education to equip the learners with the skills and competencies appropriate to the needs of the knowledge economy (Ananiadou & Claro, 2009). For most young people, school is the only place where they can learn these skills and competencies (Ananiadou & Claro, 2009).

Some recent studies on higher education mentioned the need to equip students with the necessary competencies of the 21st century (Ananiadou & Claro, 2009; Wiek, Withycombe, & Redman, 2011), and build a theoretical framework for the required competencies of students (Hipkins, 2006). These studies all suggested that students need to be equipped with competencies - not skills (Rychen & Salganik, 2000). Hipkins (2006) noted the emerge of key competencies to replace the "essential skills" in recent curriculum framework as "unlike skills, competencies focus on all the requirements of a task and this includes what you need to know, not just what you can do". He also suggested the following definition: "*Competencies include the skills, knowledge, attitudes and values needed to meet the demands of a task*."

Although the number of research studies related to this topic is increasing, it must be emphasized that there is currently little consensus regarding what the most necessary set of competencies for graduates is.

As competencies are increasingly essential for graduate students to find jobs in the market, another model called Making the Match Between University Graduates and Corporate Employers developed by Evers and Rush (1996) has proposed four base competencies that are needed during the transition from university to work. These four base competencies are (1) mobilizing innovation and change, (2) coordinating people and managing tasks, (3) communicating, and (4) managing self-developed, which have been comprised from 18 workplace skills. This model has been used to assess competencies of undergraduate business students (Berman & Ritchie, 2006) as well as in other research studies by Berdrow and Evers (2011), Man, Lau, and Snape (2008), and Pinto and Ramalheira (2017). The biggest advantage of this model is its emphasis on employment competencies with a vision where most employees are empowered to make more of the decisions within their organizations. This approach has been highly evaluated by employers in the labor market.

Within the scope of this study, the author intends to use the four base competencies to do the research, therefore, the measurement of competencies will be drawn from measurement instrument proposed by Evers and Rush (1996). Minor changes were made to get a shorter version of the instrument to fit with undergraduate students.

2.2.4. Data collection method

There are several methods used to measure student engagement, but self-report survey measures are considered as the most common method for assessing student engagement (Fredricks & McColskey, 2012).

The overall scale used in student self-report is 7-level Likert Scale, which is more complex but allows respondents to give the answer closest possible to their feelings, thus showing the differences between levels and creating a seamless scale (Williams & Cappuccini-Ansfield, 2007). This scale is described with “1” is “Strongly disagree” and “7” is “Strongly agree”.

The questionnaire used in this research has four parts for the main content. The first part of the questionnaire is an introduction providing an explanation of the research purpose, type of informants and information collection, confidentiality policy, statement of consent and instruction of completing the questionnaire. At the end of this introduction, respondents will be asked to complete a “consent statement” where they show their voluntary consent of taking part in the survey.

The second part was about out-of-class student engagement items, with 6 items of out-of-class behavioral engagement, 6 items of out-of-class emotional engagement, 5 items of out-of-class cognitive engagement, and 7 items of out-of-class agentic engagement.

The third part was about student competencies, with 5 items of Innovation (mobilizing innovation and change), 10 items of Coordination (coordinating people and managing tasks), 10 items of Communication (communicating), and 10 items of Self-management (managing self-developed), a bit shorter than the original version.

The last part was about informant’s demographic and personal information, such as age, gender, year level, major, number of subjects that they are taking and university name.

As the questionnaire was quite a long one and takes much time of respondents to complete it, no reversed item was designed in the form to help respondents focused on the main content of the survey.

2.2.5. Data collection

The sampling method is quota sampling, where the author sent questionnaires to ten different big universities in Hanoi that provide courses in business and management. There were 300 questionnaires sent to the first university (National Economics University), 200 questionnaires sent to the second and the third universities (Hanoi University of Business and Technology, and Hanoi University), and 100 questionnaires sent to the rest seven universities. In each university, the author either asked some lecturers to help collect responses from students in their classes or came directly to those classes to collect data.

After being collected, responses were scanned for their validity before being coded into Excel file. Invalid responses with more than five missing data in a row were removed. After being coded into Excel file, data were then cleaned up by computing Max, Min, Mean, Standard Deviation (SD) for each observation. After checking, the final data set comprises of 991 responses, out of 1,400 questionnaires sent, showing a response rate of 70,8%.

Outliers were identified and eliminated using Mahalanobis distance in SPSS based on a linear regression. In total, eight outliers with values of the Mahalanobis Probability variable less than .001 (Leys, Klein, Dominicy, & Ley, 2018) were identified and removed from the dataset, resulting in a final dataset of 983 observations.

Sample information

University	n	%
National Economics University	266	27.1%
Hanoi University of Business and Technology	149	15.2%
Hanoi University	116	11.8%
Banking Academy	74	7.5%
Foreign Trade University	87	8.9%
Vietnam University of Commerce	41	4.2%
Hanoi University of Science and Technology	71	7.2%
Hanoi Open University	75	7.6%
Economic School, Hanoi National University	59	6.0%
University of Economics - Technology for Industries	45	4.6%
Total	983	100.0%

The total sample was then divided into two datasets for separately running Exploratory factor analysis (EFA) and Confirmatory factor analysis (CFA), as these two analyses should not be run on the same set of data (Appleton, Christenson, Kim, & Reschly, 2006; Fokkema & Greiff, 2017; Hinkin, Tracey, & Enz, 1997) to avoid overfitting data problem. All odd observations were chosen as dataset 1, and all even observations were put in dataset 2.

	Dataset 1		Dataset 2	
Gender	n	%	n	%
Male	135	27.4%	127	25.9%
Female	334	67.9%	341	69.5%
Prefer not to say	10	2.0%	10	2.0%
Missing	13	2.6%	13	2.6%
Total	492	100.0%	491	100.0%
Age				
17-18	26	5.3%	21	4.3%
19	109	22.2%	100	20.4%
20	125	25.4%	137	27.9%
21	175	35.6%	172	35.0%
>=22	53	10.8%	56	11.4%
Missing	4	0.8%	5	1.0%
Total	492	100.0%	491	100.0%
Study year				
Year 1	100	20.3%	91	18.5%
Year 2	135	27.4%	141	28.7%
Year 3	179	36.4%	172	35.0%
Year 4	67	13.6%	78	15.9%
>=Year 5	2	0.4%	1	0.2%
Missing	9	1.8%	8	1.6%
Total	492	100.0%	491	100.0%

Both datasets are dominant by female students: 67.9% female to 27.4% male in dataset 1 and 69.5% female to 25.9% male in dataset 2, but those ratios are consistent and quite normal for students in business and management where female students are often the majority. Both datasets contain students from all study years, from Year 1 to Year 4.

3. Results

3.1. Exploratory Factor Analysis

In this part, an Exploratory Factor Analysis EFA were used to explore the factor dimensions as well as to reduce the set of observed variables to a smaller, more parsimonious set of variables (Hinkin et al., 1997) for dataset 1.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.934
Bartlett's Test of Sphericity	Approx. Chi-Square	9117.288
	df	276
	Sig.	.000

The KMO value is 0.934 > 0.7 and the Bartlett’s test of sphericity is significant at sig=0.000.

For this EFA, the extraction method used is Principal Component Analysis, with Eigen value greater than 1, rotation method is Varimax and the absolute value of small coefficients to be suppressed is 0.4 (Hair, Black et al., 2010). The initial result of EFA for out-of-class engagement is as follows:

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.084	46.184	46.184	11.084	46.184	46.184	5.300	22.082	22.082
2	3.220	13.418	59.602	3.220	13.418	59.602	4.426	18.441	40.524
3	1.246	5.193	64.795	1.246	5.193	64.795	3.705	15.437	55.961
4	1.080	4.500	69.295	1.080	4.500	69.295	3.200	13.335	69.295
5	.879	3.662	72.957						
6	.744	3.099	76.056						
7	.622	2.593	78.649						
8	.567	2.361	81.010						
9	...	...	...						

Extraction Method: Principal Component Analysis.

There are four components identified based on the criteria of Eigen value of greater than 1 with 69.295% of total variance explained. The total number of components is four as expected and the total variance explained is greater than 50%, which is good.

Initial factor loadings from an exploratory factor analysis of all 24 items to measure out-of-class student engagement are obtained as follows.

Rotated Component Matrix[a] and item description

	Items	Component 1	2	3	4
OB1	I take part in periodical student clubs / student associations activities at school	.764			.405
OB2	I attend in sports, cultural or social events of my class/school	.780			
OB3	I go to campus willingly	.691	.407		
OB4	I participate seriously in extra-curricular activities	.751			
OB5	I actively interact with student clubs/student associations of my school on social networks	.712			
OB6	I actively interact with my school on social networks	.583	.421		
OE1	I look forward to going to campus		.806		
OE2	I feel myself as a part of the campus		.725		
OE3	I enjoy the activities carried out in campus		.674		

OE4	I feel happy in campus		.828		
OE5	I like spending time in campus		.797		
OE6	I feel secure in campus		.575	.475	
OC1	I believe university is beneficial for me			.770	
OC2	University is of great importance in my life			.802	
OC3	I give importance to university education			.844	
OC4	I give importance to extra-curricular activities and take them seriously	.447		.604	
OC5	I determine my own socializing goals	.535			
OA1	I actively contribute to extra-curriculum activities of my class	.608			
OA2	I actively contribute to extra-curriculum activities of my school	.638			.443
OA3	I am a core member of at least one student club/ association / group of my school				.848
OA4	I involve in the management of at least one student club/ association / group of my school				.859
OA5	I actively contribute to my student club's / student association's activities	.476			.641
OA6	I share campaigns/ events of my school on social networks	.447			.495
OA7	I protect reputation and image of my school on social networks			.550	

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 8 iterations.

There were minor cross loadings in the rotated component matrix. The author first removed OA1, OA2, and run the EFA again. This time, the author chooses the absolute value of small coefficients to be suppressed is 0.5 to focus on components with strong loadings. The next run of EFA showed that OC5 and OA7 should be removed. The final rotated component matrix is as follows, with total variance explained slightly increases to 72.463%.

Rotated Component Matrix[a]

Items	Component			
	1	2	3	4
OB1		.737		
OB2		.752		
OB3		.698		
OB4		.769		
OB5		.713		
OB6		.575		
OE1	.808			
OE2	.746			
OE3	.707			
OE4	.844			
OE5	.806			
OE6	.588			

OC1			.778	
OC2			.821	
OC3			.865	
OC4			.579	
OA3				.871
OA4				.874
OA5				.674
OA6				.508

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 8 iterations.

This EFA result has confirmed the four subcomponents of out-of-class engagement, where out-of-class agentic engagement was a separate component of the structure. The measurement instrument of out-of-class agentic engagement is also reduced to four items with quite strong loadings for each item, ranging from 0.508 to 0.874.

3.2. Internal Consistency Assessment

In this step, the reliability of the scale will be tested based on Cronbach's Alpha.

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
OB Cronbach's Alpha		**.899**		
N of Items		6		
OB1	23.32	49.740	.744	.878
OB2	23.51	50.193	.760	.875
OB3	22.84	53.073	.649	.892
OB4	22.69	52.919	.746	.878
OB5	23.16	50.512	.777	.873
OB6	23.02	53.014	.681	.887
OE Cronbach's Alpha		**.917**		
N of Items		6		
OE1	24.76	40.074	.777	.901
OE2	24.89	39.482	.782	.900
OE3	24.91	40.171	.765	.903
OE4	24.97	38.971	.860	.889
OE5	25.12	39.728	.792	.899
OE6	24.45	43.274	.621	.921
OC Cronbach's Alpha		**.868**		
N of Items		4		
OC1	17.16	9.937	.763	.813
OC2	17.24	9.488	.813	.791
OC3	16.92	10.323	.776	.811
OC4	17.36	10.990	.547	.901
OA Cronbach's Alpha		**.839**		

	N of Items	4		
OA3	11.23	25.695	.738	.766
OA4	11.63	25.699	.702	.783
OA5	10.51	26.967	.699	.784
OA6	10.13	30.184	.553	.845

All Cronbach's Alpha of OB, OE, OC, OA are greater than 0.8, which showed that the measurement items are reliable. In each sub-construct, most of Cronbach's Alphas if Item Deleted were smaller than the main Cronbach's Alphas, except the three cases of OE6, OC4, and OA6 which showed minor improvement with the overall scale. Hair (2016) indicated that a scale item should only be deleted if they are below 0.4, therefore all scale-items of the measurement tool are retained.

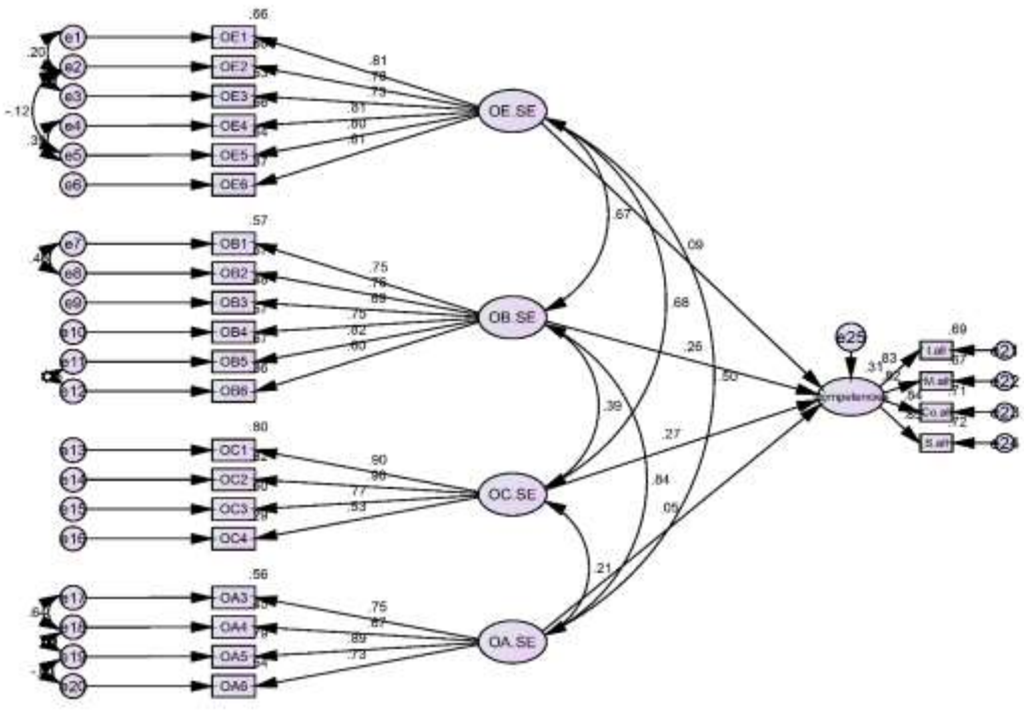
Besides, all Corrected Item-Total Correlation > 0.5, it means they are highly interrelated and likely to measure the same construct.

Therefore, the items used to measure the components of out-of-class student engagement are reliable.

3.3. Confirmatory Factor Analysis

The dataset 2 was used to run a Confirmatory Factor Analysis based on the result of the EFA from dataset 1.

The rotated pattern matrix of out-of-class engagement was put into Amos Graphics version 20. Student competencies was used as a single dependent variable with four competencies as observable variables in the model.



Among different indices of fitness assessment, Hooper, Coughlan, and Mullen (2008) suggested to report the Chi-Square statistic, its degrees of freedom and p value, the RMSEA and its associated confidence interval, the SRMR, the CFI and one parsimony fit index such as the PNFI, as these indices have been found to be "*the most insensitive to sample size, model misspecification and parameter estimates*".

In this model, the fitness indices are compared with the norms to get the model fitness assessment as follows:

Criteria	Model value	Norm	Source	Model fitness assessment
Absolute fit indices				
Normed chi-square CMIN/DF (Chi-square/ Degrees of freedom)	3.360	<5	Wheaton, Muthen, Alwin, and Summers (1977)	Good
P value	.000	>=0.05	Wheaton et al. (1977)	Not good
Root mean square error of approximation RMSEA	.069	< =0.07	Steiger (2007)	Good
90% confidence interval of RMSEA	.064 - .075	< =0.08	Steiger (2007)	Good
PCLOSE	.000	>=0.05	Steiger (2007)	Not good
Standardized root mean square residual (SRMR)	.0733	<=0.08	Hu and Bentler (1999)	Good
Incremental fit indices				
Normed-fit index (NFI)	.906	>=0.9	Byrne (1994)	Good
Comparative fit index (CFI)	.932	>=0.93	Byrne (1994)	Good
Parsimony fit indices				
Parsimony normed-fit index (PNFI)	.906	>=0.9	Mulaik et al. (1989)	Good

Among those 9 indices, seven indices were good, only two indices of P value and PCLOSE were not good.

However, Moss (2009) stated that many researchers disregard the index P value "*if both the sample size exceeds 200 or so and other indices indicate the model is acceptable*". Since other indices of model fitness are good, this model is considered satisfactory and acceptable for the test.

3.4. Results

The hypotheses being tested in this model have results as follows:

Regression Weights: (Group number 1 - Default model)

			Estimate	Standardized Regression Weights	S.E.	C.R.	P
Competencies	<---	OE.SE	.063	.093ns	.061	1.032	.302
Competencies	<---	OB.SE	.151	.265*	.077	1.959	.050
Competencies	<---	OC.SE	.206	.267***	.052	3.937	***
Competencies	<---	OA.SE	.026	.050ns	.060	.443	.658

(*** p<0.001, ** p<0.01, *p<0.05, ns=not significant)

Squared Multiple Correlations

	Estimate
Competencies	.306

The standardized regression weights for out-of-class emotional engagement (OE.SE) and out-of-class agentic engagement (OA.SE) are low (0.093 and 0.05 respectively) with insignificant p values. Therefore, the hypotheses of H2 (*Out-of-class emotional engagement has a positive impact on student competencies*) and H4 (*Out-of-class agentic engagement has a positive impact on student competencies*) are not supported.

The standardized regression weights for out-of-class behavioral engagement (OB.SE) is 0.265 at p = .05, and the standardized regression weights for out-of-class cognitive engagement (OB.SE) is 0.267 at p < .001. Therefore, the H1 and H3 hypotheses that out-of-class behavioral and cognitive engagement has positive impacts on student competencies are statistically significant.

With R square = 0.306, 30.6% of variation of student competencies can be explained by the independent variables of out-of-class student engagement.

This result has confirmed the role of out-of-class student engagement in relationship with student competencies in the context of business students in Vietnam.

4. Discussion and Conclusion

4.1. Discussion

The findings of this test show that out-of-class student engagement has significant positive impacts on student competencies at higher education, especially with out-of-class behavioral and cognitive engagement. Though the importance of competencies has been widely confirmed, the acquisition of competencies is "hardly comparable with learning as knowledge acquisition" as described by Barth et al. (2007): "they are learnable but not teachable". Therefore, an initially established relationship between student engagement in general and out-of-class engagement in specific will provide possible intervention and development for student competencies. However, such relationship still needs further research and testing in different contexts, both theoretically and empirically.

This finding also shows a comparable interesting aspect of student engagement in different contexts, where previous research also demonstrated that "behavioral and cognitive engagement in learning activities strongly predicts achievement and learning competencies" (Janosz, 2012).

The findings of this research, however, did not support the impact of out-of-class emotional and agentic engagement on student competencies. This is not very consistent with other research where they emphasized the role of emotional engagement as "*there is much potential for school environments to have broad influence on students' development and growth*" (Yusof, Ang, & Oei, 2017). As a new subcomponent of out-of-class student engagement, out-of-class agentic engagement has not been much researched in different contexts, and the measurement instrument of this construct is still under development.

4.2. Conclusion

In this research, the author has reviewed literature relating to relationships between out-of-class student engagement and student competencies to establish a theoretical linkage and then empirically test it with two samples of business students in Vietnam.

The author has contributed to the knowledge of student engagement by generating new items to help measure a new subcomponent of out-of-class agentic engagement through literature review and qualitative research.

An exploratory factor analysis on a sample of 492 students has confirmed the four separate components of in-class engagement in the context of Vietnam. The measurement instrument of out-of-class student engagement was successfully tested as a valid and reliable instrument with both convergence and differentiation criterion.

The research also produced promising results with satisfactory model fitness in the confirmatory factor analysis on another sample of 491 students. The findings from this research shows statistically significant positive impacts of out-of-class behavioral and cognitive engagement on student competencies at higher education, while the impacts of out-of-class emotional and agentic engagement was not significant. Such findings show initial contribution to the current knowledge body of student engagement and calls for further research and testing of this relationship in different contexts, both theoretically and empirically.

5. References

1. Ananiadou, K., & Claro, M. (2009). 21st century skills and competences for new millennium learners in OECD countries.

2. Appleton, J. J., Christenson, S. L., & Furlong, M. J. (2008). Student engagement with school: Critical conceptual and methodological issues of the construct. *Psychology in the Schools, 45*(5), 369-386.

3. Appleton, J. J., Christenson, S. L., Kim, D., & Reschly, A. L. (2006). Measuring cognitive and psychological engagement: Validation of the Student Engagement Instrument. *Journal of school psychology, 44*(5), 427-445.

4. Astin, A. W. (1984). Student Involvement: A Development Theory for Higher Education. *Journal of College Student Development, 40*(5), 518-529.

5. Audas, R., & Willms, J. D. (2001). *Engagement and dropping out of school: A life-course perspective*: Citeseer.

6. Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of social and clinical psychology, 4*(3), 359-373.

7. Barth, M., Godemann, J., Rieckmann, M., & Stoltenberg, U. (2007). Developing key competencies for sustainable development in higher education. *international Journal of sustainability in higher education*.

8. Berdrow, I., & Evers, F. T. (2011). Bases of competence: A framework for facilitating reflective learner-centered educational environments. *Journal of Management Education, 35*(3), 406-427.

9. Berman, J., & Ritchie, L. (2006). Competencies of undergraduate business students. *Journal of Education for Business, 81*(4), 205-209.

10. Bryson, C. (2010). Retention Convention: What works? Student retention and success.

11. Burch, G. F., Heller, N. A., Burch, J. J., Freed, R., & Steed, S. A. (2015). Student engagement: Developing a conceptual framework and survey instrument. *Journal of Education for Business, 90*(4), 224-229.

12. Byrne, B. M. (1994). *Structural equation modeling with EQS and EQS/Windows: Basic concepts, applications, and programming*: Sage.

13. Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE bulletin, 3*, 7.

14. Christenson, S. L., Reschly, A. L., Appleton, J. J., Berman, S., Spanjers, D., & Varro, P. (2008). Best practices in fostering student engagement. In *Best practices in school psychology V* (pp. 1099-1120): National Association of School Psychologists.

15. Coates, H. (2005). The value of student engagement for higher education quality assurance. *Quality in Higher Education, 11*(1), 25-36.

16. Deci, E. L., & Ryan, R. M. (2000). The" what" and" why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological inquiry, 11*(4), 227-268.

17. Deci, E. L., & Ryan, R. M. (2012). Self-determination theory.

18. Eccles, J., & Wang, M. (2012). So what is student engagement anyway: Commentary on Section I. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement. New York, NY: Springer*: Springer.

19. Evers, F. T., & Rush, J. C. (1996). The bases of competence: Skill development during the transition from university to work. *Management Learning, 27*(3), 275-299.

20. Finn, J. D. (1989). Withdrawing from school. *Review of Educational Research, 59*(2), 117-142.

21. Finn, J. D. (1993). School Engagement & Students at Risk.

22. Finn, J. D., & Voelkl, K. E. (1993). School characteristics related to student engagement. *The Journal of Negro Education, 62*(3), 249-268.

23. Finn, J. D., & Zimmer, K. S. (2012). Student engagement: What is it? Why does it matter? In *Handbook of research on student engagement* (pp. 97-131): Springer.

24. Fokkema, M., & Greiff, S. (2017). How performing PCA and CFA on the same data equals trouble. In: Hogrefe Publishing.

25. Foster, M. K., & Rahinel, R. (2008). *Student engagement and competency development.* Paper presented at the Academy of Management Proceedings.

26. Fredricks, J. A., Blumenfeld, P., Friedel, J., & Paris, A. (2005). School engagement. In *What do children need to flourish?* (pp. 305-321): Springer.

27. Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*(1), 59-109.

28. Fredricks, J. A., & McColskey, W. (2012). The measurement of student engagement: A comparative analysis of various methods and student self-report instruments. In *Handbook of research on student engagement* (pp. 763-782): Springer.

29. Fullarton, S. (2002). Student engagement with school: Individual and school-level influences. *LSAY Research Reports*, 31.

30. Furlong, M. J., Whipple, A. D., Jean, G. S., Simental, J., Soliz, A., & Punthuna, S. (2003). Multiple contexts of school engagement: Moving toward a unifying framework for educational research and practice. *The California School Psychologist, 8*(1), 99-113.

31. Ghori, S. (2016). *Deconstructing concepts of student satisfaction, engagement and participation in UK higher education.* Oxford Brookes University, Vương quốc Anh.

32. Glanville, J. L., & Wildhagen, T. (2007). The measurement of school engagement: Assessing dimensionality and measurement invariance across race and ethnicity. *Educational and psychological measurement, 67*(6), 1019-1041.

33. Gunuc, S., & Kuzu, A. (2015). Student engagement scale: development, reliability and validity. *Assessment & Evaluation in Higher Education, 40*(4), 587-610.

34. Hausmann, L. R., Schofield, J. W., & Woods, R. L. (2007). Sense of belonging as a predictor of intentions to persist among African American and White first-year college students. *Research in higher education, 48*(7), 803-839.

35. Hinkin, T. R., Tracey, J. B., & Enz, C. A. (1997). Scale construction: Developing reliable and valid measurement instruments. *Journal of Hospitality & Tourism Research, 21*(1), 100-120.

36. Hipkins, R. (2006). The nature of the key competencies. *A background paper. Wellington: New Zealand Council for Educational Research*.

37. Holland, A., & Andre, T. (1987). Participation in extracurricular activities in secondary school: What is known, what needs to be known? *Review of Educational Research, 57*(4), 437-466.

38. Hooper, D., Coughlan, J., & Mullen, M. (2008). Structural equation modelling: Guidelines for determining model fit. *Electronic Journal of Business Research Methods, 6*(1), 53–60.

39. Hu, L. t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal, 6*(1), 1-55.

40. Humburg, M., Van der Velden, R., & Verhagen, A. (2013). The employability of higher education graduates: the employers' perspective. *Final Report (Brussels: European Commission).*

41. Jang, H., Kim, E. J., & Reeve, J. (2016). Why students become more engaged or more disengaged during the semester: A self-determination theory dual-process model. *Learning and Instruction, 43*, 27-38.

42. Janosz, M. (2012). Part IV commentary: Outcomes of engagement and engagement as an outcome: Some consensus, divergences, and unanswered questions. In *Handbook of research on student engagement* (pp. 695-703): Springer.

43. Kahu, E. R. (2013). Framing student engagement in higher education. *Studies in higher education, 38*(5), 758-773.

44. Kuh, G. (1991). *Involving Colleges: Successful Approaches to Fostering Student Learning and Development outside the Classroom*: ERIC.

45. Kuh, G. D. (1995). The other curriculum: Out-of-class experiences associated with student learning and personal development. *The Journal of Higher Education, 66*(2), 123-155.

46. Kuh, G. D. (2003). What we're learning about student engagement from NSSE: Benchmarks for effective educational practices. *Change: The Magazine of Higher Learning, 35*(2), 24-32.

47. Kuh, G. D. (2009). The national survey of student engagement: Conceptual and empirical foundations. *Contemporary Educational Psychology, 2009*(141), 5-20. doi:10.1002/ir.283

48. Lawson, M. A., & Lawson, H. A. (2013). New conceptual frameworks for student engagement research, policy, and practice. *Review of Educational Research, 83*(3), 432-479.

49. Lei, H., Cui, Y., & Zhou, W. (2018). Relationships between student engagement and academic achievement: A meta-analysis. *Social Behavior and Personality: an international journal, 46*(3), 517-528.

50. Leys, C., Klein, O., Dominicy, Y., & Ley, C. (2018). Detecting multivariate outliers: Use a robust variant of the Mahalanobis distance. *Journal of Experimental Social Psychology, 74*, 150-156.

51. Liem, G. A. D., & Martin, A. J. (2011). Peer relationships and adolescents' academic and non-academic outcomes: Same-sex and opposite-sex peer effects and the mediating role of school engagement. *British Journal of Educational Psychology, 81*(2), 183-206.

52. Man, T. W., Lau, T., & Snape, E. (2008). Entrepreneurial competencies and the performance of small and medium enterprises: An investigation through a framework of competitiveness. *Journal of Small Business & Entrepreneurship, 21*(3), 257-276.

53. Marks, H. M. (2000). Student engagement in instructional activity: Patterns in the elementary, middle, and high school years. *American educational research journal, 37*(1), 153-184.

54. Montenegro, A. (2019). Why are students' self-initiated contributions important (?) A study on agentic engagement. *International Journal of Sociology of Education, 8*(3), 291-315.

55. Moss, S. (2009). Fit indices for structural equation modeling. *Website: http://www. psych-it. com. au/Psychlopedia/article. asp*.

56. Mulaik, S. A., James, L. R., Van Alstine, J., Bennett, N., Lind, S., & Stilwell, C. D. (1989). Evaluation of goodness-of-fit indices for structural equation models. *Psychological bulletin, 105*(3), 430.

57. Nakamura, J., & Csikszentmihalyi, M. (2002). The Concept of Flow. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of Positive Psychology* (pp. 848). New York: Oxford University Press.

58. Newmann, F., Wehlage, G., & Lamborn, S. (1992). The significance and sources of student engagement. *Student engagement and achievement in American secondary schools*, 11-39.

59. Pace, C. R. (1982). *Achievement and the Quality of Student Effort* (ED227101). Retrieved from Washington DC.: http://files.eric.ed.gov/fulltext/ED227101.pdf

60. Pascarella, E. T., Pierson, C. T., Wolniak, G. C., & Terenzini, P. T. (2004). First-generation college students: Additional evidence on college experiences and outcomes. *The Journal of Higher Education, 75*(3), 249-284.

61. Pascarella, E. T., & Terenzini, P. T. (2005). *How College Affects Students: A Third Decade of Research* (2 ed. Vol. 2). San Francisco: Jossey-Bass.

62. Pinto, L. H., & Ramalheira, D. C. (2017). Perceived employability of business graduates: The effect of academic performance and extracurricular activities. *Journal of Vocational Behavior, 99*, 165-178.

63. Reeve, J. (2012). A self-determination theory perspective on student engagement. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 149-172): Springer.

64. Reeve, J. (2013). How students create motivationally supportive learning environments for themselves: The concept of agentic engagement. *Journal of Educational Psychology, 105*(3), 579.

65. Reeve, J., & Tseng, C.-M. (2011). Agency as a fourth aspect of students' engagement during learning activities. *Contemporary Educational Psychology, 36*(4), 257-267.

66. Rychen, D. S., & Salganik, L. H. (2000). Definition and selection of key competencies. *THE INES COMPENDIUM ((Fourth General Assembly of the OCDE Education Indicators programmme). París: OCDE*, 61-73.

67. Shernoff, D. J., Csikszentmihalyi, M., Schneider, B., & Shernoff, E. S. (2014). Student engagement in high school classrooms from the perspective of flow theory. In *Applications of flow in human development and education* (pp. 475-494): Springer.

68. Sinatra, G. M., Heddy, B. C., & Lombardi, D. (2015). The challenges of defining and measuring student engagement in science. *Educational Psychologist*.

69. Skinner, E. A., & Pitzer, J. R. (2012). Developmental dynamics of student engagement, coping, and everyday resilience. In *Handbook of research on student engagement* (pp. 21-44): Springer.

70. Steiger, J. H. (2007). Understanding the limitations of global fit assessment in structural equation modeling. *Personality and Individual differences, 42*(5), 893-898.

71. Tran, L. H. N. (2017). Developing employability skills via extra-curricular activities in Vietnamese universities: Student engagement and inhibitors of their engagement. *Journal of Education and Work, 30*(8), 854-867.

72. Trinh, T. T. G. (2020). *A literature review on student engagement and its implications for higher education in Vietnam*. Paper presented at the The 3rd International Conference on Contemporary Issues in Economics, Management and Business (3rd CIEMB 2020), Hanoi.

73. Trowler, V. (2010). Student engagement literature review. *The higher education academy, 11*, 1-15.

74. Voelkl, K. E. (1996). Measuring students' identification with school. *Educational and psychological measurement, 56*(5), 760-770.

75. Voelkl, K. E. (1997). Identification with school. *American Journal of Education, 105*(3), 294-318.

76. Wheaton, B., Muthen, B., Alwin, D. F., & Summers, G. F. (1977). Assessing reliability and stability in panel models. *Sociological methodology, 8*, 84-136.

77. Wiek, A., Withycombe, L., & Redman, C. L. (2011). Key competencies in sustainability: a reference framework for academic program development. *Sustainability science, 6*(2), 203-218.

78. Williams, J., & Cappuccini-Ansfield, G. (2007). Fitness for Purpose? National and Institutional Approaches to Publicising the Student Voice. *Quality in Higher Education, 13*(2), 159-172. doi:10.1080/13538320701629186

79. Willms, J. D. (2003). *Student engagement at school: A sense of belonging and participation: Results from PISA 2000*: OECD publishing.

80. Yazzie-Mintz, E. (2007). Voices of Students on Engagement: A Report on the 2006 High School Survey of Student Engagement. *Center for Evaluation and Education Policy, Indiana University*.

81. Yusof, N., Ang, R. P., & Oei, T. P. S. (2017). The psychometric properties of the school engagement measure in adolescents in Singapore. *Journal of Psychoeducational Assessment, 35*(5), 521-533.

RATE OF RETURN FOR HIGHER EDUCATION IN VIETNAM: A DISCIPLINE BASE COMPARATIVE ANALYSIS

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Abstract

In Vietnam, higher education has been highly appreciated by the public as well as policymakers as a bachelor's degree is believed to be a competitive advantage for future career. Although the effect of higher education on wage is quite obviously in Vietnam, the effect of university major on wage is not much mention in previous research. Using the Labor Forced Survey (LFS 2019), to match with the university's training sectors according to the Circular No: 06/2018/TT-BGDDT dated February 28, 2018, the paper estimates the average rate of return to a university degree in Vietnam with discipline based comparative analysis using Mincer method and propose some recommendations and suggestions for higher education in Vietnam. The result shows that the average monthly salary of works is at VND 7.2 million with training or special qualifications - university receive a high salary by around 11.11% which is up to VND 8 million per month. In comparison of all major study, the incomes are different, but the gaps are not significant.

Keywords: *Higher education in Vietnam, Rate of returns on education, University's discipline*

1. Introduction

Economists have traditionally sought to identify the rates of return for educational investments because of the implications for total economic growth, and also to mention the help it provides individuals in determining how much they should invest in their education. Higher education is central to creating a knowledge economy and it is critical for economic development in general. However, in most countries, higher education (and especially university education) remains expensive. So, one popular question that has been asked by many universities and college students is: Is university education a good investment? To get the answer, there is a growing body of empirical literature that investigates the rate of return for higher education. In general, the papers have confirmed that better-educated people are receiving higher wages rather than less-educated people by the studies of Mincer (1991), Åberg (2003), Zhigang and Shunfeng (2006), England (2010) of Harberger et.al (2012). To estimate the rate of return to higher education, most of the papers use production function in the Mincer model way in order to achieve log-linear equation with household survey data and the result indicates that educational achievement seems to be a dominant forecaster of labor-market outcomes. The members of better-educated households suggest not to accepting low salaried works (Akguc, 2011; Comola and Mello, 2011; Purnastuti, 2012; Magdalyn, 2013).

Concerning the choice of college major, there is a significant amount of empirical evidence suggests that earnings potential affects individuals' choice of college major (Willis and Rosen, 1979; Zarkin, 1985; Berger, 1988). There is less definitive evidence on the extent to which lifetime earnings considerations factor into college major choices, though, as suggested above, it is clear that there are significant differences in rates of return according to one's major (Carnevale et al., 2012), and recessions and economic fluctuations can have significant and persistent effects on new college graduates that depends, in part, on the major with which they enter the labor market (Oreopoulos et al., 2012). Work that focuses on connecting field of study to potential future earning generally relies on strong forecasting assumptions. Accordingly, Berger (1988) estimates the relationship between a college student's predicted future earnings and choice between five broad fields of study. In models that attempt to correct for self-selection bias, assuming individual ability and cohort affects earnings but not college major, he finds evidence suggesting that students are likely to choose majors that offer greater lifetime earnings streams. Similar to Berger, Beffy et al. (2012) estimate the relationship between expected earnings and college major across broad fields of study, and they attempt to account for self-selection by exploiting variations in the relative earnings returns induced by the business cycle. They find heterogeneous responses to changes in anticipated earnings and conclude that the elasticity of major choices is modest and primarily driven by non-pecuniary factors.

In Vietnam, higher education has been highly appreciated by the public as well as policymakers as a bachelor's degree is believed to be a competitive advantage for future career. There are some papers investigated the effect of higher education on wage. Despite the difference in data and method, the impact of education on wage appears to be always positive. In 2008, university education is expected to raise individual wage rate by 68%, ceteris paribus (Doan, 2011). By selecting the survey subjects are wage earners in the Mekong Delta, using descriptive statistical methods of the variables in the model, Pham (2012) shows that education is an important determinant of personal income, thereby confirming the benefits of education for learners in the market economy. The conclusion is quite similar in Le (2015), Tran et al. (2018). Although the effect of higher education on wage is quite obviously in Vietnam, but up to now, there in only research of Tran et al. (2018) mention about the effect of university major on wage, but in this research, the list of university's main majors and also the Vietnam's industrial classification of General Statistic Office is out of date, thus this paper by using Labor Forced Survey (LFS 2019), to match with the university's training sectors according to the Circular No: 06/2018/TT-BGDDT dated February 28, 2018 to estimate the average rate of return to a university degree in Vietnam with discipline based comparative analysis using Mincer method and propose some recommendations and suggestions for higher education in Vietnam.

2. Method

2.1. Method

The paper uses the Mincer equation model based on human capital theory to explain the effect of trained labor on wages and income. According to this model, salary income is explained based on schooling, experience, and experience squared:

$$LnYi = \beta 0 + \beta 1Si + \beta 2Xi + \beta 3Xi^2 + ei, (1)$$

In which, LnY is the logarithm of salary, S is number of years of schooling or represents the variable of professional and technical qualifications, Xi is experience (year), X^2 is experience squared, and $\beta 0$ is the constant intercept of the model. Then random, and unobserved components are known as e $\sim$N (0, $\sigma 2$).

In addition to information on training in the basic Mincer income model, explanatory variables such as workplace characteristics, professional occupation and individual characteristics of employees are added, which allows research to grasp or to capture partial heterogeneity of observed variables in equations (Bartel, 1995).

$$LnYi = \beta 0 + \beta 1Si + \beta 2Xi + \beta 3Xi^2 + \beta 4Xi + ei (2)$$

Statistical analyses based on non-randomly selected samples can lead to erroneous conclusions. To correct bias from non-randomly selected samples or otherwise incidentally truncated dependent variables, a pervasive issue in quantitative social sciences when using observational data, it is often used the Heckman correction, a two-step statistical approach (Heckman J. (1979)

Step 1, regression of determinants of wage employment using the probit model.

The results of step 1 estimation will obtain Mills variable, according to Heckman (1979), Mills variable is controlled for the second stage of the regression model.

Step 2, the model to estimate wages based on the Mincer model according to Heckman's adjusted method

2.2. Data

Currently, Vietnam higher education system consists of 07 main sectors, including Education science and teacher training, Art; Business, Management and Law; Social sciences and humanities; Health care; Maths, statistic, and computer science; Services and social service (Ministry of Education and Training, 2018). According to General Statistic Office (2018), university majors can be divided into 24 groups, including: Science education and teacher training; Art; Humanities; Social and behavioural sciences; Press and information; Business and Management; Law; Human science; Natural sciences; Math and statistics; Computers and information technology; Production and processing; Architecture and construction; Agriculture, forestry and fishery; Veterinary; Health; Hotels, tourism, sports and personal services; Military and Defense, etc. So, in this paper we match the university major of GSO with 07 main sectors of Ministry of education and Training to make the discipline base comparative analysis

This paper examines the rate of return to university education based on and Labor Forced Survey (LFS 2019), which was taken by General Statistics Office of Vietnam. The LFS 2019 was conducted nation-wide with a sample size of 824,116 individuals which were representative at national, regional, urban, rural and provincial levels. It provided an up- to-date source of data on labor to be used in policy design, monitoring and evaluation of policies and programs. The survey collected information during four periods, each period in one quarter from the first quarter to the fourth quarter in 2018 through face-to-face interviews conducted by interviewers with labor in sample enumeration areas. Large sample size, on the one hand, offers more precise estimates. On the other hand, that facilitates separate analyses on specific sub-populations, such as: group by technical qualifications, age group, major of training or type of employment.

3. Results

3.1. Description of data

Based on the LFS 2019, the average monthly salary of labour is about 7.2 million. Workers with university degrees receive highest rate of salary, about 8 million per month; Primary, intermediate and college respectively receive 6.9, 5.9 and 6.2 million respectively. This situation is the same with all training major sector. In term of wage by field of major, employees trained in the Service sector receive of about 7.9 million per month, the highest average salary per month among major sectors, while the wage per month in health sector is the lowest. However, when compare the level of wage by field of major among labour has university degree, although employees trained in the Service sector still get highest wage, but the second is people trained in health sector. The lowest wage among university degree workers is Education science and teacher training (table 1).

Table 1: Average monthly salary of employees by fields of majors and certifications.

Unit: thousand VND

	Primary degree	Intermediate Degree	College degree	University degree	Total
Total	6,917	5,946	6,270	8,075	7,228
Education science and teacher training	1,100	4,959	6,051	6,908	6,530
Art	7,039	5,627	6,059	7,533	6,735
Business, Management and Law	5,227	5,731	6,381	8,042	7,490
Social sciences and humanities	591	4,452	6,030	7,173	6,843
Maths, statistic, and computer science	5,748	6,200	6,507	8,643	7,274
Health	5,085	5,334	5,521	8,667	6,319
Services and social service	7,268	6,861	6,651	9,317	7,914
Others	5,744	5,056	6,358	7,364	6,292

Source: Calculate based on LFS 2019

By fields of majors and genders, the salary for men is 7.8 million per month, 6.5 million higher than that of women. If the employee is trained in Education science and Teacher training, the salary for men is 7.45 million per month and for women is 6.24 million per month. If they are trained in the Art field, the average salary of the two genders is quite balanced with about 6.7 million per month. In Business and Management and Law, the salary is 8.4 million per month. In general, in almost every field of training, wages for men are higher than for women.

3.2. Mincer equation model results

The table below is shortened results of estimating the wage model of workers from the LFS data and by the least squares method (OLS) and the sample error adjustment method (Heckman Selection).

Comparing the estimated coefficients from OLS method and from Heckman, it shows that the impact trend is not different, but there is difference in magnitude. The coefficients athrho (0.026) and lnsigma (-0.461) of the Heckman Selection model are significant at 99% confidence, confirming the existence of the sampling bias, so if estimated by OLS method, results may be skewed then the model estimated by Heckman is perfectly suitable. Model estimation results from the OLS method tend to overestimate the impact of the educational variables compared with the Heckman method. Thus, it may lead to an "over" impact statement.

The report uses the Heckman Selection model estimation results to analyze the impact results. The use of the Heckman method instead of conventional regression is intended to control the endogenous variable problem due to unobserved lack of variables.

Table 2. Results of estimating the wage model of labor

	OLS	**Heckman**	
Variables	lnwage	lnwage	select
		General	
age	0.051***	0.065***	0.144***
	(0.000)	(0.000)	(0.000)
age2	-0.001***	-0.001***	-0.002***
	(0.000)	(0.000)	(0.000)
Primary	0.123***	0.139***	0.418***
	(0.000)	(0.000)	(0.000)
Intermediate	0.171***	0.113***	0.511***
	(0.000)	(0.000)	(0.000)
College degree	0.224***	0.175***	0.647***
	(0.000)	(0.000)	(0.000)
University degree	0.370***	0.284***	0.780***
	(0.000)	(0.000)	(0.000)
sex	0.158***	0.193***	0.150***
	(0.000)	(0.000)	(0.000)

urbanrural	0.091***	0.096***	-0.173***
	(0.000)	(0.000)	(0.000)
athrho			0.026***
			(0.000)
lnsigma			-0.461***
			(0.000)
Constant	6.475***	5.933***	-3.576***
	(0.000)	(0.001)	(0.001)
Standard errors in parentheses			
*** p<0.01, ** p<0.05, * p<0.1			

Source: Calculate based on LFS 2019

- The impact of higher training:

The group without certification is set as the base variable when comparing dummy variables, the vocational training variable is represented by the primary dummy variable, intermediate and college degree. The estimated results of these variables are statistically significant.

Research results from the Heckman model show that the average salary of the group with college and university degrees or higher is more than that of the untrained group with ($e^{0,284}$ - 1) * 100% = 32.8%. The trained group at primary level has higher average salary than the untrained group with ($e^{0,139}$ - 1) * 100% = 14.9%. The group of workers at intermediate vocational level has a higher average salary than the untrained group with ($e^{0,113}$ - 1) * 100% = 11.9%. And the group of vocational college level has the high average salary than the untrained group with ($e^{0,175}$ - 1) * 100% = 19.1%. Corresponding impact estimation coefficients from the conventional model OLS are higher than from the Heckman model for intermediate, college and university levels.

Thus, when other factors in the model such as the characteristics of the industry, occupation and region, age, and form of ownership are fixed, entering primary vocational education will bring a higher salary than the untrained, vocational intermediate and college with about 14.9%, 11.9% and 19.1% respectively. This result is completely consistent with previous studies that the higher professional and technical qualifications the worker, the higher the salary. Qualified workers generally will have better positions, and the ability to absorb new knowledge and access to the job when technology changes.

- The impact of major variable on the vocationally trained workers` income:

With the variable majors divided into 8 groups, the group "Educational science and Teacher training" was selected as the base group for comparison with the others. The results show that the estimated coefficients of these variables are statistically significant, but the directions of influence of the training fields on the employee's income are different. "Business and Management, Law" and "Services and Social service" are two occupations that generate higher income for workers than the group of "Education science and Teacher training" with 2.43% and 1.82%, respectively. This shows that although the income is higher, the gap is not much. Compared to the remaining groups of training fields, the group "Educational Science and Teacher Training" has the highest income, the biggest difference is compared to the group of "Others" with 17.59%. followed by the "Healthcare" group with 8.87%. Through the research results, it can be seen that the group "Educational science and Teacher training" generates high income in society. From the olden days, the Vietnamese spirit always highly appreciates the humanity in teaching profession. However, in recent years, implementing the new policy which of taking the graduation exam scores from high schools to serve as a basis for admission to universities also appeared a few shortcomings. The fact is that the number of students applying to schools in the pedagogy is not much, or there are schools of pedagogy that require very low admission scores, even less than 15 points when calculating the combination of 3 subjects for admission. This irrationality leads to the quality of teacher training, which is not high. Therefore, all levels of government need to have synchronous solutions to improve the quality of training in the field of Education Science and Teacher Training. It is necessary to raise the entry standards, create favorable conditions and support tuition fees for pedagogical students. In addition, there is a need for commitment to students about their dedication to education and training after graduating.

Table 3: Mincer equation model results for major of training in university

		(1)	(2)
VARIABLES		lnincome	select
2.gender	It should equal 1 if it's female, then 0 if it's male	-0.185***	-0.422***
		(0.000)	(0.001)
Dummy variables in the field of training, group of comparison: Educational science and teacher			
2.majorgroup	"Art "	-0.015***	-0.271***
		(0.002)	(0.006)
3.majorgroup	"Business and management; law"	0.024***	-0.177***
		(0.001)	(0.002)
4.majorgroup	"Life Science; Natural Science"	-0.065***	-0.279***
		(0.002)	(0.006)
5.majorgroup	"Mathematics and statistics; Computers and information technology; engineering technology; .."	-0.054***	-0.256***
		(0.001)	(0.002)
6.majorgroup	"Health care"	-0.085***	-0.263***
		(0.001)	(0.002)
7.majorgroup	"Social services"	0.018***	-0.233***

		(0.001)	(0.002)
8.majorgroup	"Others"	-0.162***	-0.185***
		(0.001)	(0.004)
5.marriage	separated		0.149***
			(0.011)
athrho			-0.020***
			(0.002)
lnsigma			-0.678***
			(0.000)
Constant		7.527***	0.753***
		(0.004)	(0.009)
Observations		109,478	109,478
Standard errors in parentheses			
*** p<0.01, ** p<0.05, * p<0.1			

Source: Calculate based on LFS 2019

4. Discussion and Conclusion

According to the above findings, the average monthly income or salary of works is at VND 7.2 million with training or special qualifications - university receive a high salary by around 11.11% which is up to VND 8 million per month - with higher degree, workers earn up to VND 9.3 million in average per month. This is equal to 16.25% higher than average salary of workers with university degree. Of course, the assumption for this comparison is that this does not consider on the different fields of work, but only the average of all fields is accounted.

At the same time, with the use of Mencer equation measures on the impact of field or major of study on the vocationally trained workers` income. In comparison of all major study, the incomes are different, but the gaps are not significant. For instance, the group of "Educational Science and Teacher Training" reflects the highest income level where If is only 17.59% higher when compared to the group “Others”.

The result shows that higher education plays an important role in increasing job opportunities. Higher education has helped select and categorize individuals with different qualifications, providing information to employers to hire or redistribute income between skilled and non-skilled labors. An important issue in education finance is that who should play a major role in higher education finance. In Vietnam, it is often argued that the government should play a major role in financing education and provide capitals for the public and private sectors. This is the basis for educational planners to discuss which method would be best suited to finance education in Vietnam. It is suggested that the Government should determine the optimal method of funding for higher education in Vietnam. The data in the study also shows that the salary in some industries in the category "Business, Management, Law" or "Services" are the highest. Among these industry groups, a prime example is that Hotel management is being considered a "hot" industry. It will bring employees an income of about 7-10 million per month, with manager and supervisor positions, the average salary is 24 million per month. Because of the favourable conditions to study, and upon graduation, students will ensure a good standard of living due to high income, so it is really reasonable if the tuition fees of these majors are set higher than the other sectors. Tuition for the group of "Business, Management, Law" and "Services" should be considered to match the level of income of workers trained in them.

Conversely, the Government should also consider the tuition fees of low-income sectors of labor. The industries in the “Education science and Teacher training”, “Healthcare” or “Arts” category are indispensable factors for society. They ensure a better quality of life physically and mentally. However, the workers trained in this group receive a lower salary than the general level. In order to attract human resources, and to motivate students, the policies should be to exempt, or reduce tuition fees, and increase scholarship for students in these industry groups. This is necessary for us to have fairness, and above all, it meets the needs of the country's development in the present conditions.

5. References

1. Åberg, R., (2003), Unemployment persistency, over-education and the employment chances of the less educated, *European Sociological Review*, 19(2), pp.199-216.

2. Akgüç, M. (2011), *The effects of different stages of education on income across countries*: paper, Toulouse School of Economics (TSE)

3. Beffy et.al, (2012), Choosing the field of study in postsecondary education: do expected earnings matter? *Review of Economics and Statistics*, 94 (1), 334–347.

4. Berger, Mark C., (1988), Predicted future earnings and choice of college major, *Industrial and Labor Relations Review*, 41, 418–429.

5. Carnevale, Anthony P., Cheah B., and Jeff S., (2012), *Hard times, college majors, unemployment and earnings: not all college degrees are created equal*, Georgetown University Center on Education and the Workforce.

6. Comola, Margherita & De Mello, Luiz, (2011), How does decentralized minimum wage setting affect Employment and informality, *Review of Income and Wealth*. 57. 10.1111/j.1475-4991.2011.00451.x.

7. Doan, Tinh, (2011), *Labour Market Returns to Higher Education in Vietnam*, SSRN Electronic Journal. 10.2139/ssrn.1812533.

8. England, P., (2010), The gender revolution: Uneven and stalled, *Gender & society*, 24(2), pp.149-166.

9. General Statistics Office of Vietnam. Statistics of universities and college education. Available at: https://www.gso.gov.vn/ [Accessed May 27, 2019].

10. Harberger, Arnol C. and Guillermo-Peon, Sylvia, (2012), Estimating Private Returns to Education in Mexico, *Journal of Economics*, Vol. 49 No. 1, pp. 1–35.

11. Heckman, James J., Lochner, Lance J., and Todd, Petra E., (2003), Fifty Years of Mincer Earnings Regressions. National Bureau of Economic Research Working Paper No. 9732, National Bureau of Economic Research, Inc., May.

12. Le Thi Thuy Linh (2015), *Returns to Higher Education in Vietnam: Causality and Heterogeneity* http://veam.org/wpcontent/uploads/2016/08/2015_28_LE_Thi_Thuy_Linh_Returns_to_Higher_Education_in_Vietnam.pdf

13. Magdalyn, A. (2013), *The Rate of Returns to Education: The Case of Indonesia*, International Institute of Social Studies, The Hague, The Netherland.

14. Mincer, J., (1991), Education and unemployment (No. w3838). National Bureau of Economic Research.

15. Oreopoulos et.al, (2012), The short- and long-term career effects of graduating in a recession, *American Economic Journal: Applied Economics*, 4 (1), 1–29

16. Phạm, L. T (2008), The influence of education level on the income of workers in the Mekong Delta, *Economic Research*, No. 412 - September 2012.

17. Punastuti, L., Miller, P., and Salim, R., (2011), Economic Returns to Schooling in A Less Developed Country: Evidence For Indonesia, *Journal of European Economy 11* (Special), Pg 328-342.

18. Tran Quang Tuyen et.al (2018), *Estimating personal returns of Vietnamese students going to university*, Ministry of Education and training' order research topic.

19. Willis, Robert J., and Rosen S., (1979), Education and self-selection, *Journal of Political Economy*, 87 (5), 7–36.

20. Zarkin, Gary, (1985), Occupational choice - an application to the market for public-school teachers, *The Quarterly Journal of Economics*, 100 (2), 409–446.

21. Zhigang, L., & Shunfeng, S., (2006), Rural–urban migration and wage determination: The case of Tianjin, China, *China Economic Review*, 17(3), 337-345.

MANAGING AND DEVELOPING A MODEL OF LIFE SKILLS EDUCATION IN RESPONSE TO CLIMATE CHANGE AND DISASTER PREVENTION AT LOWER SECONDARY BOARDING SCHOOLS FOR ETHNIC MINORITIES IN THE NORTHEASTERN PROVINCES OF VIETNAM

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Abstract

Vietnam's lower secondary boarding schools for ethnic minorities must organize educational activities in the classroom, educational activities outside of class time and boarding education activities in a flexible and effective manner in order to connect and integrate the contents of life skills education activities in general and life skills education activities in response to climate change and disaster prevention in particular. The authors of the article analyze and evaluate the situation of managing life skills education activities in response to climate change and disaster prevention in ethnic minority boarding lower secondary schools in the northeastern provinces of Vietnam, thereby proposing a system of management solutions suitable to the reality of lower secondary boarding schools for ethnic minorities in the current period in order to develop life skills education model to cope with climate change and prevent natural disasters at lower secondary boarding schools fIntroductionor ethnic minorities in the northeastern provinces of Vietnam.

Keywords: *Development management; Life skills education model; Responding to climate change and preventing natural disasters; Lower secondary boarding schools for ethnic minorities; Northeastern mountainous provinces.*

1. Introduction

Ethnic minority students are young advocates for their families and communities. They play a very important role in propagating and responding to climate change, forecasting, warning, preventing, responding to, and minimizing harms of natural disasters and recovering from natural disasters.

The conduct of regular training to improve the capacity to respond to climate change and prevent natural disasters for ethnic minority students studying at lower secondary boarding schools for ethnic minorities in the regions. Northeastern mountains is a very important and urgent job.

Life skills education includes four basic components: building a life skills education plan, organizing the implementation of the life skills education plan, directing the implementation of the life skills education plan, and testing and evaluate the implementation of the life skills education plan through extracurricular activities, boarding activities oriented to respond to climate change and disaster prevention for ethnic minority students. extremely important, conducted flexibly, flexibly and attractively in lower secondary boarding schools for ethnic minorities.

2. The current situation of life skills education management to respond to climate change and prevent natural disasters through boarding activities in lower secondary boarding schools for ethnic minorities

2.1. Actual situation of developing life skills education plan oriented to respond to climate change and prevent natural disasters for ethnic minority students through extracurricular activities

We conducted a questionnaire survey for 231 administrators and teachers of 12 ethnic minority lower secondary boarding schools. The results show that: 94.2% of the respondents said that the school has actively developed educational plans for students in peak competitions; 82.6% life skills education plan for students works according to the subjects in the program. For the life skills education plan for students working in the aspects of social activities and through activities outside of class time, only 54.4% of respondents confirmed that there is a plan to be implemented at school.

Therefore, the school needs to focus on building more specific and detailed plans in terms of social activities and through activities outside of class time to make timely and reasonable adjustments to strengthen management. management of life skills education for students. The plan needs to be approved before being put into practice and adjusted when necessary, in accordance with the actual situation. Developing a life skills education plan in the direction of climate change response and disaster prevention for ethnic minority students is placed in the school's overall comprehensive education plan associated with the implement the school year's tasks, professional plans, plans for activities outside of class time. At each Ethnic Minority Boarding Secondary School, planning has been taken care of from the beginning of each school year.

2.2 Actual situation of organizing the implementation of life skills education plan oriented to respond to climate change and prevent natural disasters for ethnic minority

students through extracurricular activities

In order to well implement the life skills education plan for ethnic minority students, the stage of implementing the plan is a very important and indispensable step. Lower secondary boarding schools for ethnic minorities have implemented various life skills education plans in response to climate change and disaster prevention through overtime activities classes for ethnic minority students are flexible, diverse, attractive and effective (picking flowers for democracy, acting...). We have conducted a survey on the current situation of organizing life skills education for students through 231 administrators and teachers.

Through the survey results, it can be seen that the lower secondary boarding schools for ethnic minorities in the provinces are also initially interested in the management of life skills education for students in the direction of coping with climate change. climate change and disaster prevention, there is a plan to closely direct the organization of management and education of life skills for ethnic minority students in the direction of responding to climate change and preventing natural disasters.

The surveyed subjects confirmed that it is best to organize the implementation of the life skills education plan in the direction of responding to climate change and disaster prevention through the activities of the Youth Union (ranked 1st place). - 91.3%). Life skills education through class activities, or through a team of classroom teachers are prioritized in the next positions (2nd and 3rd). The school strictly manages class activities (1 period/week). Life skills education through activities of the Youth Union is a highly effective activity.

2.3 The current situation of directing the implementation of skills education plans for ethnic minority students in the direction of responding to climate change and preventing natural disasters

Educating ideological, emotional, lifestyle and behavior for ethnic minority students, organizing and engaging them in activities of preventing and responding to natural disasters and disaster risks is an invaluable task equally important to the school. In order to achieve this educational goal flexibly and effectively, the problem is that the school must organize in conjunction with the family and the society, mobilizing the strength of the whole society to contribute to improving the efficiency of the school. life skills education for ethnic minority students in response to climate change and disaster prevention. To understand the current situation of direction and coordination between schools and educational forces in educating ethnic students in life skills in response to climate change and disaster prevention. We have conducted a questionnaire survey with 231 administrators, teachers, union officials and representatives of organizations in the school.

Through the survey, we have commented: The direction and coordination between administrators and educational forces is a regular job and is highly appreciated by staff and teachers. Specifically: the team of homeroom teachers (95.65%), the Ho Chi Minh Communist Youth Union (88.41%), subject teachers (84.06%), the parents' association (73.91%), students' families (63.77). This result proves that school administrators have had a very good direction and coordination with the team of classroom teachers, subject teachers, parents' unions and youth unions.

2.4 Actual situation of inspection and assessment of life skills education activities for ethnic minority students in the direction of responding to climate change and preventing natural disasters

To better understand the current situation of testing and evaluating the implementation of the plan of life skills education activities for ethnic minority students in the direction of responding to climate change and preventing natural disasters, we conducted Survey by questionnaire with 231 administrators, teachers, union officials and representatives of organizations in the school. The results are shown as follows: the assessment of life skills education results for school students is conducted by semester and by school year with the highest results, with an average score of 2.70; having clear criteria content has the second average score of 2.62; regularly assessed with a third-place average score of 2.55. Demonstrate that the assessment of life skills education results by semester, school year, with clear criteria and regular assessment is the most attentive and objectively evaluated by the management staff and teachers. objectively and frankly in order to bring life skills education to students more and more practical and effective.

Some contents have low average scores: coordination of self-assessment of students with the student body, homeroom teacher, school; focus on learning cultural subjects; focus on the implementation of order, with the average score that administrators and teachers evaluate in order of: 2.32; 2.23; 2.13. It is necessary to overcome these limitations in order for the evaluation results to be more fair and accurate.

General assessment of the status of life skills education management for ethnic minority students in the direction of responding to climate change and preventing natural disasters through extracurricular activities

Ethnic minority students have the right awareness and understanding of the importance of life skills education in response to climate change and disaster prevention for themselves. The children have actively participated in life skills education activities through activities organized by the school to equip themselves with knowledge, understanding and practice their ability to behave, communicate, decision-making... related to capacity to respond to climate change and disaster prevention. The school, administrators and teachers have realized the importance, role and position of life skills education management for ethnic minority students in the direction of improving coping capacity. With climate change and disaster prevention in the process of comprehensive education, it has timely developed an action plan and implemented it in various forms, with policies to coordinate with the family. families and society to provide life skills education for ethnic minority students in order to effectively improve the quality of life skills education for students, respond to and avoid natural disasters and disaster risks.

In the past time, the education of life skills for students in the direction of improving their capacity to respond to climate change and prevent natural disasters has been concerned by managers by developing an integrated education plan. grafted through extracurricular activities, moral education, etc. However, the effectiveness is still very low, some managers are still confused when they understand about life skills education according to regulations. towards improving capacity to respond to climate change and prevent natural disasters.

For some administrators and teachers, the issue of life skills education for ethnic minority students is still a new issue and an appropriate educational method has not been found (contact, integration, integration, etc...) to develop appropriate life skills education content in the direction of improving capacity to respond to climate change and prevent natural disasters for ethnic minority students. Organizational forms are not yet rich, diverse, not deep enough to attract students and raise their deep awareness, strong feelings and beliefs to form and develop a comprehensive personality. The form of education is sometimes stressful and burdensome for both teachers and students of ethnic minorities, educational methods have not been improved in accordance with the requirements of innovation in teaching and learning, especially for special education. enemies of the lower secondary boarding school for ethnic minorities. The coordination of forces is not synchronized, especially the parents and students are not aware of the goals, contents and methods of life skills education in the direction of improving capacity to respond to climate change. and disaster prevention to work with schools and mass organizations in educating ethnic minority students in life skills.

3. Solutions for managing and developing life skills education models in response to climate change and disaster prevention through flexible and diverse boarding activities at boarding lower secondary schools for ethnic minorities the basis of the mountainous provinces in the northeast of the northeastern region

3.1 Solution 1: Organize educational propaganda to raise awareness for administrators, teachers, students and students' parents about the importance of life skills and life skills education for students according to orientation to improve capacity to respond to climate change and prevent natural disasters for ethnic minority students

Raise awareness for staff, teachers, and school mass organizations on life skills education for ethnic minority students in the direction of improving capacity to respond to climate change and prevent natural disasters, so that they can see the importance and urgency of the management of life skills education activities for ethnic minority students in the current period. Thereby raising the sense of responsibility, actively participating in activities to contribute to improving the quality of life skills education for ethnic minority students in particular and the comprehensive education quality of the school in general.

* For managers: Must thoroughly grasp all guidelines and guidelines of the Party, State policies, regulations and regulations of the Ministry of Education and Training, directives of the Department of Education and Training create comprehensive educational goals, focusing on life skills education for ethnic minority students.

* For homeroom teachers: Being the core force in life skills education for ethnic minority students. The homeroom teacher directly manages the students, is close to the class, to the students, understands the children's aspirations and circumstances, is the person they feel as close as a great friend, a father/mother, brother/sister to be able to confide and share.

* For Youth Union cadres: Must grasp all policies and resolutions of the Party and government in order to have orientation activities throughout the school year with many rich, diverse and practical forms of activities in order to educate Life skills for ethnic minority students.

* For parents: There must be a right awareness of the importance of life skills education for their children. Actively seek out and update information to improve understanding of psychological knowledge, life skills education knowledge and regularly coordinate with schools to effectively educate ethnic minority students in life skills education. high fruit.

3.2 Solution 2: Renovate the way to develop and organize the implementation of life s kills education plans for ethnic minority students in the direction of improving capacity to respond to climate change and prevent natural disasters

The plan is built close to reality, ensuring that administrators and teachers actively organize life skills education activities effectively. The plan has specific assignments but ensures flexibility for educational forces to actively implement educational goals. The plan must enable the manager to actively direct the implementation of effective activities. At the same time, it is more convenient to control and manage subordinates.

The organization and implementation of the plan to concretize the task of life skills education for ethnic minority students in the direction of improving capacity to respond to climate change and prevent natural disasters has set a scientific way and achieve the highest efficiency.

The development and implementation of a life skills education plan in the direction of improving capacity to respond to climate change and prevent natural disasters must be based on the purpose of forming and developing in students skills. basic skills, necessary for the development of age psychology.

3.3 Solution 3: Directly direct the implementation of the life skills education plan in the direction of improving the capacity to respond to climate change and prevent natural disasters for ethnic minority students

Directing classes and branches to deploy activities in accordance with the set plan. When there are obstacles or objective impacts that make the plan difficult to implement, timely adjustments must be made, creating the most favorable conditions for educational activities, themed activities organized by the school. office. Attach the responsibility of teachers and school departments with the implementation of educational activities in accordance with the set plan.

Directing the implementation of the life skills education plan is a key measure throughout the system of measures to manage life skills education for ethnic minority students. Therefore, in order to successfully direct the implementation of the proposed work plan, it is necessary to develop operating regulations, determine criteria and standards for evaluating the results of implementing the life skills education plan for students. ethnic minority; launching the movement of emulation, cultivating life skills, self-training of teachers and students and building a system of reward, encouragement and punishment in the school.

3.4 Solution 4: Enhance the role of the Youth Union in life skills education for ethnic minority students

Promoting the core role of Ho Chi Minh Communist Youth Union members in life skills education activities for ethnic minority students in the direction of improving capacity to respond to climate change and prevent natural disasters. Create an operating environment suitable for the psychology of union members and students. In management, there is a good coordination with relevant forces, taking advantage of the direction and advice of the Party committee, the school's management board to innovate the content, operation form and assessment method. emulation and commendation according to regulations of the Union organization.

The youth union is the most favorable environment for educating ethnic minority students in life skills, and is an environment to encourage and encourage union members and young people to establish themselves and establish careers. Through activities, specific action programs, youth union members are equipped with more knowledge and understanding of skills to respond to natural disasters and disaster risks. The Youth Union is the place to organize healthy, vibrant and youthful activities, where students have the opportunity to practice life skills in the direction of improving their capacity to respond to climate change and prevent natural disasters. Therefore, every organization in the school (the cell, the management board, ...) should pay attention and create all conditions for the union and association to operate. Through seminars, quizzes, picnics, camping with friends from other schools, life skills education in the direction of improving capacity to respond to climate change and disaster prevention for students. minority students.

3.5 Solution 5: Strengthen the coordination of 3 forces: school, family and society in life skills education for ethnic minority students in the direction of improving capacity to respond to climate change and prevention avoid disaster

Close cooperation between the family, the school and the society, in which the school plays the leading role in the education of the young generation. Create a unified implementation of educational goals and build a clean, healthy environment, free of social evils.

Making the most of the synergy of the school - family - society, the community is responsible for taking care of life skills education for ethnic minority students and promoting the rich potentials of the whole society. material as well as spiritual) to participate in the education of the young generation.

Create a community of responsibility among educational forces. There is a clear division of responsibilities between the school, family and social forces. Student education activities are the responsibility of the whole society, the school plays the role of an educational center and coordinates with students' parents and forces outside the school to take care of students' education.

3.6 Solution 6: Innovating, testing and assessing the results of life skills education for ethnic minority students in the direction of improving capacity to respond to climate change and disaster prevention

School leaders have developed a process of testing, evaluating and regularly renewing the examination and evaluation of educational outcomes and life skills training of ethnic minority students; help adjust the plan, content and method of organizing the implementation of life skills education activities to suit the actual conditions of the school and the locality. Through testing and evaluation to detect positive factors, effective life skills education activity models for deployment and replication.

Help administrators and teachers understand the training situation, the positive aspects and the shortcomings of the children's life skills, thereby taking measures to promptly adjust the limitations in skills education. living for students from ethnic minorities. At the same time, help children self-assess, form self-assessment skills about their life skills. Develop criteria for assessing life skills of junior high school students; develop evaluation process and methods; evaluation tool design; guidance on how to conduct an assessment. First, determine the objectives and content to be assessed, select assessment methods and techniques, and finally guide and organize the forces in the school to conduct the assessment.

The results of the survey on the urgency and feasibility of 06 measures show that: the proposed measures are evaluated by educational administrators and teachers at lower secondary boarding schools for ethnic minorities. expensive.

4.Conclusion

Life skills education for ethnic minority students in the direction of improving their capacity to respond to climate change and prevent natural disasters is of great significance in the formation and development of their personality. Life skills education in the direction of improving capacity to respond to climate change and disaster prevention at school is an extremely necessary activity; through it, helping ethnic minority students will have the right awareness of the types of natural disasters that often occur in the mountainous provinces of the Northeast and the North and how to avoid them. The knowledge and skills to avoid natural disasters and disaster risks will be acquired by the children and transmitted to their families and local communities. The education of life skills in lower secondary schools in general and ethnic minority boarding high schools in particular will help ethnic minority students link theory with practice, unifying awareness and action. . Ethnic minority students who are educated in basic life skills will know how to face, cope and overcome difficulties and challenges of natural disasters and disaster risks in the future.

It is possible to identify the content of managing life skills education activities for lower secondary students at boarding schools for ethnic minorities through four management functions: planning, organizing, directing, and evaluating. price of life skills education activities. There are many factors affecting the management of life skills education activities for ethnic minority students, including psychological characteristics of boarding ethnic minority students, education of their families, themselves and other conditions. other school-specific events.

Most ethnic minority students are very interested in life skills education activities oriented to improving capacity to respond to climate change and disaster prevention. Ethnic minority students actively participate in the design and implementation of life skills education contents associated with capacity building to respond to climate change and disaster prevention. Forms of organization of life skills education are effectively linked, integrated and integrated with knowledge and skills to improve the capacity of ethnic minorities to respond to climate change and prevent natural disasters. The place and community where students live is quite diverse and rich.

5. References

1. Nguyen Thanh Binh (2007), Textbook of Life Skills Education, Pedagogical University Publishing House, Hanoi.

2. Ministry of Education and Training (2010), Life skills education in extracurricular activities in high schools, Vietnam Education Publishing House.

3. Summary report of the school year 2012 - 2013, 2013 - 2014, 2014 - 2015, 2015 - 2016 of the Ethnic Minority Lower Secondary Boarding Schools in the Northern mountainous provinces

4. State-level humanities and social science research project TN3/X13: "Study on the ability to respond to natural disasters and propose overall solutions to improve the prevention capacity of ethnic communities local minority in the Central Highlands".

MANAGING AND DEVELOPING AN EDUCATIONAL MODEL OF SOCIAL EVILS PREVENTION AND FIGHTING SKILLS TO BUILD A SUSTAINABLE COMMUNITY IN LOWER SECONDARY SCHOOLS OF HANOI, VIETNAM IN CURRENT CONTEXT OF INDUSTRIAL REVOLUTION 4.0

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Abstract

The research team approved surveys, analysis and data processing on the status of education in social evils prevention and control skills in lower secondary schools in Hanoi, Vietnam. The research team has deeply analyzed the strengths, weaknesses, opportunities and challenges of education activities on social evils prevention and control skills in lower secondary schools of Hanoi Capital City of Vietnam has since then proposed an effective system of solutions to develop an educational model of social evils prevention and control skills to build a sustainable community in lower secondary schools of the Hanoi Capital City in Vietnam in the context of the current industrial revolution 4.0. This study also details the experimental steps to develop a model of education on social evils prevention skills to build sustainable communities in lower secondary schools of Hanoi Capital City in Vietnam in the context of the current industrial revolution 4.0

Keywords: *Development management; Model of education on social evils and prevention skills; Sustainable community development; Lower secondary schools of the Hanoi Capital City, Vietnam; The context of the industrial revolution 4.0.*

1. Introduction

In the current period, we are living in the early years of the 21st century - the century of integration, Vietnamese society is affected both positively and negatively by the market mechanism. Improved social life leads to development evils such as addiction, violence, gambling, cheating... These evils are like a dangerous epidemic spreading into the whole school. That is swearing and insulting personal honor. It is cheating in exams that degrades the moral character of students. It is school violence that destroys the personality and soul of students and becomes cruel. It is an information explosion with a lot of unhealthy information that has caused the young generation to have many distorted cognitive expressions and live far away from traditional moral values and many other dangers.

There are many causes, but according to education experts, the root cause is the lack of skills for children to live with the difficulties of life such as parents' divorce, family breakdown, academic decline... They were attracted to a pragmatic, demanding lifestyle, not having the courage to say "no to evil". From the above situation, schools have responded to the emulation movement "Building friendly schools, active students" in order to create a safe cultural environment, strengthen the teacher-student relationship and help students develop creativity, form healthy ethical lifestyle habits. One of the five most important contents of the emulation movement "Building friendly schools, active students" is education and life skills training for students. This is a practical content, associated with educational activities in schools and is becoming increasingly urgent for the younger generation, especially junior high school students, an age where psychophysiology has many changes. change, lack of deep understanding of society, lack of life experience, hyperactivity, easily manipulated...if not properly educated from the beginning, students are prone to fall and get caught up in the bad.

The education of social evils prevention and control skills in schools will help students to be aware of the dangers of social evils that have affected people's lives, thereby directing them to form their own lives. social norms and habits. Up to now, the implementation of educational activities on social evils prevention and control skills in high schools in general and especially in lower secondary schools in particular has not been regular and if implemented, the effectiveness of such activities has not been achieved. The results are not high, the implementation is not synchronized, the system is not updated. Education activities on social evils prevention and control skills for students in lower secondary schools have been carried out mainly by integrating the content of education on social evils prevention skills through teaching social evils prevention and control skills. basic subjects, through educational activities outside of class time, through extracurricular activities, and collective activities. However, the activities of education on social evils prevention and control skills for junior high school students in recent years have only stopped at the implementation according to documents of the Ministry of Education and Training, the Department of Education and Training. Training and the Department of Education and Training. The school has not actively developed a plan to implement the task of educating social evils prevention skills for lower secondary students, has not well directed the educational forces in the school, and has not diversified forms of education. Knowledge of social evils prevention and control skills education for junior high school students.

Students who are educated in social evils prevention and control skills will identify their obligations towards themselves, their families and the community. Therefore, educating children with necessary skills to know how to prevent and combat social evils is the responsibility of school administrators and teachers.

The building of an educational model of social evils prevention and control skills for junior high school students in the current period will aim to implement two basic components that are closely related to each other:

1) Organize educational activities on skills to prevent and combat social evils for junior high school students in the current period (in the context of the Industrial Revolution 4.0). Participants and beneficiaries are teachers, staff, parents and junior high school students.

2) Managing educational activities on social evils prevention and control skills for junior high school students in the current period (in the context of the Industrial Revolution 4.0).

In order to have a friendly, healthy and safe cultural environment in each middle school, according to the motto "Friendly school, active students", building each middle school will as a solid fortress to prevent and combat social evils for junior high school students, the development of an effective model of education on social evils prevention and control skills for junior high school students in the context of Industry 4.0 is a very important and urgent thing to do in the current period.

2. The current situation of managing education on social evils prevention and control skills for students in junior high schools today

Education of social evils prevention and control skills for junior high school students is one of the very important educational contents. Middle school students are the age when many physical, intellectual and cognitive changes in behavior begin. Equipping them with skills to prevent and combat social evils will help them confidently step into their future lives, and avoid potential bad behaviors and phenomena. Strengthening the skills of students to prevent and combat social evils is to contribute to moral education, to train students to obey the law, to improve the quality of human resources for society in the context of the current.

Recently, social evils in schools (school evils) tend to increase in complexity and become a painful problem for many schools, many families and society. Specific manifestations of school evils such as: students dropping out of school, skipping classes, cheating in exams, swearing, school violence, being selfish, pragmatic, insensitive in relationships with teachers, friends, use of force, violence, fights, spending money, demanding, accessing harmful, depraved cultural products, addicted to Game, playing video games at Internet cafes, addicted Smoking, using stimulants, gambling, drinking alcohol... causes a lot of bad consequences to moral education and social standards in schools, affecting all aspects of social life.

Thus, we see that the management of students in schools and families is not really tight, there is still a phenomenon of students dropping out of school, especially outside of school hours, students are still hanging around Internet cafes playing video games. , playing games, accessing many unhealthy information flows without control, then quarreling, fighting, playing around leading to addiction, using stimulants such as e-cigarettes, smoking Shisha …

Thus, if students are not well managed and educated, to let loose, they are easy to fall into the path of social evils quickly. Before the development of today's society, the education of social evils prevention and control skills is an urgent and very necessary issue for young people, especially students of lower secondary school age, which is the age in the world. a period of development with rapid physical, intellectual, psychological and personality changes. Therefore, educating children on social evils prevention and control skills is extremely necessary to properly meet the standards of today's society. Recognizing that importance, over the years, Hanoi's lower secondary schools have paid attention to the education of students in social evils prevention and control skills. There are skills to prevent and combat social evils that have been taught so far, but not as much as drug prevention and control skills; HIV/AIDS prevention and control skills and these skills were also recognized by students and their parents. However, there are still some skills that ne ed special attention, especially in the current period such as skills to prevent and combat school violence; or skills that have not been regularly educated such as skills to prevent and combat child sexual abuse; skills in preventing and combating tobacco and alcohol; skills to cope with stressful situations… need to be focused on implementing and developing specific educational plans for students.

The research team conducted a survey of 39 teachers, 87 parents, and 261 students about the goals and survey results about the necessity for the goals, the results are as follows: The questionnaire shows that the majority of teachers and students' parents see the necessity of educating students on social evils prevention and control skills for students in the current period. Survey results with the necessary level for the goals are highly appreciated (over 85%). Thus, parents are aware of the importance of this work. This is a favorable factor for schools in implementing education on social evils prevention skills for students in schools.

For students, most of them are also aware of the education of social evils prevention and control skills in school. The survey results on the essential for the goals reached approximately 60%. However, there is still a part of students who are not aware of the importance of education in social evils prevention and control skills, and over 10% rate it as less necessary (goals 1 and 6). .

The school has organized education on social evils prevention skills for students in many forms, has done a good job for students to learn the rules and sign the commitment at the beginning of the year (100%). Next is education through teaching that integrates classroom subjects, through educational activities outside of class time, in combination with educational organizations in schools, in combination with families and with a sense of building Good educational environment.

In order to understand students' awareness in the prevention and combat of social evils, the research team conducted a survey of students in the following areas:

- The survey results show that: The level of students' awareness of the harmful effects of social evils is very good and good is still low (average 41.9%). The school only propagates about the harmful effects of drug evils (at a very good and good level of 63.2%), while other social evils are not well understood by students, there are perceived evils in school. the level of normal and not good accounts for the same high rate as school violence (73.2%); spreading depraved cultural products (79.3%), extortion and theft (59.8%); child sexual abuse and stimulant use (54.8%). Is it an alarm in the awareness of the harmful effects of social evils for students today, when school violence and drug use are dangerous evils that easily happen to students of all ages lower secondary school.

- The survey shows that: At a very good level for educational skills to prevent and combat social evils, all are below 40%. Skills to recognize the causes of social evils, skills to recognize consequences, severity of social evils and skills to show attitudes and behaviors against social evils not good level still accounts for a high rate of over 50%. Most of the children only know the skill of recognizing what is a social evil. Thus, schools need to deploy deeply, widely and effectively to educate students on social evils prevention and control skills in order to achieve the goal of education and comprehensive personality development for students.

- Survey data has shown students' attitudes towards social evils violations. Although students have been able to dissuade and prevent (55.7%) and report to teachers, teachers and schools (68.6%) but not much; and still students have attitudes of alienation, disregard, indifference, even indifference to the manifestations and behaviors of social evils (53.1%). This shows that the education of social evils prevention skills for students as well as understanding the harms and seriousness of social evils has not been really effective as expected. Comparing the difference between boys and girls, it can be seen that male students tend to dissuade and prevent wrongdoing, but girls tend to abuse wrongdoing with schools and teachers.

Regarding objective reasons: The biggest reason students fall into social evils is first of all due to the loose management of the family (accounting for 85%) and also from the lax management, lack of attention from the teachers. family should be next to be easily dragged, seduced, fallen by friends (accounting for 70%), followed by the lack of strict management by the authorities (accounting for 60%).

Regarding subjective reasons: Due to impulsiveness, lack of understanding, wanting to assert themselves (accounting for 65%), not fully understanding the harmful effects of social evils (accounting for 55%), in addition to the lack of information Information about the dangerous level of social evils (accounting for 45%) and along with other causes that push students into social evils raised the question: So what should the responsible people do to eliminate them? remove social evils from social life.

As we said above, social evils have a great temptation when people cannot control themselves, there are objective and subjective reasons for social evils to enter the school. With their age, due to their limited awareness, they cannot control themselves before social evils, but social evils are very sensitive issues for students of school age, related to emotions.

and gender should be extremely complicated. Students often disagree between the perception and behavior of each individual. Along with the influence of Western lifestyle, Sex movies, Dark Web, Violent games ... spread on the Internet, there are students who have access to video tapes to pass on to each other for use. Because of the lack of knowledge about safe sex and premarital sex, it has led to the inevitable pregnancy of female students. At the same time, with the loose management, especially outside of school hours, if there are no resolute and timely preventive measures, social evils spreading among students will be unavoidable.

From the above situation, it has created a basis for a group of experts to build a model of education on social evils prevention skills for students, including the development and implementation of measures to educate students on social evils prevention skills. anti-social evils and the management of educational activities on social evils prevention and control skills for students of lower secondary schools in order to promote their advantages and overcome existing deviant limitations. In today's junior high school students, creating new changes in quality in the management and education of social evils prevention and control skills for students, contributing to the education and comprehensive development of their personality. In the past time, the school has launched and directed the educational forces in the school such as professional groups, homeroom teachers, subject teachers, officials of the Youth Union - Team, Board of representatives of students' parents. jointly implement educational activities on skills to prevent and combat social evils for students of the whole school. The organization of social evils prevention and control skills education activities and the management of social evils prevention and control skills education for students initially created a change in awareness for teachers, staff, and students. students and students' parents.

The school has organized the education of social evils prevention skills through classroom subjects and extracurricular activities. Students already have some basic and necessary skills, but their applicability to practical situations is still limited, and it is necessary to pay more attention to the self-education factor of students, especially in the integration period. , boom in information technology, complex social evils, always stalking the school, ready to find ways to entice students to participate. The school has developed a specific plan for the education of skills to prevent and combat social evils. However, more positive measures are still needed in organizing and directing the education of social evils prevention and control skills. The management and education of skills to prevent and combat social evils depends a lot on the actual conditions of the school.

3. Measures for implementing education on social evils prevention and control skills for students in lower secondary schools of Hanoi Capital City

3.1. Measure 1: Organize a seminar on education on social evils prevention skills for students with the participation of educational forces inside and outside the school

Implement this measure to create a close agreement between the school educational environment and the community education environment to prevent and limit spontaneous, negative and harmful effects of social evils. has been and is affecting and spreading in schools every day. In order to organize a seminar on educating students on social evils prevention and control skills, the school must play a leading role in planning a master plan on purposes, requirements, content, methods and methods of organization. The implementing organization, the educational force participating inside and outside the house specifically include members representing which units and organizations? Determine the time and space where the event takes place…

Right from the beginning of the school year, based on the regulations of the Ministry of Education and Training, the Department of Education and Training and the District Department of Education and Training on moral education, lifestyle and crime prevention. Social problems for students, the school administrators have thoroughly grasped the documents related to the prevention and control of social evils, crime prevention, especially drug and HIV/AIDS. AIDS, child sexual abuse, drug addiction... to all members of the pedagogical council, students and students' parents. The school has also advised the Party committees and authorities at all levels, coordinated with other departments and unions to care for the cause of education in general, and unified awareness of the importance of moral education. Lifestyle ethics, education on social evils prevention and control skills for students with the coordinated participation of educational forces inside and outside the school, because social evils spread, can appear in any place. environment without close management and coordination.

In the current period, the Industrial Revolution 4.0 marks a great turning point for people thanks to the application of the latest technological achievements to life. It brings humanity a lot of opportunities, but it also contains many unpredictable risks.Therefore, the school also organized forums and seminars on the topic "Youth with the Industrial Revolution 4.0". In addition to propagating and introducing the utility of the industrial revolution 4.0 by the reporter, the students were also able to frankly exchange, share, and raise their views and insights about the application. of the 4.0, with what are the positive and negative impacts of this Industrial Revolution, so that schools need to put out content to manage the access to Web sites with content supporting other activities. healthy learning and entertainment activities, supplementing knowledge of classroom lectures, and preventing access to dark Web sites with bad and unhealthy content. Such organized seminars have helped

3.2. Measure 2: Directing and strengthening the implementation of educational content on social evils prevention skills for students in a systematic way through classroom subjects

In high schools, the teaching and learning activities of cultural subjects hold a central position, are the main activities of the school and through the main activities of the school and through this activity, a number of activities are carried out. other educational duties. Education on social evils prevention and control skills is an interdisciplinary and interdisciplinary type of education, so many subjects have the ability to integrate and integrate the education of social evils prevention and control skills.

Develop a plan to teach the content of education on social evils prevention skills for students in a systematic way through classroom subjects:

Right from the beginning of the school year, the school's management board has advocated, orientated, and built plans from the Board of Directors to professional groups, to teachers on how and how to integrate and integrate knowledge about preventing and combating social evils into the teaching process, requiring teachers to make teaching plans that integrate knowledge of social evils prevention and control through their subjects in a scientific and reasonable manner, avoiding coercion , but must ensure practicality in education.

The school has organized seminars, training, exchange of information and experiences. Through these forms, teachers will be provided with more knowledge about social evils, methods of student management, educational methods of prevention and control skills, methods of detecting and dealing with social evils. In case students are caught in evils... The fostering and training we usually conduct before the start of the school year so that each teacher will actively develop a teaching plan that is related, integrated, and integrated with the content. educate students on social evils prevention and control skills with their awareness, roles and responsibilities towards students in the face of increasing dangers of social evils, especially dangers of drugs, HIV/AIDS , child sexual abuse and school violence.

3.3. Measure 3: Direct the diversification of forms of organizing education on social evils prevention and control skills for students through experiential activities

Students are not only educated in social evils prevention and control skills through contacting, integrating and integrating in cultural subjects in the classroom, all students are also able to participate in activities. creative experiences, educational activities outside of class time... organized by the school to provide students with basic and practical knowledge, with the right attitude, belief and ability to prevent, know how to actively apply measures to prevent and combat social evils in daily life for themselves, their families and the community, contributing to reducing the possibility of spreading social evils and limiting the dangers caused by evils. caused by society.

Deploying various forms of education on social evils prevention and fighting skills for students to ensure rich, lively and attractive for them to participate in activities. For each organized activity, it is necessary to define clearly the goals of education in social evils prevention and control skills, have specific activity program content, have an assignment, and be well prepared before organizing the activity. motion. Forming social evils prevention skills for students such as skills in preventing and combating school violence, preventing and combating drug crimes, prostitution, child sexual abuse... Organizing extracurricular activities, creative experience activities, and educational activities outside of class time such as culture, sports, fun and entertainment for students in the school so that through each of these activities, they contribute to the education of students. Moral education and lifestyle for children. The school has organized competitions: Presentation contest to learn about social evils; Examination on drug prevention and control, HIV/AIDS; Performing arts competitions, composing literature and poetry, drawing posters, propagandizing on the prevention and combat of social evils, democratic flower picking contest, presenting skits, performing self-edited animations; Role-playing game; Shadow puppets; Rhetoric through a story on drug prevention and control; Good propagandist contest…

At the beginning of each school year, the school organizes to sign commitments and covenants: Student regulations, commitments to prevent and combat social evils such as: Commitment to drug and HIV/AIDS prevention and control; Commitment to preventing and combating school violence; Committed to preventing and combating tobacco, alcohol, etc., "Don't keep, don't try, don't use drugs", "Say no to school violence". Assign the classroom teacher through weekend activities to regularly propagate the school's rules and regulations, especially to strictly comply with the following regulations: No fighting, quarreling or having aggressive behavior that poses a danger to you or others.

3.4. Measure 4: Build a friendly school environment, students actively participate in educational activities to prevent and combat social evils in the current period

Building a friendly school environment, a healthy culture is an important condition in the formation of personality for students. Moreover, a healthy, clean and friendly educational environment will not allow social evils to appear and exist. Besides the main activities of teaching and learning, other activities and movements bring a unique look to each school. But the most important thing is that a safe and healthy living environment for children is essential.

In order to build a safe, friendly and healthy environment in the school, we have directed and together with educational forces to unite, join hands to build a healthy cultural environment, ensuring security and order. , school safety, disciplined and civilized life in school. Coordinate with organizations to sign commitments to build a healthy cultural environment, organize exchanges between school teachers and students with ward government organizations in educating social evils prevention and control skills for students. the student.

The school has organized propaganda to raise awareness and understanding among teachers, staff and students of legal documents on prevention and control of social evils, basic concepts , development, spread and harmful effects of social evils. Preventive measures, typical examples in the work of preventing and combating social evils. Propaganda and education must always be considered as a basic task and must be carried out regularly and contin uously.

3.5. Measure 5: Mobilize funding sources, physical facilities and means for education of skills in preventing and combating social evils

Good preparation in terms of funding, physical facilities and necessary means will contribute significantly to the success of educational activities on social evils prevention and control. In the process of organizing activities, the school has exploited the conditions of facilities: playground, training ground, system of function rooms along with means, equipment, and teaching aids as tools. effectively support teachers and students to innovate, create, and flexibly diversify forms of organizing educational activities on skills to prevent and combat social evils. Take advantage of all possibilities of mobilizing funding sources to motivate and encourage educational forces to participate well in ed ucating students on social evils prevention and control skills through emulation and commendation assessment. reward and receive typical examples in the work of preventing and combating social evils.

The school's management board, the steering committee of the school's social evils prevention and control activities have cooperated with the Board of representatives of students' parents, mass organizations, ward authorities, and sponsors to support the school. funds and facilities in the school and through the work of educational socialization to continue investing in the procurement of school facilities in general and teaching equipment in particular, renovating the school's landscape safely. safe, clean and beautiful to meet teaching requirements and organize other educational activities, including education on skills to prevent and combat social evils to achieve the highest efficiency.

The school's management board shall base itself on the annual financial plan to build a project of funding sources, strengthen facilities, purchase teaching aids and equipment to serve the work of classroom skills education. against social evils. Directing teachers, staff, equipment and supplies to build a list of necessary facilities for effective education in social evils prevention and control.

3.6. Measure 6: Manage and coordinate forces involved in educating students on social evils prevention and control skills

In order for the education of social evils prevention skills for students to achieve the goals, the organization and direction of the manager is extremely important. Further strengthening the management and close coordination between the educational forces inside and outside the school will create a synchronous consistency in the process of planning, directing, organizing and evaluating. quality and effective activities to prevent and combat social evils inside and outside the school.

In order to organize and direct well, the school's steering committee has built a scientific and reasonable organizational and operating mechanism to help organizations and members inside and outside the school understand and understand the functions, their duties, scope, powers and responsibilities, thereby highly agreeing on methods and forms of organization to closely coordinate to create overall strength, friendly relationship and solidarity in raising improve the effectiveness of educating students on social evils prevention and control skills.

To operate effectively, we must first determine the composition of the educational force involved in coordination, the role and function of each force. The force of education on social evils prevention and control skills in lower secondary organizations, parents, and teachers. student mother. Education forces outside the school such as: Police, health, study promotion association, child care committee, Youth Union, cultural department, police, local government leaders...Each educational force has its own Specific functions but activities are not separate from each other but need to have close coordination with each other. This close cooperation will create the best educational environment for students, especially in the education of social evils prevention and control skills with clear assignments and assignments.

The coordination of forces has helped the force outside the school understand and care about education, on the other hand, raise their awareness and responsibility in working with the school to educate students and educate themselves. surname. Helping students have a favorable environment to learn and practice skills and behavior in accordance with social standards. Resolutely prevent bad effects, deviant expressions that violate social norms from entering the school. Forces outside the school will work with the school to build the school into a solid fortress to prevent and prevent social evils from entering the school.

The school cooperates with community forces to promote the material and spiritual potential, which is favorable for the education in general and the education of social evils prevention and control skills for students in particular. Taking advantage of the synergy of all social forces, attracting all members to participate in order to turn educational activities as well as skills education in preventing and fighting social evils into the task of the whole people.

4. Conclusion

Social evils have caused serious harms and unpredictable consequences in all aspects of human life and are more dangerous. Currently, the risk of social evils entering schools has been having an impact. adversely affect the formation and development of students' personality, causing anxiety to the school, family and society. Therefore, education in social evils prevention and control skills is a task and an urgent requirement of educational managers, teachers, staff and other forces involved in education in schools.

Educating students on social evils prevention and fighting skills and managing education on social evils prevention skills for students in lower secondary schools has the impact of the management staff on the the force of education on social evils prevention and control skills inside and outside the school in order to effectively implement the plan and content of educational activities on social evils prevention and control skills for students, towards the goal of educating students on social evils prevention and fighting skills. educational standards, moral training, habits and behavior in accordance with social standards and comprehensive personality development for students.

Education on social evils prevention and control skills for students and management of education in social evils prevention and control skills for students in lower secondary schools of Hanoi city includes the following contents: manage the educational program on social evils prevention and control skills for students through classroom subjects; Managing the program of education on social evils prevention skills for students through educational activities outside of class time; Managing the forces involved in the education of social evils prevention and control skills; Managing the implementation conditions, factors, and measures to educate students on social evils prevention and control skills.

It can be said that the school is not only a place to teach culture and provide knowledge for students, but also a solid fortress to prevent and combat social evils for students, and to educate students on skills to prevent and combat social evils. society for students, forming social ethical standards, contributing to building and developing a healthy and safe community.

Lower secondary schools in Hanoi have built a friendly, healthy and safe cultural environment under the motto "Friendly schools, active students", and have initially built successful schools. a solid fortress to prevent and combat social evils for junior high school students, students know and practice effective social evils prevention and control skills.

5. References

1. Nguyen Thanh Binh - Le Thi Thu Ha - Trinh Thuy Giang (2014), Thematic textbook of life skills education, Pedagogical University Publishing House.

2. Ministry of Education and Training (2004), Basic contents of drug prevention and control, Steering Committee for education on AIDS and drug prevention and control – Hanoi.

3. UNESCO, Institute of Education Programs and Strategies (2003), Quality of Education and Life Skills. International Conference, September 2003, Hanoi.

4. UNICEF (2001), Training on healthy life education and life skills for adolescents, Hanoi National University of Education Publishing House.

5. Vietnam Population, Family and Children Committee (2004), New legal documents and regulations on child protection, care, education and drug prevention and control, Culture & Information Publishing House.

6. National Committee for AIDS Prevention and Control and Prevention of Drugs and Prostitution, National Strategy for HIV/AIDS Prevention and Control in Vietnam to 2010.

NATIONAL PAGODAS ARCHITECTURAL AND ARTISTIC RELICS IN NINH BINH IN THE CONTEXT OF TOURISM DEVELOPMENT IN RECENT YEARS

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Abstract

Ninh Binh is the ancient capital, a land rich in history and culture, and is one of the centers of Buddhism in Vietnam. In Ninh Binh, there are hundreds of ancient temples, many of which are ranked as national monuments with outstanding values of history, culture and art architecture. The development of tourism at these monuments contributes to the promotion and promotion of the value of the relics, making an important contribution to the socio-economic development in the locality. However, the development of tourism has negatively affected the temples: changing the size and structure of many temples; commercialization of temples; distort the nature and value of religious activities.

Keywords: *Artistic architectural relics, pagodas in Ninh Binh, spiritual tourism, promoting the value of relics*

1. Introduction

Tourism is a smokeless industry, a development trend of many localities today, including Ninh Binh province. Ninh Binh province has many advantages in tourism development. This is the ancient capital of many feudal dynasties, where there are beautiful natural landscapes, majestic mountains, many beautiful landscapes. With a rich history and culture, once the capital of a number of feudal dynasties when Buddhism was prevalent, Ninh Binh has many ancient temples with a history of thousands of years, which are ranked as national monuments, has many outstanding values in history, culture, religion, has typical values of the country in architecture and art. With those advantages, in recent years, Ninh Binh province has promoted the development of tourism associated with relics, especially with famous temples in the province.

Developing tourism in association with worship facilities and temples accounts for an increasingly large proportion of Ninh Binh's tourism industry, making an important contribution to local socio-economic development. Tourism at the monuments creates jobs and direct income for local people, promotes initiative and is active in exploiting, revitalizing and contributing to the preservation of tangible and intangible cultural values. Along with the opening of spiritual tourist areas, many temples have been restored, embellished, and built spaciously and superficially. On the contrary, tourism also changes the scale and structure of ancient works, disturbs religious and belief activities at temples, and turns temples into commercial areas. This article focuses on clarifying the two-way effects (positive and negative) of tourism development on the pagodas architectural and artistic relics in Ninh Binh in recent years.

2. Method

The article is the result of our research on the management of national architectural and artistic relics of pagodas in Ninh Binh, carried out from 2015 to present. The research method used includes observation, participant observation at a number of major temples, typically in Ninh Binh. In addition, we did in-depth interviews with some people working in the management of monuments, some monks, some researchers and tourists. Documentary research method is also used to be able to inherit other research results.

3. Results

3.1. National pagodas architectural and artistic relics in Ninh Binh province in the context of tourism development phát

3.1.1. Overview of the national pagodas architectural and artistic relics in Ninh Binh

Ninh Binh is located at the southernmost point of the Red River Delta, connecting the North and the Central region by the Tam Diep mountain range. Ninh Binh is 93km south of Hanoi capital, a place to continue the economy and culture between the Northern Delta and the Northwest mountains. This land still has many vestiges directly related to ancient civilizations in Vietnam such as Trang An culture, Hoa Binh culture, Da But culture, and Dong Son culture. Here is the Hoa Lu ancient capital, which was the capital of three dynasties of Dinh, Early Le and Later Ly dynasties. The rugged area in the mountains of Ninh Binh was the military base of the Tran and Tay Son dynasties. During the resistance war against foreign invaders, this place had the Tam Diep line, Quynh Luu war zone, Vu Lam palace and was a key area of the historic Ha Nanning campaign. The characteristics of history, culture, nature and people have created for Ninh Binh a rich and diverse system of relics, including many famous temples [3].

After being the capital, Hoa Lu gradually became the center of Buddhism, from which many temples were built. In Ninh Binh province, there are more than 350 temples, in which, many ancient temples were built during the reigns of Dinh Tien Hoang and Le Dai Hanh; Many pagodas were built during the Tran and Later Le dynasties [3].

Among the hundreds of temples in Ninh Binh, there are many that are ranked as national monuments. According to the provisions of the Law on Cultural Heritage (amended and supplemented in 2009), relics are classified into 3 classes: provincial-level relics, national relics, and special national relics. A national monument is a relic of typical national value. Temples that are ranked as national relic are those of typical national value in terms of history, culture, architecture and art.

Among the temples in Ninh Binh that are classified as national relics, there are many pagodas belonging to the type of architectural and artistic relics. Artistic architectural relic is an artistic architectural work, the overall urban and urban architecture of typical value in the development stages of the nation's architectural art. Complex of architectural works or single architectural works of typical architectural and artistic value of one or more historical periods.

Some temples in Ninh Binh are recognized as national architectural and artistic relics such as:

Bai Dinh Pagoda: Located in Gia Sinh commune - Gia Vien district. The present Bai Dinh pagoda complex is the second largest pagoda complex in Vietnam, after Tam Chuc pagoda complex, including the old temple dating from the Dinh dynasty and the new pagoda area with many Vietnamese and Asian records being established.

Bich Dong Pagoda: The pagoda belongs to Ninh Hai commune - Hoa Lu, located in a cave in the heart of Bich Dong mountain, which is known as the second most beautiful cave in Vietnam.

Nhat Tru Pagoda: Located in Truong Yen commune - Hoa Lu district. This is an ancient temple of the Early Le Dynasty, where there are national treasures of stone pillars with many vestiges proving the brilliant development of Hoa Lu Buddhism in the 10th century.

Dich Long Pagoda: Located in Gia Thanh commune - Gia Vien. The pagoda is located in Dich Long cave, which is known as the third most beautiful cave in Vietnam. The temple worships Buddha and national monk Nguyen Minh Khong.

Ban Long Pagoda: Located in Ninh Xuan commune - Hoa Lu, formed before the 10th century. Ban Long Pagoda is located in a mountain cave. When Lord Trinh Sam came to visit, he personally wrote three big words: "Ban Long Pagoda" on the wall of the cave door.

Kim Ngan Pagoda: Located in Truong Yen commune - Hoa Lu district. This is an ancient temple from the Dinh Dynasty, belonging to Chi Phong village - the western citadel of Hoa Lu capital, the birthplace of Ly Thai Tong king, and a famous temple of prayer in Vietnam.

Duyen Ninh Pagoda: Located in Truong Yen commune - Hoa Lu district. The pagoda was built in the 10th century under Dinh Tien Hoang king. Duyen Ninh Pagoda is considered one of the most famous temples in Vietnam [3].

It can be said that the above-mentioned temples are all religious establishments, but also national monuments with a long history, unique architecture, and typical values in the development of architectural art. architecture of the nation. In addition, many temples are located in areas with beautiful natural landscapes. Because of these special values, these relics have become attractive tourist attractions for tourists inside and outside Ninh Binh province.

3.1.2. Tourism development in Ninh Binh in recent years

Ninh Binh is home to rich tourism resources with many historical and cultural relics, famous scenic spots and very valuable natural ecological environment. Not only famous for its beautiful landscapes, Ninh Binh is a land rich in historical and cultural traditions with 1,821 listed historical sites. Besides the historical and cultural relics, Ninh Binh also has many famous intangible values that are valuable for tourism development, such as festivals, culinary culture and traditional craft villages... Ninh Binh has a system relatively synchronous road and rail transport system connects tourist areas and attractions in the province and inter-region, creating many tours and tourist routes that are continuous and closed. The system of tourism facilities and services has developed quite rapidly. Currently, the province has nearly 700 accommodation establishments and thousands of food service establishments of quite good size and quality to serve the accommodation and shopping needs of tourists. Along with that, the human resources for tourism, especially the type of community-based tourism, have been interested in training and fostering knowledge and skills in tourism, cultural behavior and tourism civilization. Up to now, there are nearly 21,500 people working in the tourism industry. Thanks to these advantages, Ninh Binh can organize many types of tourism such as: Currently, the province has nearly 700 accommodation establishments and thousands of food service establishments of quite good size and quality to serve the accommodation and shopping needs of tourists. Along with that, the human resources for tourism, especially the type of community-based tourism, have been interested in training and fostering knowledge and skills in tourism, cultural behavior and tourism civilization. Up to now, there are nearly 21,500 people working in the tourism industry. Thanks to these advantages, Ninh Binh can organize many types of tourism such as: Cultural - historical tourism; Festival - spirituality tourism; Ecotourism - mountain climbing - craft village tourism; Tourism, convalescence, medical treatment; Tour discover; sport tourism (golf); travel to conferences, seminars…

Having identified these advantages, Ninh Binh province has actively invested and developed comprehensive tourism. Along with the promulgation of management mechanisms, administrative reform, investment attraction, training and retraining, and improvement of human resource quality, tourism products are being expanded in a diversified direction. . The tourist areas and attractions are improved in quality. The system of accommodation establishments in the area is gradually meeting the needs of tourists; amusement and entertainment spots are interested in expanding investment. The number of visitors to Ninh Binh is increasing day by day. People's income from tourism-related activities has also improved significantly compared to before… Currently, tourism has gradually become a key economic sector, accounting for an increasing proportion of the labor structure. and economic structure of the province.

The growth rate of tourist arrivals in the period 2015-2020 will reach 5.96%/year, especially international visitors will reach 11.4%/year. Tourism revenue increased by 27.2%/year. Particularly in 2019, the number of visitors to Ninh Binh reached over 7.65 million, revenue reached over VND 3,600 billion. In 2020, due to the Covid-19 epidemic, the number of tourists decreased, but Ninh Binh still received nearly 3 million visitors [4].

Vietnam's tourism development master plan to 2020, vision to 2030 identifies Ninh Binh as a national tourism center.

Besides many types of tourism, in recent years, the type of spiritual tourism close to religious relics has developed very strongly with many famous tourist attractions attracting a large number of domestic and foreign tourists. The most typical is Bai Dinh pagoda. Information from the master plan on tourism development in Ninh Binh to 2025, orientation to 2030 shows that from 2010-2016, domestic tourists to Bai Dinh pagoda grew continuously, accounting for a relatively high proportion of the total number of tourists. domestic tourists to Ninh Binh. In 2016, the number of tourists to Bai Dinh pagoda accounted for 48.5% of the total number of domestic visitors to Ninh Binh. Statistics from the Management Board of Trang An Scenic Landscape Complex also show that the number of visitors to Bai Dinh ranges from more than 200,000 to more than 800,000 visitors per month, of which February is the largest. In the remaining seven months, each month also reaches from more than 105,000 to more than 160,000 visitors [1].

Besides the achievements, the development of Ninh Binh tourism over the past time is still at the initial growth stage. It is an increase in scale to meet the needs of a rapidly increasing number of tourists. Tourism growth is mainly based on expansion investment. The value of tourism products is not high and the unique value of tourism resources has not been fully promoted.

In addition, the factors of tourism infrastructure and facilities for tourism are not synchronized and modern, along with the tourism workforce, which is largely unprofessional. The system of tourism businesses has been formed and expanded, but there is no travel business strong enough, competitive enough to reach far away markets to attract visitors. The lack of uniformity in policies, limited investment resources, inter-sectoral conflicts of interests with tourism, tourism awareness that has not yet adapted... are barriers and challenges for Ninh Binh tourism development.

In addition, the development of tourism, especially spiritual tourism in the past time, has had positive and negative effects on the architectural and artistic relics of pagodas in Ninh Binh in the following aspects: scale, structure, architecture, religious activities at the relics...

3.2. The influence of tourism development on the national pagodas architectural and artistic relics in Ninh Binh in recent years

3.2.1. Positive influence

Thanks to tourism development, many temples have been restored, embellished and expanded, typically Bai Dinh Pagoda: From a small temple, thanks to tourism development, it has been expanded into a massive, palatial temple.

Bai Dinh Pagoda is located at the western gateway of Hoa Lu ancient relic site, on National Highway 38B, in Gia Sinh commune - Gia Vien - Ninh Binh, 15 km from Ninh Binh city, 95 km from Hanoi. The current Bai Dinh pagoda complex covers an area of 1,700 ha, including an ancient pagoda area and a newly built pagoda area.

Ancient Bai Dinh Pagoda was built in the Ly Dynasty, located on the top of Bai Dinh Mountain, is a very sacred ancient temple. The founder of Bai Dinh pagoda was the national monk Nguyen Minh Khong (the national monk of the Ly dynasty). Legend has it that, in the Ly dynasty, Saint Nguyen Minh Khong went to Bai Dinh mountain to find medicine for the king's illness and then he realized that this was a fairyland with the mountain position facing the West as if worshiping the land of Buddha. The mountains here are vast with many precious medicinal plants, that's why he decided to stop and build a temple here. In 968, Dinh Tien Hoang put down the rebellion of 12 warlords and ascended the throne. At that time, he went to the mountain of Bai Dinh Pagoda - a sacred mountain to set up an altar to sacrifice to heaven, pray for favorable rain - wind harmony - national Thai - people's peace and ordained a servant to worship a general. After that, King Quang Trung also came here to set up a chess altar to encourage soldiers before going to Thang Long to destroy the Qing army.

The main items of the ancient Bai Dinh pagoda include: Buddha worshiping cave, mother worshiping cave, Saint Nguyen Minh Khong shrine and Saint Cao Son shrine. In general, like most other ancient temples in Vietnam, the architectural features of the ancient Bai Dinh pagoda are not large in scale, hidden among nature.

The new Bai Dinh pagoda was built by a private company in 2003, based on the foundation of the old temple. The new Bai Dinh pagoda has an area of 80ha, located on the other side of the mountain compared to the old pagoda. This is a large work including many items: Tam The Palace, Phap Chu Palace, Quan Am Palace, Bao Thap, Bell Tower, Maitreya Buddha Statue and other infrastructure and auxiliary works, Buddhist academy area, Tam Quan outside, Tam Quan inside... were built in many different stages.

The architecture of the new temple area stands out with large, monumental blocks bearing the impression of Vietnamese architecture such as using main local materials (Ninh Binh green stone, Tu Thiet wood), brown Bat Trang glazed tiles... The most distinctive thing about the architecture of Bai Dinh pagoda is reflected in the dark brown dome, which is curved in the shape of a phoenix's tail, which is not the same as the rough straight lines of Chinese pagodas.

The architectural details of the pagoda also bear the imprint of famous traditional craft villages in Vietnam. When it was built, Bai Dinh Pagoda was called a "great construction site" with 500 artisans including many workers' groups from famous craft villages in Vietnam. These artisans used local materials such as ironwood, Ninh Binh green stone, Bat Trang glazed tile... to create a pure Vietnamese character in the architecture of Bai Dinh pagoda.

Bai Dinh Pagoda is a combination of the sacredness and contemplation of the ancient Bai Dinh temple, and the magnificence and magnificence of the most massive new Buddhist architecture in Vietnam, setting many Asian records and Southeast Asia region.

Besides Bai Dinh pagoda, in the complex of Trang An tourist area, there are also many newly built pagodas as stops on the sightseeing journey.

In addition to the restoration, embellishment and new construction of temples, the development of tourism associated with temple relics has promoted the economic potential of the heritage in association with tourism, spreading the values of the temples. heritage to the community at home and abroad. Ninh Binh people have been more active with local authorities in preserving and protecting spiritual and cultural values, religious architectural works, both to serve the spiritual life of the community and at tourism development.

Recently, people's material life has been improved, spiritual life is more and more focused. The psychology of most Vietnamese people respects religion, so the demand for spiritual tourism tends to increase. It can be said that visiting, sightseeing and worshiping at worship facilities is not a strange activity for people. However, the orientation and exploitation of this activity for tourism development is a new job in Vietnam. Along with the strong development of tourism, in recent years the number of tourists and Buddhists coming to the temple has increased; Religious activities became active. Besides the sacred ancient temples, new large-scale, elaborately designed and superficial temples always make a strong impression on visitors.

More than 10 years ago, Bai Dinh was a land unknown to tourists. However, in recent years, the number of visitors to Bai Dinh has increased dramatically, accounting for nearly half of visitors to Ninh Binh. As mentioned above, the number of visitors to Bai Dinh ranges from more than 200,000 to more than 800,000 visitors/month, of which February is the most. The remaining seven months, each month also reaches from more than 105,000 to more than 160,000 visitors. According to statistics of the Management Board of Trang An Scenic Landscape Complex, in 2016, the total number of visitors to Bai Dinh Pagoda reached over 3.2 million, while the total number of visitors to Trang An Scenic Landscape Complex was more than 5,7 million. The corresponding figures for 2017 are approximately 3.2 million and over 6.1 million.

3.2.2. Negative influence

Understanding the social movement as well as the spiritual needs that many investors and businesses have invested in building and developing spiritual resorts and destinations on a large scale. Based on the trend of "heritage" and policies on preserving and promoting the cultural values of the nation, freedom of religion and belief, cultural heritage such as temples, communal houses and pagodas are invested. restored, embellished, granted the title of heritage. Along with the development of media, information, and tourism services that attract a lot of tourists to participate in spiritual tourism. Vietnamese people have a fondness for what is majestic and popular, so a tourist resort built big, beautiful and eye-catching is often easy to attract visitors. During the restoration process, the ancient monuments in many parts of the country were "expanded" for more. The pursuit of titles has distorted the legacy, both materially and spiritually. Worship facilities were enlarged, cultural and spiritual heritages were also upgraded and upgraded, sometimes deforming the heritage in many manifestations.

Public opinion from the people as well as the voices of researchers have also raised many questions in the massive development of temples, communal houses and other pagodas such as Bai Dinh pagoda (Ninh Binh), Tay Thien (Vinh Phuc). Is it possible that cultural heritage has become something for business, despite deforming the heritage, losing its identity with hybrid architecture?... Particularly, the construction of large works than the original has received special attention from the public and there are many mixed opinions.

Some people support the construction of a large pagoda because they believe that "The relics must also be of the era". Little pagoda is suitable for the old times, when Vietnam had only a few million people, and now, the country has nearly 100 million people. People in the past were small in size, people are now taller and larger. So why take the effort to repair exactly the same as the old one, but not build a new one in the direction compatible with the times. It would be a pity if the country opened up and innovated without any cultural and spiritual works worthy of its stature [8].

Opponents said that: Our ancestors had a very good idea of architecture such as temples, pagodas, and communal houses that nestle and blend in with nature. The ancients created a separate architectural language in a spiritual space, a space that is in harmony with nature and cozy, making people's hearts become peaceful and relaxed... If the new construction was not beautiful than traditional values should also be reconsidered. The concept of building as big as Bai Dinh pagoda is an example. It is essentially a Chinese temple built in Vietnam. That structure is entirely of a Chinese temple, not a Vietnamese one [8].

With this same view, Venerable Thich Tho Lac, Standing Deputy Head of the Central Committee of Culture of the Vietnam Buddhist Sangha admitted: Recently we see a disorientation. Some temples are built in some strange motif, not according to Vietnamese tradition. Even at the 2014 Vesak celebration, he was asked by international friends if a temple in Vietnam was built by the Chinese [9].

With the view of preserving the traditional values left by his ancestors, heritage researcher - Assoc. Prof. Dr. Tran Lam Bien said: Relics are extremely important in proving the development of the nation's history. . Improper remodeling is ruining the monument, smearing history. What has belonged to the ancestors, please leave it to the ancestors, and we will go there to admire. The communal house, the temple blends in with the trees, because our ancestors thought to blend in with the nature of the universe to survive, but now, if we want to meet the increasing worship requirements of the people, let's build a temple on another land [8].

Considering the size of the pagoda, the old Bai Dinh cannot be compared with the new one. This is also a pity because most tourists are stunned by the magnificence of the new temple and ignore the ancient Bai Dinh temple, while this is the place that keeps the soul of the temple's nearly thousand years of history.

Admittedly, once spiritual factors are exploited to serve the tourism economy, the monuments, places of worship, beliefs and spirituality will no longer simply serve the spiritual purposes of tourists, which have become more or less *the tools of economic exploitation.*

Over the past ten years, many beliefs and religious buildings (mainly temples) have been growing more and more and more, with the reasonable listening purpose of developing spiritual tourism. If you know that nearly half of the visitors to Ninh Binh in the past few years have come to Bai Dinh pagoda, people will understand why so many great spiritual tourism projects have been born and continue to have Spiritual tourism projects trillion VND is under construction or "asking for approval".

One thing is easy to see, when the spiritual tourist destination aims to profit, things like collecting fees, placing dense donation boxes, offering offerings, making prayers, offering stars for good luck... become normal story. The business element is evident when the investor has implemented many services at tourist pagodas, including reasonable services, some services are "thought out", forcing tourists to use. Unlike traditional pagodas, right in the basement of Tam The building, Bai Dinh pagoda and Tam Chuc pagoda is a large restaurant with thousands of square meters, can serve food for thousands of people and there are many working rooms, conference room. And like a regular tourist destination, Bai Dinh pagoda has a large area selling souvenirs and catering services near the gate; Parking is quite expensive and electric car service, cleaning service...

One point to note is that these huge spiritual projects and projects with the investment capital of trillions VND billion come from the capital of large private corporations. However, speaking of the words of Venerable Thich Tam Thuan - abbot of Sung Phuc Zen Monastery (Hanoi) - although acknowledging the merit of the temple-building enterprise, it also points out a sad thing at these tourist pagodas, that's not doing a good job of a temple: Propagating Buddhist teachings. Because, in these pagodas, there is almost no figure of a monk and there is a lack of research and propagation of Buddhist teachings - which are the main purposes of a pagoda. According to Venerable Thich Tam Thuan, a large pagoda like Bai Dinh should have 500-1,000 learners. Meanwhile, Venerable Thich Quang Minh, representative of the Vietnam Buddhist Church, directly cares for the two temples of Bai Dinh and Tam Chuc, saying that Bai Dinh pagoda often has 300-400 people working at the pagoda but not must be monk [7].

The development of spiritual tourism services in recent years on the one hand meets the spiritual needs of tourists, but on the other hand also distorts the nature and value of religious-spiritual activities, promoting the phenomenon of "spiritual profiteering" when a large number of tourists go to sacred relics just for the purpose of begging for fame and fortune.

From the materialistic purpose of the ceremony, many people no longer know how to keep themselves in a sanctuary, leading to the scene of burning votive papers, buying a full tray to "bribe" the gods... If before Here, praying to the gods comes from pure faith, as long as the subject is sincere, it doesn't matter whether the ceremony is small or big, today, the supplication has brought commercial thinking with the concept that there must be a big ceremony. If you have a lot of money to donate, you can expect to receive the favor of the gods and gods. The cultural space, the sacredness of the festival and the worship space are therefore distorted and distorted.

It can be said that the above-mentioned acts of profiteering are manifestations of the phenomenon of "spiritual corruption" stemming from the pursuit of personal benefits, lack of understanding and being attracted to crowd psychology. From here, the deformed acts have been replicated, become popular, creating opportunities and conditions for some organizations and individuals to turn some worship establishments into "god-trading, semi-holy" addresses, taking advantage of people's trust to cheat to gain profit.

In addition, the massive tourism development at the temples makes the human spirit of festivals as well as religious activities distorted with many objectionable behaviors.

For example, in the Bai Dinh pagoda festival. After each Lunar New Year, on average, thousands of tourists visit Bai Dinh Pagoda every day. This is also the time when all kinds of photography services, street vendors, gold incense, change money ... race to operate. In two rows of Arhat corridors, the statues are mottled with two contrasting black and white colors. Due to being newly carved, the statues are all white in color, but the positions such as the knees, elbows, and hands of the statues have become black because of being touched by thousands of tourists. Many statues are also blatantly broken by tourists to bring home to get lucky. More importantly, all 500 Arhats, each one of them "hugs" in their lap a bag of change from tourists. Not only put in the lap, the money is also put in the hands, mouth or anywhere that can be put by the donors. From time to time a gentle breeze blew, causing change to fly down the corridor. Many tourists casually stepped on the bank of money, while trying to reach up to stuff money into the statue's hand [6].

Ninh Binh province has deployed interdisciplinary inspection teams to Bai Dinh pagoda to maintain security and order, ensure environmental sanitation, prevent and handle objects that solicit, force customers to buy goods, take pictures, ride motorbike taxis, illegally park cars, ensure the safety of tourists coming to spring. However, the new forces have only partially suppressed the active beggars, and most of the services at Bai Dinh pagoda have not been properly adjusted and managed.

4. Discussion and Conclusion

Researching on the influence of tourism development on the architectural and artistic relics of pagodas in Ninh Binh, an important issue is raised: How to reconcile the needs of economic development and conservation traditional cultural - religious values of the nation?

It can be said that the negative impacts of spiritual tourism on the above-mentioned belief-religious traditions are partly due to the laxity in management organization of functional agencies as well as authorities at all levels. Sometimes, because they attach too much importance to economic benefits, they ignore the stages of supervision and inspection, making the organization still spontaneous and messy. In recent years, the culture - tourism industry has issued many documents to limit the manifestations of profiteering and superstition in the festival. The work of inspection, inspection and handling of violations before, during and after the festival has been promoted by industry and local inspection forces. As a result, chaos, jostling, and various manifestations such as offering for hire, vowing for hire, burning votive paper, etc., were initially prevented in places of religious practice during the festival. But it seems that these solutions only solve the "top" of the situation, because if we do not strengthen the inspection and handling of violations, when conditions permit, spiritual profiteering can still erupt. The above issues pose a requirement for State agencies to further improve their roles and responsibilities in managing tourism activities at relics.

It is necessary to take drastic measures to protect ancient architectural works and ancient temples when expanding spiritual tourist areas. The investment and construction of spiritual tourism works are often associated with places with national monuments and heritages, so they need to be managed closely. Competent agencies only grant permits when investment procedures are open and transparent, on the basis of ensuring the consistency between science and history - culture, with consultation from the central government to the locality, and experts on religious culture, environmental impact assessment experts... In order to limit the occurrence of illegal construction spiritual works, the most essential solution is to strengthen the role and management function of local authorities, in which special attention is paid to the role of detecting, People's supervision to promptly take measures to handle and prevent. On the other hand, it is also necessary to strictly handle mistakes in all stages from the construction of spiritual resorts, to the organization and administration of all activities in this field, especially not to let this happen. the state of taking advantage of spiritual factors for profit.

In addition, people in many places, due to not being aware of the value of sustainable tourism, have taken spontaneous and arbitrary actions for the main purpose of attracting tourists and earning more income. Therefore, the fundamental and long-term solution must still be to focus on propaganda to change the public's perception when participating in religious practice, as well as to increase the knowledge and understanding of local people and the community. tourists about spiritual culture, how to behave when participating in festivals or visiting places of worship.

Temples, especially ancient ones, are not only places of worship and religious practice of believers, but also preserve cultural values and the "soul" of the nation. The development of tourism to these monuments contributes to the promotion and promotion of the value of the relics, thereby meeting the spiritual needs of the people. Monuments are an important resource in tourism development. However, if exploited indiscriminately, without methodical, snatching, for immediate benefit, the long-term consequences will be the loss of traditional religious-spiritual values, which also means the loss of factors that make up the value of spiritual tourism.

5. References

1. Anh Anh (6/2020), “Promoting local tourism through the development of spiritual tourism in Ninh Binh”, https://travelmag.vn

2. Bao Chau (2/2019), "Don't need a big temple, a big Buddha, you need a loving heart!", https://m.baophapluat.vn

3. “Relics in Ninh Binh” (4/2021), accessed 12/4/2021, https://en.wikipedia.org

4. Duc Phuong (01/2021), "The XIII Congress of the Party: Ninh Binh tourism towards in-depth development", updated January 28, 2021, https://ninhbinh.gov.vn

5. Hanoi University of Culture (2015), Proceedings of the Scientific Conference on Management of Spiritual Tourism Activities in the Current Context, Bac Ninh, Vietnam.

6. Ngoc Minh (2/2013), "Transformation of Bai Dinh Pagoda Festival", updated February 19, 2013, https://tinnong.thanhnien.vn

7. Thien Dieu (10/2019), "The temple is absent of monks studying in the trillion-dollar spiritual tourist area", updated on October 24, 2019, https://tuoitre.vn

8. Tran My Hien (4/2011), "Rebuilding monuments: Not always big statues, big pagodas", updated April 27, 2011, http://antg.cand.com.vn

9. Trinh Nguyen (10/2016), “Buddhist architecture is losing its direction", updated October 7, 2016, https://thanhnien.vn

10. Nguyen Van Tuan (11/2013), “Spiritual tourism in Vietnam - Current situation and development orientation”, Presentation at the International Conference on Spiritual Tourism for Sustainable Development, Ninh Binh, Vietnam.

QUALITY OF ONLINE TEACHING AT UNIVERSITIES IN THE CONTEXT OF INDUSTRIAL REVOLUTION 4.0

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Abstract:

Developing an online training method to improve the quality of online teaching in Vietnam is proving to be an appropriate direction and receiving the attention of universities in developing a curriculum framework, meet student needs, and make higher education accessible to more students. This study will provide a theoretical and practical basis for the development of online teaching and the quality of online teaching in universities in Vietnam, thereby proposing solutions to improve the quality of online teaching in Universities in the context of Industrial Revolution 4.0.

Keywords: *Online teaching, University, Industrial Revolution 4.0*

1. Introduction

Recent decades have seen steady growth in online teaching, with institutions offering more courses and programs online (Allen & Seaman, 2013; Allen et al., 2016). Universities have expanded their online teaching services to meet the needs of students and make higher education accessible to more students (Kampov-Polevoi, 2010; Picciano, 2006). Therefore, online teaching method has been popular all over the world and in Vietnam, it is accepted as a new training method with an important role in changing the mindset of educational activities. Chen et al. (2010) asserted that the use of the Internet and information communication technology has become a common practice in all aspects of higher education.

In the context of the industrial revolution 4.0, the construction and development of online training methods to improve the quality of online teaching in Vietnam is proving to be an appropriate direction and receiving attention of universities in developing curriculum frameworks. Universities in Vietnam have initially researched and implemented online teaching since 2002 through the organization of seminars on online training methods. Up to now, a number of training institutions have initially implemented training support software and gave positive results: National Economics University, VNU University of Engineering and Technology, University of Science and Technology,... Most recently, the Informatics

Center of the Ministry of Education and Training has deployed an e-learning portal to systematically provide e-learning information in the world and in Vietnam. In addition, Vietnam has joined the Asia E-Learning Network (AEN) with the participation of the Ministry of Education and Training, the Ministry of Science and Technology, the Ministry of Information and Communications... This shows that the research and application of this type of online training has been interested in Vietnam.

However, when compared with other countries in the world as well as countries in the region, online teaching in Vietnam is only at the beginning stage, this is clearly reflected in the "health" of universities in this time, especially when affected by the Covid-19 pandemic. In the context that most universities do not organize for students to have concentrated learning in lecture halls since the Lunar New Year holiday 2020 until now, instead deploying online teaching to limit mass contact. According to the report of the Ministry of Education and Training, as of March 25, 2020, the country has 92/240 higher education institutions (accounting for 38.3%) that have applied the online training method; in which 79 institutions apply completely online, 13 institutions combine online and face-to-face training. Higher education institutions have started to apply online learning management systems (LMS) capable of managing the process of organizing teaching, learning, online assessment together with online teaching applications such as Microsoft Teams, Google Meet, Zoom, Zalo... In addition, the report also shows that some universities themselves, when implementing their own online training system, have encountered difficulties in information technology infrastructure when the number of students participating in online learning is large. Therefore, studying the quality of online teaching in universities in the context of the industrial revolution 4.0 is necessary and urgent.

This study will provide a theoretical and practical basis for the development of online teaching and the quality of online teaching in universities in Vietnam, thereby proposing solutions to improve the quality of online teaching. Online teaching in Universities in the context of Industry 4.0. The results of the research are also a premise to contribute to the innovation, creativity and improvement of the quality of comprehensive higher education in the future, towards a modern education according to international standards.

2. Method

This study employs qualitative research methods that use secondary data sources. By synthesizing, analyzing to related data and previous research outcomes, the study has theory and practice the development of online teaching and the quality of online teaching in Vietnamese universities, through it proposes solutions to improve the quality of online teaching in universities in the context of Industry 4.0 according to the goals of the study.

3. Results

3.1. The development of online teaching in universities

Human history has been witnessing the evolutionary development of a more civilized human being. That evolutionary development process cannot deny the role of education, because education is the chain of life experience of each civilization. The specific expression of education is teaching, instructing, and guiding in order to pass on to the next generation cultural values, life experiences, scientific and technical knowledge, etc. Classroom teaching has long been considered a traditional form of education. When it comes to the traditional form of teaching, we often picture a classroom that is fixed in one place, with students sitting in the classroom and a teacher standing. However, thanks to the strong development of science and technology in the era of the knowledge economy, people can approach a different form of teaching to meet increasingly diverse learning needs, learners can learn anywhere, anytime, in many circumstances. That is the form of distance learning. With this form, learners and teachers do not necessarily have to be present in the classroom but still actively communicate historical experiences to each other. From these new requirements of learners, the form of distance learning was born. It can be said that the first recorded milestone of distance teaching in the world is teaching the church clergy by mail from 50-60 AD. In modern history the timeline is recorded by Isaac Pitman teaching stenography by mail in England in 1840.

Over the course of the development history, the name of this field has been changed: homeschooling, correspondence learning, extracurricular learning, independent learning and extended learning. All of these involve teaching and learning styles that are appropriate when and where they learn. The form of distance learning was formed with the participation of technologies such as printing technology (learning by letter), radio technology, telegraph etc. to multimedia communication and electronic communication in the 90s of the last century. Television is also a fundamental advantage that has been used in distance learning. The development of a large-scale television network becomes consistent with a classroom model with only one teacher on site and learners in multiple locations. The obstacle to this teaching method is that learners must be ready to learn at broadcast time. Next came the Internet and Web technology, and today e-learning systems and online teaching technologies are asserting their place in the learning environment. Practical distance learning began with the appearance of the "Computer Aided Learning Center" in 1982 in Rindge, New Hampshire, USA - the nation's first online school in the West. From 1994 - 1995, when the Internet became popular from an initial small model of in-house Internet providers, online education really exploded. The benefits of online education are becoming more and more obvious. It is the development of online training technology, the ability to organize a virtual classroom and a virtual learning environment that has gradually disrupted the existence of previous notions that did not really attach importance to distance learning when moving from traditional education to online training with the help of computers, information and communication technology systems. Nowadays, an online degree program can be easily found from colleges and professional schools. Furthermore, the opportunities from online education are increasing rapidly every day and online degrees have been accepted by employers as usual. And to this day, electronic learning systems (E-learning System) and online teaching technologies (Interactive, Online) are mentioned at almost all levels of education.

In recent years, with the development of online training technology, the ability to organize a virtual classroom and a virtual learning environment (VLE) has gradually disrupted the existence of old concepts that did not really attach importance to distance learning when switching from the traditional education model to online training with the effective help of computers and information and communication technology systems.

According to Thomson NETg, the development wave of E-Learning is divided into the following stages:

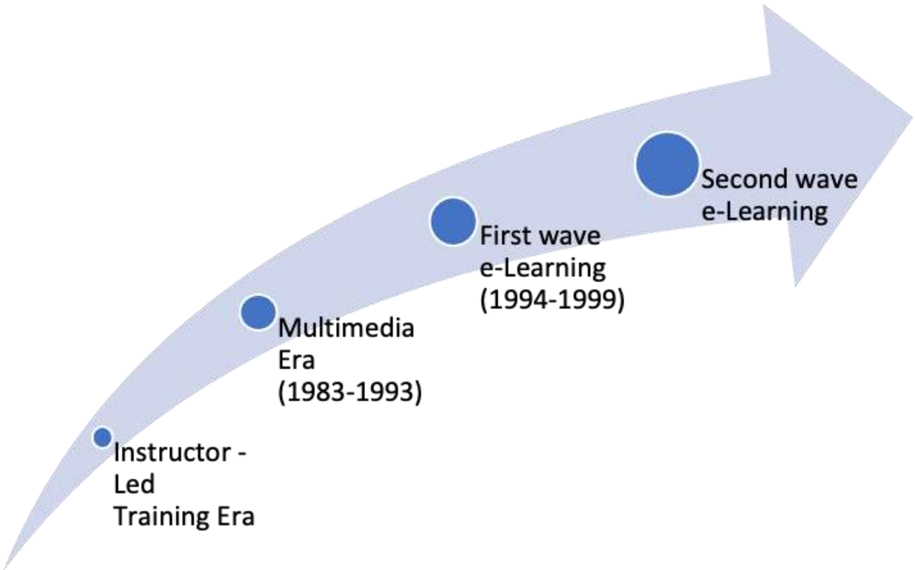

Figure 1: The development wave of E-Learning

- The Instructor-Led training Era (before 1983): Before computers were widely used, the “Teacher-Led training” educational method was the most common method in schools. Students can only exchange focus around lecturers and classmates. The feature of this type is the low cost of organizing training.

- Multimedia Era (1984-1993): Windows operating system, PowerPoint presentation software... These are the basic technologies in the multimedia era. It allows the creation of computer-based audio and visual-integrated lectures using Computer Based Training (CBT) technology that distributes instructional content via CD-ROM or floppy disk. At anytime, anywhere, learners can buy and learn. However, the instructor's guidance is very limited.

- First wave E-learning (1994-1999): When Web technology was invented, education and training service providers began to research how to improve educational methods with this technology. The wise teacher has gradually revealed through the following means: E-mail, CBT via Intranet with simple text and images, training by Web technology with low-speed moving images has been deployed on a large scale. .

- Second wave E-learning (after year 2000): Advanced technologies and enhanced Internet bandwidth, advanced Web design technologies have become a revolution in education and training to form online training systems. Today, through online training, instructors can provide online instructions (visual, audio, demonstration tools) to all learners, improving the quality of teaching. Day by day, online training technology has proven to be highly effective in education and training, allowing the diversification of learning environments (information exchange, teaching, learning, control, assessment). All of which creates a revolution in education and training with low cost, high quality and efficiency. It was the second wave of online training, and we are in the midst of this wave right now.

E-learning develops unevenly in different regions of the world. E-learning has the strongest growth in North America. In Europe E-Learning is also very promising, while Asia is a region that uses this technology less. In the US, e-teaching and learning has received support and government support policies since the late 90s. According to statistics from the American Society for Training and Development (ASTD), in the US in 2000, nearly 47% of universities and colleges offered different types of distance learning models, creating 54,000 online courses. According to analysts of the International Data Corporation (IDC), by the end of 2004, about 90% of US universities and colleges had launched the E-Learning model, the number of study participants increased by 33% annually in the period 1999 - 2004. E-Learning is not only deployed in universities but also in companies, the construction and implementation also takes place very strongly. There are many companies implementing E-learning instead of traditional training methods and have brought high efficiency. Due to the large market and strong attraction of E-Learning, a series of companies have turned to specialize in researching and building E-Learning solutions such as: Click2Learn, Global Learning Systems, Smart Force…

In recent times, Europe has taken a positive attitude towards the development of information technology as well as its application in all socio-economic fields, especially its application in the education system. The countries of the European Community are aware of the great potential that information technology offers in broadening the scope, enriching the content and improving the quality of education. IDC company estimates that the European E-Learning market will grow to 10 billion USD in the coming years at a growth rate of 96% annually. In addition to actively implementing E-Learning in each country, there are many multinational cooperation between European countries in the field of E-learning. A typical example is the trans-European network construction project - EuroPACE. This is the E-Learning network of 36 leading European universities in countries such as Denmark, the Netherlands, Belgium, the UK, and France, in cooperation with the American E-learning company Docent to provide courses on the fields such as science, art, and people are suitable for the learning needs of university students, graduate students, and professionals in Europe.

In Asia, E-Learning is still in its infancy, has not had much success due to a number of reasons such as: conservative rules, regulations, bureaucracy, traditional training preference of Asian culture, language heterogeneity, poor infrastructure and backward economies in some Asian countries. However, these are only temporary barriers as the training demand in the continent is also becoming increasingly unmet as traditional educational institutions force Asian countries to gradually accept the undeniable potential that E-Learning brings. Some countries, especially those with more developed economies in Asia, are also making efforts to develop E-Learning in their countries such as Japan, Korea, Singapore, Taiwan, and China... Japan is the country with the most E-Learning applications compared to other countries in the region. E-Learning application environment is mainly in large companies, manufacturers, enterprises... and used to train employees.

The E-Learning market is growing at breakneck speed and is expanding worldwide. The ability to replace traditional education in some fields is becoming an inevitable trend. Following that trend, it is meaningful to research, build and perfect an online training model to improve the quality of online teaching in the economic sector of universities in Vietnam in the context of the industrial revolution 4.0. theory and practice.

The rapid worldwide growth in teaching has necessitated greater attention to the nature and quality of online in general and in higher education in particular. However, there are few studies that address quality in online programs (Fresen, 2002; Sonwalkar, 2002). Much of the research on distance education prior to 1990 was devoted to understanding the differences between traditional courses and distance learning. These studies have focused on comparing traditional learning outcomes and distance learning methods or student satisfaction (Arbaugh, 2000; Hiltz & Wellman, 1997). Research focuses on gap-specific pedagogical tools and how they can affect learning and quality.

Many studies assessing the quality of Internet-based teaching focus on the difference between distance and traditional classroom instruction. Russel (1997) cites more than 300 studies since 1928 that demonstrate no significant difference between distance and learning tradition. However, Russel's research included various distance learning modalities such as mail, radio, one-way television, and videotape. In addition, the methodologies used in many of the studies are questionable. Russel's conclusions suggest that it may be time to move beyond simply comparing distance learning courses with traditional classrooms and strive to understand whether quality learning occurs in Internet-based or not. Arbaugh (2002) asserted that research on the effectiveness of online learning is still significantly limited.

Online Quality Research: Benchmarks for Success in Distance Education Internet-based, authorized by the National Education Association, the nation's largest professional association for educational departments, and Blackboard, a leading Internet education company (Phipps & Merisotis, 1999). This study looked at case studies of six colleges and universities that offer Internet-based degree programs. In addition, a thorough review of the current literature on distance education was conducted to identify benchmarks used by other organizations to measure quality and learning. Case studies designed to determine the extent to which the various quality measures identified in previous studies are actually being incorporated into the policies, procedures and practices of training institutions from far away. The results are benchmarks that measure the roles of institutions, administrators, faculty, and students needed to ensure quality in Internet-based distance education.

Two leading organizations in the field of distance education, the American Association for Distance Education (1999) and Pennsylvania State University (in the Innovation Project in Distance Education), have also developed guidelines for distance education. Their instruction addresses issues of learning goals and outcomes, interactive learners, and knowledge and problem-based learning. There is additional research indicating that online program quality must be addressed in course planning and instructional design development (Graham & Scarborough, 2001; Harasim et al., 1995; Li, 2002). Much of this research also highlights the fact that ongoing program evaluation is necessary to identify successes and problems while summative evaluation must be directed to external parties.

The University of Illinois (Chicago, Springfield, and Urbana-Champaign campuses) conducted a year-long faculty workshop to address faculty concerns about implementing technology for instruction (1999). The workshop concluded that high-quality online teaching and learning can be achieved if new approaches are adopted to compensate for the limitations of technology and if teachers strive to create a touch for learners. Issues considered are innovation in teaching, student engagement, interaction, and technical support.

3.2. Quality of online teaching in universities in Vietnam

Online teaching in Vietnam began to appear clearly nearly 30 years ago. Its predecessor is distance training, which is conducted by Voice of Vietnam through radio programs that teach Vietnamese, foreign languages, etc. This form of teaching is just a radio program, but looks at it from the perspective of education and training, this is a new form of teaching implemented in the media technology environment. Invisibly, it has become a form of teaching that has helped millions of Vietnamese people improve their people's intellectual level.

Researches on online training capture research related to "Distance Training", a tool known in the renovation of education and training in our country since the 90s of the century. This term is documented on Government decisions on the establishment of training institutions with distance training functions. Specifically: on July 26, 1993, the Prime Minister issued Decision No. 389/QD-TTg on the establishment of the Ho Chi Minh City Semi-Public Open University, in which Article 2 states "The semi-public open university, Ho Chi Minh City is a training institution with various types of distance learning, on-the-job training, training at satellite sites… to meet the diverse learning needs of society, contribute to strengthening the contingent of scientific and technical cadres for the country”. Following on November 3, 1993, the Prime Minister issued Decision No. 535/QD-TTg on the establishment of Hanoi Open University, in which Article 2 states "Hanoi Open University is a training institution and research with different types of distance learning, on-the-job training to meet the diverse learning needs of society, contributing to strengthening the potential of scientific and technical cadres for the country. These two training institutions have been implementing distance learning systems based on the open source learning management system Moodle (Modular Object Oriented Dynamic Learning Environment) founded by Martin Dougiamas in 1999. These two centers is considered as the core of Vietnam's distance learning system. So far, these two universities have a training scale of about 30-40,000 students/year. After the above 2 universities, by 2012, there were more than 12 universities that were allowed by the Ministry of Education and Training to organize distance learning with degrees.

Along with the rapid development of information technology in Vietnam, online training studies focusing on TV teaching methods have also developed strongly. Specifically, there are programs to teach university exams, learn foreign languages… on VTV2 channel of Vietnam Television. Beside universities, since 1993, the Voice of Vietnam (VOV) and Vietnam Television (VTV2) have implemented hundreds of training programs including both granting and non-granting diplomas and certificates on VOV and VTV. These programs have served millions of people across the country who are currently in need of fostering and updating their knowledge of the subjects and issues they are interested in. In 2003, the Ministry of Education and Training collaborated with VTV2 to have a research project on the establishment of a separate television channel for education. Besides training institutions and state agencies, businesses have also started researching and conducting a pilot business of online training through the production of video tapes, audio tapes, CD-ROMs. 2002 was recognized as the first year that commercial training activities were an independent form of training in the field of training via the Internet at Website: www.truongthi.com.vn. Up to now, most training institutions have built websites and provided online training services, online teaching via the Internet to train for certificates, diplomas or traditional training support. By 2009, the majority of training institutions had built websites and provided online training services through video conferencing (Video Conferencing), via the Internet for training, certification, and graduation or support traditional training. In the field of interactive teaching, there are hundreds of companies, enterprises and training institutions providing online teaching services. It can be said that teaching through information and communication networks has gradually become no longer strange in the Vietnamese education system. However, online training is a new form of training that has been introduced and developed in training institutions recently. In particular, the management of online training activities still has many problems, there are no specific sanctions suitable to reality.

Up to now, in parallel with the traditional training model, many domestic training institutions have implemented the online training model. These new training models have grown to be very diverse and powerful in a short period of time. In order to manage this type of training, the Government and the Ministry of Education and Training have issued a number of documents such as: Regulations on organizing training, examinations, tests, and granting of diploma certificates in the form of distance learning is promulgated by the Minister of Education and Training under Decision No. 40/2003/QD-BGD&DT dated August 8th 2003; Decision No. 1559/QD-TTg dated September 10, 2015 approving the Distance Learning Development Project for the period 2015-2020. Along with the development of the Internet, the ICT infrastructure and legal basis for content management on the Internet have become more and more complete with the introduction of the following documents: Decision No. 1497/QD-TTg dated November 8th, 2018 of the Prime Minister on the approval of the National Information Development Strategy to 2025; Law on Information Technology promulgated on June 29th, 2006.

Internet is increasingly popularized to remote areas. The speed of the Internet connection is also constantly increasing, significantly contributing to the development of online training. Online training has only developed in recent years after high-speed Internet transmission technologies such as Lease Line, ADSL,... were born.

In terms of management, online training institutions can be classified into the System of formal training institutions that award degrees according to the national education system and the System of non-formal training institutions. There are many informal training institutions that have succeeded with models of foreign language training, university exam preparation, knowledge refresher training… via the Internet. Formal online training institutions that grant degrees according to the national education system include the University of Information Technology - Vietnam National University, Ho Chi Minh City. This is a public university specializing in information technology, established under the Prime Minister's Decision No. 134/2006/QD-TTg dated June 8th, 2006. Currently, the university is organizing training courses and awarding degrees according to the regulations of the Ministry of Education and Training for bachelor's systems majoring in information technology (networking, applications). In addition, the Information Technology Institute – Vietnam National University, Hanoi is also an effective E-Learning implementation and application unit through the online testing system (CmTest) using tests for all educational forms.

Regarding the application of technology in online teaching, many online teaching systems are deployed on the open source Moodle platform. The Vietnamese Moodle community was established in March 2005 with the aim of building a Vietnamese version and supporting university to implement Moodle. Since then, many universities, organizations and individuals in Vietnam have used Moodle. It can be said that Moodle is one of the most popular learning management systems in Vietnam. The Vietnamese Moodle community helps users solve problems with installation, how to use features, as well as how to edit and develop. The Vietnamese Moodle community is built by the same Moodle software. According to statistics published on the Vietnam Moodle Community Website, there are currently 799 Vietnamese organizations and individuals using Moodle open source software. A typical specialized agency of the Ministry of Education and Training is the Department of Information Technology, which has also been researching information technology solutions for Vietnam using the Moodle open source learning management system.

Today, parallel to the traditional form of training, online training has been asserting its position in the education system because of its outstanding advantages such as saving time and training costs, learners do not have to attend class but can still participate. Currently, many universities have begun to move towards and gradually shift to online training (Do et al., 2021). Although there are still quite a few limitations, mainly because there is still no support policy and development orientation from the governing agencies, but online training is still gradually confirming the future of market expansion in Vietnam. It can be said that any industry or unit can use online training as a tool for any internal or external training activities, especially training service providers. The government is also making long-term plans to support the promotion and implementation of online training for propaganda and education activities for the people.

The Industrial Revolution 4.0 will change the way of life, work and communication of all mankind in a completely new way (Do, 2020). Industry 4.0 is said to be based on the development of many technologies, especially the internet, cloud computing, information technology, artificial intelligence, 3D technology, and automation. In the world, the first, second and third industrial revolutions have helped the economies of many countries develop brilliantly. It can be clearly seen that the efficiency in the application of high technology brings a leap in productivity and production quality, many countries have widely deployed the integration and close connection of many different technologies to ensure Optimum production efficiency including online training. The industrial revolution 4.0 has been playing a very important role and is significantly contributing to promoting the development of online mining despite the fact that in Vietnam there are still many difficulties such as:

The training facilities of universities in Vietnam are still very poor. Students and trainees do not have the habit of self-study and group work, do not have independence, still depend a lot on lecturers, are not self-conscious in learning... Ability to apply information technology in teaching of the majority of teachers is still limited, although there are projects and tools to support teachers in preparing lessons. To organize an online class requires teachers to spend more time and effort than traditional teaching, the traditional way of learning will still have to be the main and popular method because it is suitable for all learners and attached to the habits of each person from an early age. Therefore, with the traditional way of learning, learners feel safer when listening to live lectures, solving problems directly with lecturers. Traditional learning method aslo suitable for many different types of students, for those students who are not self-disciplined, do not have the habit of working on their own or actively working, the traditional way of learning more or less has an impact on them when they are taught directly with the teacher in class. For teachers, it is also possible to observe the learning attitude and learning ability of each student through direct contact. As for the online training model, it is not suitable for everyone, it is only suitable for those who have certain computer knowledge, have real needs and self-study. For each process, not all content easily converts to online training. There is a process where the content is practical and highly practical, it is difficult to use online training to teach, but for skill-based subjects and the process changes quickly, requiring timely updates, then it will be the appropriate content of online training.

4. Discussion and Conclusion

The above research results show that the research and application of this type of online training is receiving great attention and development in Vietnam with the influence of the industrial revolution 4.0 to solve difficulties relate to online training. In order for universities to improve the quality of online teaching to approach the industrial revolution 4.0, the study proposes a number of solutions as follows: The Government needs to build a model to evaluate the quality of online teaching in universities to approach the industrial revolution 4.0 and evaluate the current status of online teaching quality in universities; Raising awareness for administrators and lecturers about online teaching; Completing the online teaching management document system; Strengthening the system of equipment and software to support online teaching; and Regularly check and evaluate the organization of online teaching at universities.

5. References

1. Allen, I. E., & Seaman, J. (2013). *Changing course: Ten years of tracking online education in the United States*. Sloan Consortium. PO Box 1238, Newburyport, MA 01950.

2. Allen, I. E., & Seaman, J. (2016). *Online report card: Tracking online education in the United States*. Babson Survey Research Group. Babson College, 231 Forest Street, Babson Park, MA 02457.

3. Arbaugh, J. B. (2000). Virtual classroom versus physical classroom: An exploratory study of class discussion patterns and student learning in an asynchronous Internet-based MBA course. *Journal of management Education*, *24*(2), 213-233.

4. Arbaugh, J. B. (2002). Managing the on-line classroom: A study of technological and behavioral characteristics of web-based MBA courses. *The Journal of High Technology Management Research*, *13*(2), 203-223.

5. Chen, P. S. D., Lambert, A. D., & Guidry, K. R. (2010). Engaging online learners: The impact of Web-based learning technology on college student engagement. *Computers & Education*, *54*(4), 1222-1232.

6. Do, A.D. (2020). Innovation in Vietnam in the context of Industry 4.0. *Economy and Management Review*, *33*, 57–60.

7. Do, A.D., Nguyen T.N., Vu T.T.T, Dinh N.D., Nguyen T.M.P. (2021). An Analytical Framework Considering the Effects of Online Teaching Quality on Student Satisfaction. *European Journal of Business and Management, 13*(6), 83-88.

8. Fresen, J. (2001). Quality in Web-supported learning. In *EdMedia+ Innovate Learning* (pp. 521-522). Association for the Advancement of Computing in Education (AACE).

9. Graham, M., & Scarborough, H. (2001). Enhancing the learning environment for distance education students. *Distance Education*, *22*(2), 232-244.

10. Hiltz, S. R., & Wellman, B. (1997). Asynchronous learning networks as a virtual classroom. *Communications of the ACM*, *40*(9), 44-49.

11. Kampov-Polevoi, J. (2010). Considerations for supporting faculty in transitioning a course to online format. *Online Journal of Distance Learning Administration*, *13*(2).

12. Li, Q. (2002). Exploration of collaborative learning and communication in an educational environment using computer-mediated communication. *Journal of Research on Technology in Education, 34*(4), 503-516.

13. Phipps, R., & Merisotis, J. (1999). What's the difference? A review of contemporary research on the effectiveness of distance learning in higher education.

14. Picciano, A. G. (2006). Blended learning: Implications for growth and access. *Journal of asynchronous learning networks*, *10*(3), 95-102.

15. Russel, T. (1997). The'No Significant Difference'Phenomenon 4th edition, North Carolina State University.

16. Sonwalkar, N. (2002). A new methodology for evaluation: The pedagogical rating of online courses. *Syllabus*, *15*(6), 18-21.

SESSION 8:

SUSTAINABLE DEVELOPMENT

THE SOLUTION TO DEVELOP MEDICINAL HERBS VALUE CHAIN IN QUANG NINH

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Abstract

The article analyzes the practice of developing the medicinal herbs value chain, assessing the current status of the medicinal value chain development in Quang Ninh province. The situation of growing medicinal herbs; organizing the production of medicinal herbs; processing, distribution and marketing of medicinal products in Quang Ninh province have been studied meticulously. Factors influencing the development of the medicinal plants value chain in Quang Ninh province are evaluated, from which the author proposes solutions to develop the medicinal plant value chain based on the principle of ensuring that the views and development goals of medicinal plants value chain in Quang Ninh province are practical, feasible and systematic. For the locality: The research results are the scientific basis to help policy makers have a more comprehensive view of the management of agricultural production development project programs in the value chain; contribute to raising the income of workers directly involved in agricultural production.

s*Medicinal herbs, medicinal value chain, development solutions, herbal medicine in Quang Ninh province.*

1. Introduction

Medicinal herbs are one of many crops in the agricultural sector. The organization of production in the value chain, in accordance with the current policy of the Party and State on agricultural development is very necessary and pressing. Quang Ninh is a province with rich and diversified vegetation such as: Indian mulberry, Golden Camellia, Star Anise, Cinnamon, Betel leaf, Stephania rotunda Lour, Malaysian Ginseng, Japanese honeysuckle,... However, the development of these medicinal plants production in Quang Ninh is not yet commensurate with the potentials and strengths for many different reasons such as: the exploitation of medicinal plant resources is still spontaneous, not paying attention to regeneration and conservation. Many medicinal plants are in danger of exhaustion; Medicinal materials are mainly at the stage of fresh raw materials. The locals are not paying much attention to the preliminary processing, refined processing, creating different products, in order to increase their value. With its strong potential in natural, socio-economic, especially natural conditions, Quang Ninh can develop medicinal plants to become one of the important sources of income, in order to exploit its strengths in nature and a number of specialities, to develop into a major medicinal center in Vietnam.

2. Method

Research on the value chain of medicinal plants in Quang Ninh province, the current status of pharmaceutical production development in the province. On that basis, proposing solutions to develop the value chain of medicinal plants in Quang Ninh province to 2025 and beyond.

* The object of research is the value chain and value chain development of medicinal plants in Quang Ninh province.

* Scope of the study: The research topic is in Quang Ninh province, focusing on surveying 8 districts and cities of the province that are cultivated and exploiting natural medicinal herbs from 2013 to present.

* Research Methods:

About the research methodology: The author combines qualitative and quantitative research methods with different approaches, together with analytical criteria that comprehensively assessed the value chain for a specific medicinal plant.

* Specific research objectives:

- Evaluate the current status of developing the value chain of medicinal plants in Quang Ninh province.

- Analysis of factors affecting the development of the value chain of medicinal plants in Quang Ninh province.

- Proposing solutions to develop the value chain of medicinal plants in Quang Ninh province.

* Research question

- Research question 1: What is the development of pharmaceutical production in Quang Ninh province in recent years (especially from 2013 to now)?

- Research question 2: People directly produce and trade in pharmaceuticals; What recommendations should the State management agencies at district and village levels, the departments of the province and the People's Committee of Quang Ninh province implement to develop the value chain of medicinal herbs in the province in the upcoming time?

3. Results

3.1. Current situation of developing pharmaceutical production in Quang Ninh province

3.1.1. The situation of growing medicinal herbs in Quang Ninh province

Quang Ninh is considered as one of the provinces with favorable climatic conditions that soil is suitable for the development of medicinal plants, especially valuable medicinal herbs with high economic value such as Indian mulberry, Golden Camellia, Star Anise, Cinnamon, Japanese honeysuckle ... According to statistics, Quang Ninh province currently has 948 medicinal plant species belonging to 182 families, 561 different genera (of which: 134 species are planted, 814 species grow naturally)[79]. This biological system of diverse medicinal plants is an important prerequisite for Quang Ninh to develop medicinal herbs to serve people's lives, to meet the needs of medicinal production and to contribute to socio-economic development of the province. Taking advantage of endowed natural resources, advantages of the diversity of medicinal plant ecosystems, Quang Ninh province has actively investigated and planned medicinal plants in the province recently, which focus on key contents such as: Forming a conservation area, developing concentrated medicinal plants in Yen Tu national medicinal plant garden and Ngoa Van - Yen Tu green medicinal herbs valley, applying public scientific achievements in the cultivation and processing of medicinal plants, forming the product value chain and brand name of Quang Ninh medicinal herbs[80]. Along with investment activities for the development of the pharmaceutical industry, Quang Ninh province continues to attract investment, creating conditions for policies and legal corridors for enterprises to invest in the development of production and processing of medicinal herbs. Then, linking 4 factors in medicinal development (State - Farmer - Scientist - Entrepreneur), Quang Ninh would become a pharmaceutical center of the Northeast region and the whole country.

In recent years, there have been a number of investors participating in the development of medicinal herbs to create many products that have a foothold in the market to improve the economic efficiency of the business and decrease the number of unemployed people in disadvantaged, remote and isolated areas of the province. Some models of growing medicinal plants includes:

- Secoin Joint Stock Company has invested in an area of more than 180 hectares in Binh Khe and Trang Luong (Dong Trieu). The company allocates 40 hectares to establish a center for conservation and development of medicinal herbs, 70 hectares specialized in growing and developing medicinal plants. In 2013, the Company signed contracts with the people, planted 75 hectares of turmeric, and obtained more than 1,500 tons of fresh turmeric. In addition, the Company conducts trial planting of many types of medicinal herbs, thereby selecting some plants that are suitable for natural conditions in Trang Luong, Binh Khe such as Ming Aralia, Rehmannia Glutinosa, Japanese honeysuckle, Yam, Chamberbitter, Pink Striped Trumpet Lily, ...

- Dong Bac Pharmaceutical Planting, Manufacturing and Processing Co., Ltd. has more than 30 hectares of medicinal plants in Cong Hoa Village (Cam Pha). Some medicinal plants planted by the company such as Purple Indian mulberry (9 hectares), Yam (2

79 Gooch et al (2009), "Marketing and quality control of fresh grapes, fresh and processed apples and many other fruits of Ontario, Canada".
80 People's Committee of Quang Ninh province (2012), Program on establishing and developing brands for agricultural products of Quang Ninh province to 2015, Issued together with Decision No. 273 / QD-UBND dated February 13/2012 by the People's Committee of Quang Ninh province.

hectares), Five-leaf ginseng (2 hectares), transferred to the farmers 1 ha of Five-leaf ginseng, Australian cowplant, Chamberbitter, Solanum procumbens. The company signs a contract to plant medicinal plants with the cooperative in Yen Thanh village, Tien Yen district for processing materials.

- Dong Son Green Technology Joint Stock Company has 125 hectares of medicinal plant cultivation in Dong Son (Hoanh Bo), including Indian Mulberry (90 hectares), Ardisia sylvestris (1 hectare), Ming Arelia, and Golden Camellia; Transferring planting techniques to farmers in Dong Son, Ky Thuong, Tan Dan.

-Toan Dan Cooperative (Ba Che) has more than 1,100 ha of forest land, including 50 hectares of Purple Indian Mulberry grown in cell culture, 03 hectares of Sand Ginger Each stem of Indian Mulberry could harvest from 1.5 to 3 kg of fresh tuber/3 years. The average selling price is about 120,000 VND per kilogram of fresh Indian Mulberry, 750,000 VND per kilogram of dried Indian Mulberry. Compared with the wild Indian Mulberry, this price is much lower so that in the market, many people take advantage of consumers' lack of knowledge to overprice, which does not correctly reflect the real value of the goods.

- Ba Che Forestry Sole Member Limited Company planted 11.5 hectares of Indian Mulberry.

- The medicinal plant area of Dong Son Green Technology Joint Stock Company; Quang La Farm Cooperative (Hoanh Bo District) planted Ganoderma lucidum; Tung Lam Joint Stock Company has cooperated with DK Pharma Company, Hanoi University of Pharmacy to build Yen Tu medicinal plant garden, ...

In addition, households also participate in growing medicinal plants such as Star Anise, Cinnamon in Binh Lieu, Ba Che, and Mong Cai; Indian Mulberry, Dandelion, Desmodium styracifolium, Gac fruit, Japanese Honeysuckle, Sand Ginger, Ming Arelia, ... at Mong Cai, Tien Yen, Hoanh Bo, Ba Che, Uong Bi.

However, the cultivation and development of medicinal plants still faces many difficulties in techniques of cultivation, taking care and harvest. Medicinal materials have not been standardized (according to GMP-WHO) and poor yields create a lot of difficulties for the product to participate in the market, which leads to many unsold or low priced medicinal herbs.

Following the direction of the Provincial Party Committee and Provincial People's Committee, during 2015 - 2017, Ba Che district has supported more than 1.1 billion VND for 174 households participating in the projects of planting Golden Camellia. Thanks to that, Ba Che became the largest area planting Golden Camellia in the province with more than 140 hectares, concentrating in some villages such as: Thanh Son, Don Dac and Dap Thanh. It includes 50 hectares for harvested camellia and over 60 hectares for harvesting leaves (because the leaves are pre-harvested compared to flowers). In 2018, the district extended

100 hectares of Golden Camellia[81].

The government of Quang Ninh province has properly paid attention to the cooperation of 4 factors (State - Farmer - Scientist - Entrepreneur) in the development of medicinal herbs value chain. Recently, businesses have actively invested in facilities for preliminary treatment, pharmaceutical processing, production of products from medicinal herbs, with an increasingly large scale of investment such as: Secoin Joint Stock Company; Ba Che Forestry Sole Member Limited Company; Quang Duong Joint Stock Company, Cong Hoa Village (Cam Pha); Dong Bac Pharmaceutical Planting, Manufacturing and Processing Co., Ltd.; Tinh Hoa Green Agro-Pharmaceutical Cooperative; Dong Trieu Green Medicinal Cooperative, Dap Thanh Forest Products Joint Stock Company … In 2015, Pharmaceutical Joint Stock Company and Medical supplies Quang Ninh has completed the investment in manufacturing drugs and functional foods from medicinal herbs. They are now producing more than 30 products that meet the World Health Organization's (GMP-WHO) drug manufacturing standards. This is an important nucleus for the development of the pharmaceutical industry, functional foods from medicinal herbs in Quang Ninh province in the upcoming years.[82]

3.1.2. The situation of pharmaceutical production in Quang Ninh province

Recently, the production of medicinal herbs in Quang Ninh province is organized in two forms:

(i) Primary production: There are 14 economic organizations engaged in primary production. They are now growing 35 species of medicinal plants composed of 14 species by businesses and 21 species by households. Most of the farming households having suitable soil for medicinal plants use that strength to grow medicinal plants. But the number of other households boldly changing the main crop from rice to medicinal plants are rising now. However, they do not know how to process and preserve, and do not sign contracts for the consumption of raw materials for processing enterprises, which make them unable to sell products, limiting the expansion of acreage. Finally, some households have to switch back to growing rice.

(ii) Secondary production: There are 18 economic organizations engaged in secondary production to create groups of products such as: packaged medicinal herbs, essential oils, tea bags, and tablets.

Pharmaceutical products and medicinal products produced by economic organizations in both primary and secondary forms are distributed right on the premises,

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81 Quang Ninh Provincial People's Committee (2014), Policies to encourage the development of agricultural production concentrated in Quang Ninh province, in the period of 2014 - 2016, Issued together with Decision No. 2901 / QD-UBND December 5, 2014 of the People's Committee of Quang Ninh province

82 People's Committee of Quang Ninh province (2013), Project "Quang Ninh Province - One commune One product (OCOP) for the period 2013-2016", Issued together with Decision No. 2870 / QD-UBND dated October 22, 2013 of the People's Committee of Quang Ninh province.

participating in fairs, a few enterprises product introduction goods, agents inside and outside the province. However, the distribution and marketing activities of enterprises are still very limited and passive. Currently, in the province, there is no economic organization specializing in the distribution of medicinal herbs and medicinal products but mainly combined with many other products.[83]

On February 27, 2015, the Prime Minister approved a project to develop medicinal plants associated with hunger eradication, poverty reduction, and new rural construction. Accordingly, there will be 8 natural exploitation regions and 8 areas planned for concentrated medicinal cultivation. Northern midland and mountainous region, including Bac Giang, Yen Bai, Quang Ninh, Lang Son, developed and planted 16 species of medicinal herbs, namely 13 indigenous species (Indian Mulberry, Ming Arelia, Sand Ginger, Gac, Five-leaf Ginseng, Oriental Motherwort, Desmodium Styracifolium, Star Anise, Cinnamon, Lemongrass, Amomum Longiligulare, Sweet Wormwood, Adlay) and 3 imported species (Dahurian angelica, Atractylodes, Rehmannia Glutinosa) on an area of 4,600 hectares. The project prioritizes the development of species of Indian Mulberry, Gac, and Sand Ginger along with sustainably maintaining and exploiting Cinnamon and Star Anise on the existing area. Until now, Quang Ninh is one of the potential locations to become a centralized pharmaceutical development center of the Northeast.

3.1.3. The situation of processing, distributing and marketing pharmaceutical products in Quang Ninh province

3.1.3.1. The situation of pharmaceutical processing

Most naturally cultivated and harvested medicinal materials are subjected to preliminary treatment locally by using manual equipment, with low value-added, and no specific quality standards. A few establishments already have machinery and equipment in the preliminary processing and processing of medicinal herbs, creating a number of medicinal products with high value-added such as: Golden Camellia tea, Indian Mulberry Glue, Moringa tea and Cleistocalyx operculatus tea (raw tea or tea bag) ...

The program (OCOP) has established or supported many economic organizations to apply technology to produce a number of herbal products and participate in the value chain of herbal production in the province, such as:

- Dong Bac Pharmaceutical Plantation, Production and Processing Co., Ltd. is producing a number of products: Five-leaf Ginseng Tea bags, Chamberbitter tea bags, Five-leaf Ginseng Soft Glue and has already provided to the market: Dong Bac liver detox tablets, Dong Bac diabetes tablets, ...

- Dong Trieu Green Medicinal Cooperative: Indian Mulberry Glue, Golden Camellia

83 People's Committee of Quang Ninh province (2013), Project "Quang Ninh Province - One commune One product (OCOP) for the period 2013-2016", Issued together with Decision No. 2870 / QD-UBND dated October 22, 2013 of the People's Committee of Quang Ninh province.

Glue, ...

- Yen Tu Herbal Cooperative: Yen Tu Betel Oil Massage ...

- DTFopro Joint Stock Company: Golden Camellia tea bags, Golden Camellia flower

- Giac Thanh Forest Products Trading Joint Stock Company: Dried Golden Camellia flower, Golden Camellia tea bags.

Till the production of pharmaceutical products participating in the OCOP Program, it has stimulated the producers to form sub-regions of medicinal plant cultivation, production and processing in areas in the province such as Trang Luong village, Dong Trieu town), Thuong Yen Cong, Uong Bi City, Dap Thanh village, Ba Che district ... These areas are considered as nuclei to spread to neighboring farmers to convert ineffective crops to plant medicinal plants in accordance with the natural conditions of the region and the economic conditions of the household.[84]

3.1.3.2. Distribution and marketing of pharmaceutical products

The distribution and marketing of medicinal herbs and medicinal products in localities are limited. Raw materials are mainly sold "in batches" to local collectors (or elsewhere), often at low value. The products from medicinal herbs are mainly sold on the spot (manufacturing facilities), customers come to buy in person or call to order. In the province, there are a number of companies distributing pharmaceuticals and products from medicinal herbs, but most of them import products from other places for distribution and marketing in Quang Ninh.

Many local herbal products have been gradually known by consumers inside and outside the province. The supporting activities of the OCOP program such as technical consultancy, fairs, exhibitions, radio, television, press promotion, connecting partners, ... have had a very good impact on the organizations and individuals who manufacture medicinal herbs and medicinal products. This will improve their distribution and marketing capacity to gradually actively distribute, thereby actively developing growing areas and developing production. From being a pioneer in implementing the program for each commune and ward, up to now, the success of the program has been considered as a pilot model for nationwide replication. Many localities in the country go to Quang Ninh to learn their experiences, which is a good opportunity to promote products to other localities. Many medicinal products are interested by consumers: Liver detoxifier, Five-leaf ginseng tea, Moringa tea, Golden Camellia ....[85]

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84 People's Committee of Quang Ninh province (2013), Project "Quang Ninh Province - One commune One product (OCOP) for the period 2013-2016", Issued together with Decision No. 2870 / QD-UBND dated October 22, 2013 of the People's Committee of Quang Ninh province.

85 Quang Ninh Provincial People's Committee (2015), Product Evaluation and Classification Criteria Set of Quang Ninh Provincial Program One commue One product", Issued together with Decision No. 3479 / QD-UBND dated November 05 2015 of the People's Committee of Quang Ninh province.

3.2. Value chain analysis of medicinal plants in Quang Ninh province

3.2.1. Value chain analysis of medicinal plants in Quang Ninh province

Through the field survey, as well as the analysis of the production of medicinal herbs, the author determined that the production of medicinal herbs in the value chain in Quang Ninh has not yet developed. There are many medicinal species, but in Quang Ninh, two types of medicinal herbs that are of interest to the people as well as businesses and have formed a value chain are Indian Mulberry and Golden Camellia. The author focuses on economic analysis of the value chains of these two medicinal herbs to have a basis for proposing the development of value chains for other medicinal plants.

Value chain map of medicinal plants in Quang Ninh province

On the basis of practical research in Quang Ninh, the author focuses on analyzing the medicinal value chain of Golden Camellia and Indian Mulberry, including: (1) Planting and harvesting activities, (2) Raw material collectors; (3) Processing activities; (4) Product distribution.

There are many types of medicinal herbs in Quang Ninh, but there are two types of medicinal herbs that have formed the chain that is the value chain of Golden Camellia and Indian Mulberry, which are two types of medicinal herbs identified by Quang Ninh as key products in OCOP program. The factors participating in the Golden Camellia and Indian Mulberry product chain include: Producers (growers and collectors from nature); Fresh product collectors, Fresh produce handlers; Consumers of dry products (post processed include wholesalers and retailers).

3.2.2. Analysis of factors affecting the development of the medicinal value chain in Quang Ninh province

3.2.2.1. Macro factors

Policies to support local chain production[86]

- Land policy: The Provincial People's Committee has had a policy to support plantation. Support level does not exceed 6 million VND per hectare. To support land lease for organizations, households and individuals, with an area of 5 hectares or more, shall be supported with land rental costs not exceeding VND 20 million per ha per year for cultivated land. The support period is not more than 03 years. The total support cost for one project per producer is not more than 200 million per year.

- Policy to support infrastructure and equipment: Invest 100% of the cost to construct shared infrastructure items, including: main road; Main shaft power line; Water supply and drainage system; Project-based wastewater and waste treatment system approved by

86 People's Committee of Quang Ninh province (2016), Quang Ninh planning to 2030, vision to 2050 and beyond 2050 and general construction planning for localities in the province", Issued together with Decision No. 1588 / QD-UBND dated July 28, 2014 of the People's Committee of Quang Ninh Province.

competent authorities. The total cost is not more than 15,000 million VND / project. Support 50% of the cost to build preliminary treatment houses, preserve and process agricultural products; warehouse for preserving agricultural products. The level of support must not exceed VND 2,000 million per producer per project. Support 50% of the cost to build a product display fair under the Program, each commune a product, specifically: For district level product introduction fairs, the support must not exceed VND 1,000 million per project; For provincial product introduction fairs, the support must not exceed VND 2,000 million per project. The program supports 50% of the budget to purchase, build and install cold storage systems, agro-forestry and aquatic product processing lines, production lines, net houses, factories, agricultural machines and agro-forestry seed production establishments Seafood. The level of support must not exceed VND 5,000 million per project.

- Policy of support for buying medicinal plant varieties: The maximum support level of one time for communes, villages extremely difficult, border communes, communes with extreme difficulties in coastal areas and islands up to 70 %; 50% of the remaining communes. Maximum support funding per project: For enterprises and cooperatives is 250 million VND per time; Cooperative group, farm 150 million VND / time; Individuals, households 100 million VND per time.

- Policy to support the purchase of agricultural materials for organic production: Producers are supported with 50% of the cost of buying agricultural materials for production projects, including: organic fertilizers, biological products, plant protection drugs of biological origin. The level of support must not exceed VND 50 million per project.

- Loan interest rate support policy: For projects on the list of products with advantages approved by the province (implemented according to the centralized agricultural production plan), producers are eligible for the interest rate support. Interest rate in Resolution No. 232/2015/NQ-HDND dated 12/12/2015 of the Provincial People's Council on the promulgation of policies to support interest rates for investment in development of production and trading of agricultural products in Quang Ninh province in the period of 2016 - 2020.

- Marketing and sales policy: For current pharmaceutical products, in order to enhance market access, the Provincial People's Committee has adopted a policy to support:

+ The level of support must not exceed 10 million VND / producer / participation in fairs and exhibitions held in the province.

+ The level of support must not exceed 20 million VND / producer / participation in fairs and exhibitions held outside the province.

+ The level of support must not exceed 40 million VND / producer / time to participate in fairs and exhibitions held in foreign countries. Producers are only supported up to 01 time per year when attending overseas fairs and exhibitions and when approved by the Chairman of the Provincial People's Committee.

With the very active incentive policy of the People's Committee of Quang Ninh Province to implement the OCOP program, medicinal herbs are one of many products under the program also supported, every year, the Provincial People's Committee allows opening many fairs in order to promote the sale of goods under the provincial OCOP program, the policy has attracted many participants, which is a good opportunity to promote and consume medicinal products.

In addition, the province commits to implement preferential policies for investors in the field of pharmaceutical development in the province such as supporting ground clearance, leveling, and leasing land; Interest rate support; human resources support, branding and technology transfer, technology innovation.

Production capital

Is the value of assets used as a direct means of production and services, including fixed capital and working capital. The concept of capital is derived from the concept of national wealth. In this study, the author wants to refer to productive capital including fixed capital and working capital. (i) Fixed capital includes factories, machinery, equipment and means of transport; infrastructure, office facilities and office equipment; (ii) Working capital includes inventories of all commodities. Capital production is one of the factors that significantly affects the operation and development of the value chain. In Quang Ninh, capital production in the field of pharmaceuticals is fine The Provincial People's Committee is interested in investing: Supporting the construction of infrastructure, equipment and machines for processing establishments, directly supporting farmers growing medicinal herbs in some stages: seeding, soil preparation ...

3.2.2.2. Micro factors

Production organization capacity of actors participating in the value chain of medicinal plants

+ Farmers and cooperatives growing medicinal herbs, can imagine the main barriers: product quality, production scale, production techniques, processing and preserving raw products ... are very important factors to their participation in the medicinal value chain. Lack of techniques for planting, tending and processing, small scale of production, it is very difficult for people to join the supply chain. Besides, the positive factors from farmers are: Industriousness, hard work, suffering, along with natural conditions, favorable climate are essential factors for the development of the chain.

+ Collectors: It is one of the most important links in the chain, to connect raw materials created from farmers to processing facilities, as well as being a affiliate partner between the producers. and the end consumer of the value chain. Thus, collectors play a very important role in helping farmers, especially, farmers in isolated areas to consume medicinal products, and at the same time help businesses stabilize production. Without collectors, it is very difficult for businesses to have enough input materials. Enterprises themselves cannot sign contracts to directly sell products to farmers, farmers just want to sell to collectors and it is easier to buy and sell products with them.

+ Processing facilities: In the value chain of agricultural products in general and the value chain of medicinal herbs in particular, if you want to operate and develop, you cannot underestimate the role of processing establishments. Due to the characteristics of agricultural products as well as medicinal products that are fresh, processing and preservation play a very important role. Harvest medicinal materials must be processed, first of all, the processing of raw materials. From raw materials delivered to the refined processing facilities in the chain or consumed in the market. Therefore, processors are considered to be internal factors that directly affect the operation and development of the medicinal value chain.

Quang Ninh nowadays, because the pharmaceutical processing establishments are small, outdated technology, weak in finance, cannot meet the current pharmaceutical production needs of farmers, specialized production, large-scale are the huge challenge. Limited in capital, unable to compete with large enterprises, in addition, small businesses do not know how to link up to become the competitive large processing establishments in the market. In Quang Ninh, there is a medical equipment and materials company of Quang Ninh province that meets GMP WHO standard, but this company does not use the available pharmaceutical resources in the province but uses raw materials imported from external partners for many different reasons.

+ Consumption factors: Consumption is the last stage in the value chain. Whether or not the chain continues to operate is thanks to the consumer. For fresh medicinal products, consumption takes a very short time to ensure quality, for medicinal materials that are raw materials, as well as refined products from medicinal herbs, have a more flexible time. However, time will affect the medicinal properties in the raw materials. Therefore, consumption is the last but also the first important step. To produce something, we need to find the consumer market for the product. In Quang Ninh, the consumption of medicinal products is also concerned and directed by the Provincial People's Committee, the OCOP program has created favorable conditions for the consumption of products for people, especially agricultural products, that includes medicinal products. In addition, Quang Ninh is a province that has advantages in tourism both marine and spiritual tourism, along with a number of medicinal specialties (Indian Mulberry, Curculigo orchioides, Nervilia fordii Schultze ,Golden Camellia) have been well-known, which is also an advantage for better medicinal consumption.

Supply chain managing capability

In-chain producing is a phenomenon which has appeared recently; as a result, both supply chain management capability and pharmacognosy chain are still limited. Almost all administrations and supply chain managers depend on their own experiences; however, they still lack deep knowledge about chain management: the operation, the production, the brand, the store chain, customer service… Therefore, a good supply chain managing capability would not only help the value chain grow better, but also increase the added value in all sections of the chain.

This notion has newly applied in Vietnam and properly, the chain managers of Vietnam in general and the ones of Quang Ninh in particular have many limitations. According to the surveys and interviews that have been proceeded before, the authority and the management of input material and final product consumption are yet perplexed, especially that making and following the plan to ensure the value chain operated effortlessly.

Processing industry

Pharmaceuticals which are planted and harvested are mostly in-place preprocessed by manual tools and have low added value. Even, the quality standard of the products is vague which might lead to obstacles in consuming. In contrast, few companies which are equipped with machinery in preprocessing and processing have created pharmaceutical products with high added value like Dong Bac Pharmaceutical Plantation, Production and Processing Co Ltd. It has produced some products such as: gynostemma pentaphyllum, jasminum subtriplinerve, Chamberbitter tea… or Golden Camellia products of Dap Thanh Forestry Company: Golden Camellia tea bags, conserved Golden Mamellia… and others: Indian mulberry wine, Indian mulberry glue, moringa tea, Cleistocalyx operculatus tea…

The project “Per local per product” has established and supported many technology -applied commercial organizations create some herbal products and join in the product value chain in every local. Now, in Quang Ninh province, there are 18 pharmaceutical processing corporations, such as: Dong Bac Pharmaceutical Plantation, Production and Processing Co Ltd., Dong Trieu Green Herbal Cooperative, Y Vo Southern Herbal Company, Yen Tu Herbal Cooperative, DTGopro joint stock company, Dap Thanh Forestry joint stock company…

In Quang Ninh, processing technology is quite a big problem (there are few herbal processing companies here) because of the needs of high price technology investment, limited funds of the companies and narrow consumption market. With producers in mass producing areas, if they apply their own new technology and it is successful, they will be funded 100% of expenses of manual documents, sample analysis, technology transfer; 50% of expenses of hiring experts. (The support level will not be surpassed 50% of technology transfer expenses per technic and surpassed 1000 million VND per project.) The organizations which are on the list approved by the Provincial People's Committee are supported completing production process, technical tools, production line of the products which are included in the project “Per local per product” with the support level not surpassing 70% of total expenses per approved project when proceeding in extremely needy communes and villages, border communes, coastal areas and islands according to current regulations, not surpassing 60% of total expenses per approved project with local support level. Concisely, the total support fund is not over 1000 million VND per project.87

Enterprises' facilities

It can be said that to execute the tasks in pharmaceuticals value chain under Quang Ninh province's OCOP program, the enterprises' facilities are somehow restricted.

+ Dong Bac Pharmaceutical Plantation, Production and Processing Ltd. (Cam Pha City) was established in 2010. This is one of the first enterprises to invest in and develop the production of products from medicinal plants in the province. The company invests in a production line of functional food products from medicinal plants. Currently, the company has successfully processed 7 tea bags and 3 herbal capsules with the output of 1.2 million tea bags and 3 million pills per year. The practical survey shows that: Dong Bac Company has made many efforts in production activities, but with the current infrastructure, it does not meet the demand for input materials for farmers. And it limits the operation of the value chain of herbal plants in the province.

+ Yen Tu Herbal Cooperative was established in 2014, with the products under the OCOP program as: betel oil, betel essential oil, reishi mushroom, golden eye-grass wine, and Yen Tu Indian mulberry wine. In 2016, the cooperative provided to the market from 6000 to 7000 bottles of Yen Tu betel oil and 20000 bottles (10ml) of Yen Tu betel essential oil. However, when visiting the cooperative, the infrastructure was nothing but land and plant nursery. Thus, business infrastructure is one of the most important factors of the processing of the herbal plant value chain, to increase the value of products before being released to the market, but this factor is quite insufficient.

+ Dap Thanh Forestry joint stock company is too deep and performs too many functions in the chain (production, collection, processing, and consumption) while the human resource is limited in both quantity and quality. Processing equipment and technology are out-of-date and have not yet produced high-quality products (the shine of camellia, some other products from golden camellia) like Chinese processing technology. Therefore, when upgrading the company, it might be advisable to separate the functions of production and processing as well as consumption to ensure specialization in production and business.

+ Dong Bac Pharmaceutical Plantation, Production and Processing Ltd. has out-of-date processing equipment, has not yet high-quality processed products, difficulty in competing with others in the market (Dong Bac liver detox cannot compete with Tue Linh liver detox ...). Upgrading processing equipment and enhancing marketing and advertising as well as the scientists' influences are essential to maintain and promote processing equipment for the company. At the same time, increasing marketing and advertisements to sell products, enlarging processing scale, and consuming all raw materials for farmers are

87 People's Committee of Quang Ninh province (2013), Project "Quang Ninh Province - One commue One product (OCOP) for the period 2013-2016", Issued together with Decision No. 2870 / QD-UBND dated October 22, 2013 of the People's Committee of Quang Ninh province.

needed.

3.3. A general assessment of herbal plant value chain development in Quang Ninh province

3.3.1. Achievements

According to practical surveys, combined with computational analysis, the author has found that the results obtained from analyzing the status of the herbal plant value chain:

- In Quang Ninh, there are a lot of natural herbs as well as farming-households and businesses herbs, which shows the huge economic benefits pharmaceuticals production brings to the people, especially individuals, organizations which own products participating in the OCOP program. They focus on investing to expand the area of growing medicinal plants more and want to convert low-economic crops to medicinal plants.

- Another result is that it has formed the production chain link for two key medicinal herbs, namely Indian mulberry, and golden camellia. There are 5 main factors: Producers, Collectors, Processors, Wholesalers and Retailers. Producers include farmers, cooperatives and businesses; Collectors include small-scale collectors and large-scale collectors acquired by in-place collectors; Processors are enterprises, cooperatives or small processing establishments; Wholesalers and Retailers sell both processed and raw products.

- Forming 6 different product consumption channels in the typical medicinal plant value chain, the simplest channel is from producer to consumer directly to consumers of raw and fresh products. The most complete consumption channel is the sequential consumption by aspects participating in the value chain.

- The leaders of Quang Ninh province and the Departments and Agencies specially pay attention to the development of herbal plant production to accomplish the advantages in agricultural production of the province, hoping that pharmaceutical products will become a strong asset, beside the province's strengths in the mineral mining industry and tourism. The policies on land, production premises, science and technology, which are particularly interested in by the Provincial Party Committee and Provincial People's Committee, especially for pharmaceutical production and processing enterprises.

- Initially, businesses and local people have used written contracts to create binding relationships between elements; The link is shown horizontally (between households, cooperative groups, processors and consumers), and vertically (producers, collectors, processors, consumers).

- Farmers are very willing to participate in the value chain of herbal plants. They realize that planting herbs brings much higher economic efficiency than other crops; therefore, they are ready to convert paddy fields and some other crops for medicinal crops, when their products are consumed.

3.3.2. Difficulties

- Value chain production linkage is limited: There are many medicinal plants, but currently only two herbs have joined in chain production, but the participating components are not very clear. (Buyer - Processor; Processor - Wholesaler; Wholesaler - Retailer). The linkage between the components in the chain is weak, including that the vertical and horizontal links have not been clearly shown.

- Price and market problems: Despite of the proficiency of herbal production, the price of herbal products is yet expensive, because of the influences from other localities, from importing the products with the same use (for example, to treat diabetes but there are too many products, makes it difficult to compete on price, utility, and quality). The farmers' consuming market for raw materials is limited, making it difficult to expand the acreage to grow some non-specific medicinal herbs: gymnema, solanum procumbens, honeysuckle, lemongrass…

The output market of raw medicinal materials has faced many difficulties: households all sell to local traders; there are certainly few units or organizations who are representatives for farmers buying herbal products. Both are very unstable, are often price-squeezed by traders. Not only pharmaceutical products are difficult to consume, but the market is also small and there is no marketing policy to advertise the products to outside markets (like other provinces and international markets). Therefore, mainly products are sold to China by traders: golden camellia (Ba Che), cinnamon (Quang Lam - Dam Ha); sasanqua camellia (Binh Lieu) ... If the Chinese market is blocked, traders will not buy; thus, growers find it difficult to consume their products, thereby, they will limit the maintenance and expansion of production scale.

- Consumer awareness of medicinal herbs is restricted: On the one hand, consumers, especially province-outsiders, do not literally know the true value of herbs and not ready to buy due to high price (golden camellia), along with the harsh competitiveness and undistinguished replicas that are non-branded. On the other hand, the effects of medicinal products are often slower, compared to modern medicines, which are less interested by consumers, especially those who have low incomes, prefer products with quick effects ...

-Restraints of factors when participating in the value chain of medicinal herbs: The number of households that have signed contracts with processing facilities is quite modest, and the scale is small. Enterprises and people themselves have not truly made compromises to build value chains. The minor collaborations are written contracts, in contrast, they only do verbal contracts. Although some have had contractual agreements, the implementation process is not careful and thorough. The processing business depends on the market, while the farmers depend on the enterprises and the weather, there is a surplus of raw materials during the main season or a shortage of raw materials during the off-season, or lack of raw materials for large-scale processing enterprises.

- Laxity in each cooperation: The forms and measures of economic cooperation between processing enterprises and producing/harvesting farmers are still loose, and there is a lack of effective sanctions to ensure the serious enforcement through the contract. Most of the processing businesses buy through intermediaries (traders, agents), leading to the situation of buying, selling, and price-squeezing on farmers, but not bringing it under control. Also, economic contracts in association relationships are not really guaranteed, and lack of sanctions to strictly enforce the contract. Furthermore, the method of implementing the linkage does not have the equality of interests between the parties. Therefore, the operation of the link model between processing enterprises and pharmaceutical manufacturers is not genuinely stable and effective.

- The role of the four factors in the development of the herbal value chain is misty: Participants in the herbal value chain are not yet clear, especially the roles and the link between boards (including Farmers, Entrepreneur, Scientist and State) are ineffective. They have not determined their role and have not yet promoted their role in the chain yet.

+ The position of pharmaceutical producers is still low in consumption channels and the benefits of the chain mainly belong to the processors and traders. In spite of the effective analyzing, but the ratio of VAT per employee is much lower than that of processors and collectors, since farmers have to spend a lot of efforts to take care of as well as collect medicinal herbs, while agents have to spend a lot of money to invest in input materials (collectors, processors, retailers).

+ Currently, there are several households that have been planting golden camellia and Indian mulberry trees in the locality, due to the effectiveness of the previous planting households. Most of them plant according to the trend, not according to the plans of the locality at the commune or district, lack of basic skills, which most likely will lead to redundancy of raw materials, if there is no link to form a value chain to attach the role of enterprises, especially processing enterprises.

3.3.3. The cause of the limitations

- Producing local medicinal herbs, lacking advertising policy and marketing, searching for big consumption markets (pharmaceutical companies) … The product is mainly raw and difficult to attract high-income and luxury customers. There are no big companies pioneering in cooperating with farmers to purchase raw materials, ensuring that farmers have a stable consumption market, attaching production, process and consumption to value chains.

- The consumption through products of herbal growing households through traders is easy, but is often price-squeezed, the bumper crops “chorus”, devaluation, no buyers, or the status of the product is not harvested but left in the field. In addition, the production process is not consistent, leading to a heterogeneous quality in the source of input, so it is very difficult in the next stage of consumption of enterprises.

- The poor technical and economic infrastructure in production and process has affected the development of pharmaceutical production in the value chain. Since a concentrated and large-scale pharmaceutical production area has not been established yet, it is difficult to attract the attention of large processing enterprises. As the small scale of production, simple processing technology, the product is difficult to compete in the market and it is impossible to consume all the medicinal resources provided by farmers. On the other hand, there is no regulations forcing the Company to purchase raw materials in the province for processing, the Company has a right to import input materials in cheap and sufficient places, without infrequently purchasing and preprocessing before putting it into processing (Quang Ninh Pharmaceutical and Medical Equipment Company). In addition, some small businesses with outdated processing technology and small scale cannot process all raw materials although they have signed contracts with farmers (Dong Bac Pharmaceutical Plantation, Production and Processing Ltd). This is a paradox that should be resolved soon by all levels and branches to support both businesses and farmers.

-Some herbal products have not been well-known for their true use; hence, they are mainly sold to Chinese traders. If traders do not buy, people stop producing (golden camellia) or exploiting (cinnamon, star anise, etc.)

- Production capacity of farm households is still limited, mainly following the crowd, and they do not know market analysis and forecast, but only look at positive signs of the market to produce. Farmers are not sure about the benefits of value chain production and totally do not know how to link together to create strength, as well as to link with processing enterprises is the basis for improving production efficiency, turning the production of medicinal herbs into a huge production industry.

- Regulations, policies, especially policies of encouraging the development of contract production are not synchronous and are insufficient to link the interests of producers of raw medicinal herbs to the processing enterprises. The regulations and legal bases are not strong enough to handle contract breaches, and to respect commitments in economic contracts between processors and raw material producers.

3.3.4. Some problems need to be solved to develop the pharmaceutical value chain in Quang Ninh province:

Price and consumption market problems:

Prices of medicinal products are yet expensive, endured by the competitiveness between other products from other localities, from importing products with the same use (for example, to treat diabetes but there are too many products, makes it difficult to compete on price, utility, and quality). Consumers, especially province-outsiders, do not really know the true value of medicinal products and they are not ready to buy due to the high price, as well as the competitiveness and undistinguished replicas because these products are non-labeled and non-copyrights ... This leads to difficulty of consumption of herbal products, loss of trust and devaluation.

The problem of vertical, horizontal alignment and multi-board alignment in

production

Horizontal alignment is the link between farming households to become cooperative groups or cooperatives that need to be implemented to create the movement of growing medicinal plants specialized in large fields, facilitating technology transfer as well as consumption of traders' products. However, in this connection, if medicinal herbs & other fruit trees (sugar-apple, litchi) are competing for land, it is important to clarify the effectiveness of each crop, it is important for farmers to make decision on planting fruit trees or medicinal plants

Vertical alignment is the link between factors in the value chain. Now, in Quang Ninh, the value chain of golden camellia and Indian mulberry is formed, but the link is quite loose. There is no common voice of people in the chain; the contract for product consumption is not protected by law; there is no sharing of market information, and it has not created trust among factors in the chain. In order to promote vertical alignment for sustainable development, Decision 80/2002 / QD-TTg is an important document, facilitating the development of vertical alignment and emphasizing the important role of product sales contracts.

The problem affects the small export and import market of herbal products from China

The problem of producing - processing - trading of medicinal herbs in Quang Ninh in particular and in Vietnam in general has a great influence from China: The purchase price of medicinal herbs; the low price processing technology is mainly imported from China; the medicinal seed varieties; the extraction and refining of herbal products are also from China. Quang Ninh has a border gate with China; therefore, many kinds of medicinal herbs are bought by Chinese traders, then brought back to the country, extracted the essence and brought to the market for sale in Quang Ninh at very low prices, making medicinal herbs in the province are very difficult to compete. For the pharmaceutical industry, the export and import through official channels are regulated, but traders prefer the unofficial route because it is faster and brings to higher profits.

Problems of responsibility of factors in the value chain of medicinal plants

Chain production of medicinal herbs requires very high responsibility for the participating factors, with strong and continuous interaction. In fact, the development of chain production has many limitations, the factors have not actively linked together to produce in chains, limiting the added value of each product. Once the chain has been formed, each element in the chain has not paid attention to the common goal but still does at their own discretion, due to the lack of binding regulations, as well as the limited capacity to operate the chain.

Based on the results of analyzing the current status of the development of the herbal value chain and on the opinions and goals of pharmaceutical development of leaders at all levels and the views after theoretical research and practical survey on the development of the medicinal value chain in Quang Ninh province, the author proposes solutions on the development of the medicinal plant value chain is based on the principle of ensuring the viewpoints and development goals of the medicinal plant value chain in Quang Ninh province, which are practical, feasible and systematic. In order to effectively implement these solutions, in each solution, the author gives specific activities to organize and to deploy. These solutions are an important basis for state and department management agencies to pay attention to research, direct and apply in practice, so as to build and develop the production of medicinal plants in the value chain in the shortcoming time and to contribute to the successful implementation of the province's socio-economic development goals.

4. Discussion and Conclusion

Quang Ninh has a lot of advantages in natural conditions for producing medicinal herbs. Beside natural, socio-economic conditions, The government of Quang Ninh province has properly paid attention to the process of medicinal herb production, especially the value chain through OCOP program. Over the past years, many medicinal herbs have been invested and produced by people, as well as by businesses: Ming Arelia, Gac, Five-leaf Ginseng, Oriental Motherwort, Star Anise, ... However, the development of chain medicine production is still very limited, mainly producing according to market signals. Local people and businesses do not know how to link production to create a product value chain.

From a comprehensive analysis of the current status of the medicinal plant value chain development in Quang Ninh province, the author conducts a full analysis of factors affecting production development in the value chain, finding that in addition to subjective factors The other important factors are still the factors that inhibit the development of production of medicinal plants in the value chain: The actors participating in the chain are not fully aware of the benefits of linking production. chain, local authorities are also confused in the organization and management of production in the value chain ... Local authorities at all levels are very interested in developing medicinal plants to exploit potential local strengths, but there are no specific solutions and appropriate policies to promote the production of medicinal plants in the value chain. Although there are specific policies: Supporting seeds, capital, infrastructure for businesses, processing equipment ... but that level of support is not strong enough for the agents to be capable of developing production. value chain.

The author proposes some recommendations as follows:

(1) For people directly involved in the production and trading of medicinal herbs

For growers of medicinal herbs: Medicinal herbs are crops with much higher efficiency than rice and some other crops. However, the consumption market is narrower, because medicinal herbs are not essential goods, serving daily consumption like rice and some other fruit trees. The consumption of medicinal herbs in Quang Ninh depends a lot on traders, especially traders from China, for some of the most popular herbs today: Cinnamon, Camellia, Wild Indian Mulberry … so that medicinal plants growers must:

- Absolutely comply with the local production planning, avoid following the movement so as not to fall into the chorus of "good season, falling prices" as in the past time for some agricultural products in the country as well as some pharmaceuticals. whether that happened in Quang Ninh.

- Use medicinal varieties and genetic resources suitable for each soil type under the guidance of scientists or specialized agencies to have the best product quality and increase the value of added value.

- Maintain credibility in the process of buying, selling, transporting goods, interacting with other actors in the chain to reduce costs and increase the value of actors in the medicinal value chain.

- Apply new technologies to production, increase the use of probiotics in pest control, reduce the use of chemical fertilizers and pesticides, ensure the soil, water and health environment for themselves. and community.

For pharmaceutical processors and traders: Medicinal materials are fresh, raw products, the processing and preservation are very important, it is necessary to carefully study the processing technology and look for markets to consume the products. Before signing a product sale contract with the producer, especially the farmer, avoid a case where the contract has been signed, but the processing capacity cannot meet the raw material source of the producer, causing loss of trust, especially the confidence of farmers in businesses, is difficult to regain. Processors need to proactively propose and cooperate with scientists, in order to find suitable processing technologies, to create products of higher quality, and at the same time, analyze usage. This is true of medicinal herbs, thus creating the consumer's interest in medicinal products.

(2) For state management agencies at district and lower levels

It is necessary to clearly analyze the effectiveness of medicinal plants and some other local crops so that the people can see the benefits of developing medicinal plants. At the same time, increase propaganda so that people can see the benefits of linking in production, especially horizontal linkage (farming households together to have appropriate production scale, easier to consume products).

Be more proactive in advising Departments, branches as well as the Provincial People's Committee to have a specific and detailed plan for each type of medicinal herbs with strengths of the locality, creating favorable conditions for production enterprises. and processing medicinal herbs in the area so that they together with medicinal plant growers can perform the role of production and processing, while maintaining the development of the business, contributing to improving income for local people.

(3) For departments, branches of the province

In order for the pharmaceutical industry to develop properly with the current potential and strengths of the province, the role of relevant departments and agencies to advise the Provincial People's Committee is very important, namely:

- The Department of Planning and Investment is in charge of coordinating with the Department of Agriculture and Rural Development, the New Rural Construction Board to advise the Provincial People's Committee: Develop long-term plans and make plans for each specific period to continue to improve. and develop the Ba Gio and Tra Hoa Vang medicinal value chain, form medicinal value chains by region as proposed in the solution, and at the same time build a binding mechanism for actors in the value chain, PPC signed the issuance to attach their legal responsibilities in the value chain operation.

- The Department of Agriculture and Rural Development, the New Rural Construction Board coordinates with the Agricultural Extension Center to organize training, training, and guidance on the production method according to the value chain for each individual medicinal ingredient; Actively build a coordination mechanism between actors participating in the value chain, submit to the Provincial People's Committee for signature and issue as a basis for value development of new medicinal plants.

- The Department of Industry and Trade presides over and coordinates with the Steering Committee of the OCOP program to advertise and market pharmaceutical products widely to the market outside the province, in order to seek output for the product. Without an output market, production cannot be expanded, and the links in the chain cannot function.

(4) For Provincial People's Committee

- It is necessary to have policies to invest and upgrade equipment for a number of pharmaceutical processing establishments to ensure the processing of all raw materials produced by farmers, and to process high quality products. , diversifying products, towards convenient products.

- Continue to research to have strong enough land policy, planning, compensation for site clearance, in order to upgrade the scale of factory construction, waste treatment to the environment for pharmaceutical processing establishments. materials in the early stage of establishment and operation.

- Strengthen advertising and marketing products outside the province and internationally so that consumers know more about medicinal products. At the same time, together with businesses, investors actively seek output markets for both raw materials and products processed from medicinal herbs.

- Issue a coordination mechanism between actors in the chain, in order to attach responsibilities and benefits of actors in the chain. Each actor participating in the chain, when violating the regulations, it is necessary to have an appropriate handling mechanism to maintain the sustainability and cohesion of the actors in the chain.

5. References

1. Steering Committee for One Commune One Product Program of Quang Ninh province (2014), Guidelines for implementing OCOP program, Quang Ninh;
2. Ministry of Health (2009), Guidance on the application of criteria for cultivation and collection practices for medicinal plants as recommended by WHO, Issued together with Circular No. 14 / 2009- BYT-TT dated 03 September 2009 of the Ministry of Health;
3. Ministry of Health (2015), List of 54 medicinal plants prioritized for development, period 2015 - 2020, issued together with Decision 206 / QD-BYT, dated 22-1-2015;
4. The Government of the Socialist Republic of Vietnam (2013), The Socio-Economic Development Plan of Quang Ninh Province to 2020, vision to 2030, Issued with Decision No. 2622 / QD-TTg dated December 31, 2013 of the Prime Minister; Gooch et al (2009), "Marketing and quality control of fresh grapes, fresh and processed apples and many other fruits of Ontario, Canada";
5. People's Committee of Quang Ninh province (2012), Program on building and developing brands for agricultural products of Quang Ninh province to 2015, Issued together with Decision No. 273 / QD-UBND dated 13 / February 2012 by the People's Committee of Quang Ninh province;
6. People's Committee of Quang Ninh province (2014), Policy to encourage the development of concentrated agricultural commodity production in Quang Ninh province, for the period 2014 - 2016, Issued together with Decision No. 2901 / QD - People's Committee dated December 5, 2014 of the People's Committee of Quang Ninh province;
7. People's Committee of Quang Ninh Province (2013), Project "Quang Ninh Province - One product per commune, ward for the period 2013-2016", Issued together with Decision No. 2870 / QD-UBND dated October 22 / 2013 of the People's Committee of Quang Ninh province;
8. Shahidullah A.K.M, Emdad Haque C (2010), Linking Medicinal Plant Production with Livelihood Enhancement in Bangladesh: Implications of a Vertically Integrated Value Chain;
9. Department of Agriculture.Alam, G. and J. Belt (2009), Developing a medicinal plant value chain: Lessons from an initiative to cultivate Kutki (Picrorhiza kurroa) in Northern India, India

THE APPROACH OF ECOLOGICAL-SOCIAL REGION TO ADAPT TO CLIMATE CHANGE

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Abstract

In the face of the threat of the climate change to all of territories, aspects of living and producing. The States have strongly focused on work of adaptation to climate change from recognizing in legal system to practical deployment solutions aiming at steadily minimizing negative influences of climate change to development progress of territory on the basis of different research results. However, achieved results have been restricted, the territories are still struggling against unpredictable happenings of weather and extreme phenomena. Therefore, in order to proactively adapt to climate change is necessary to have effective solutions on the basis of reasonable approaches; in particular, the approach of social-ecological region with core that is to analyze mutual relationship among ecosystems, social system in internal region, inter-region would provide bases to ensure the scientific, objective to propose the most effective adaptation solutions.

Keywords: *climate change, adapting to climate change, approach of ecological-social region*

1. Introduction

The impacts of climate change (CC) are prevalent and deepen the complexity and severity of extreme phenomena through changing the relationship between natural systems and social systems in all development regions and domains. In particular, development activities depending on natural resources are increasingly exposed to risks, facing challenges to maintain and develop.

To gradually overcome the above difficulties, the Party and the State have issued and implemented many adaptation solutions, including structural and non-structural solutions on the basis of different research results. However, the achieved results still exist many limitations and shortcomings, as territories and communities are still facing many difficulties and pressure from unpredictable happenings of weather and natural disasters. Therefore, to proactively adapt to climate change, it is required to have a systematic and synchronized solution based on an integrated territorial approach; in particular, the approach of social - ecological region with core that is to analyze mutual relationship among ecosystems, social system in internal region, inter-region would provide scientific, objective information to propose adaptation solutions with the spirit of "*respect and utilization of nature*".

2. Method

The main methods used in this article are the review of domestic and foreign research documents and the method of statistical and descriptive analysis.

Along with data sources related to climate change manifestations and scenarios; impacts of climate change and natural disaster on socio-economic areas in Vietnam; etc. were collected from the Ministry of Natural Resources and Environment, General Department of Water Resources, General Department of Natural Disaster Prevention and Control, and General Department of Statistics for the period from 2011 to 2020.

3. Results

3.1. Social-ecological regions

The approach of social-ecological region is one of the tools for effective territorial management through the study of the mutual relationship between human and nature, which emphasizes that human is an inseparable part from nature (Berkes & Folke, 1998); social-ecological research results by territory are an integrated scientific basis, thus determining the specificity of ecological funds, spatial resources, and society in regional stratification; objective scientific bases in the active inclusive development and adaptation to climate change for any territories.

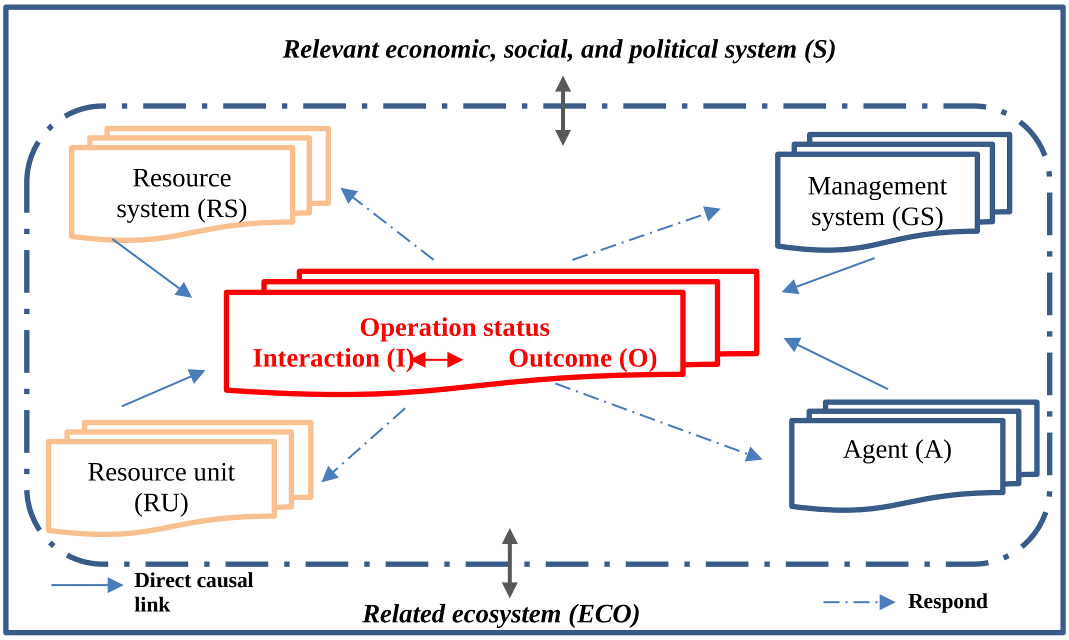
In our country, the concepts of regions and territorial zoning have been used in research works and legal documents with a defined scale depending on different management criteria and objectives. For example, with regard to geoscience, Hoover (1984) and Le Ba Thao (1998) stated that "the region is a territorial part of one or more countries with different geographic features, levels of socio-economic development, structured and operated as a system in mutual relationship among the country and other regions"; According to the Law on Planning 2017, "the region is a part of the country including adjacent municipal provinces and cities directly attached to river basins or bears the similarity in natural, socio-economic, historical, population, infrastructure conditions and interactive relationships which create lasting connections with each other"[88]. The region is a geographical space with the unity of the peer relationship among constituent elements, creating products with specific characteristics regarding nature, economy, society and environmental security (Ngo Doan Vinh, 2003).

The 70-80s of the 20th century witnessed the appearance of the approach of social-ecological region in research. This is the proposed interdisciplinary and multidisciplinary approach to overcome the singularity of the territorial approach, moving towards the integrated approach, the system of constituent factors, including bio-geo-physical units and

[88] Article 3, the Law on Planning was passed by the 14th National Assembly in November 2017 and came into effect on January 1, 2019.

related social organizations of the system (Glaser, Krause, Ratter and Welp, 2008; Elinor Ostrom, 2009); SES findings are more comprehensive, widely applied in resource management, sustainable development of territories in the world with an analytical framework of social ecosystems, including four core components: resource system (RS); resource unit (RU); management system (GS) and agent (A); common components and the interactions among them will appear related sub-attributes. This is a general oriented framework - tangible structure combined with different theories of politics, institutional economics, and anthropology (Ostrom, 2009).

Figure 1. Analytical framework for the sustainability of social-ecological systems



Source: Elinor Ostrom, 2009

The framework of social-ecological analysis has been applied in some research of our country; accordingly, the approach of social-ecological region in the zoning is a variation of the human ecosystem, emphasizing the social element with the connotation of a complex and unified system of both human and nature, which constitutes with a bio-geo-physical unit and associated social and institutional factors (Truong Quang Hoc and Hoang Thi Ngoc Ha, 2016); in terms of sustainable development, the social-ecological region is considered a possible space within the administrative territory of many localities (Mai Trong Nhuan, 2018), this understanding has improved the political will, short-sighted vision during term of office, and local interests of the subjects involved in planning.

From the above concepts, it can be understood that *the socio-ecological region is an area with similar ecological conditions (geography, natural resources, environment), socio-economic and cultural characteristics, along with the institutional system and regional governance. At the same time, there is an interactive and interdependent relationship between the natural system and the socio-economic, human and institutional systems, creating the uniqueness of the territory.*

The connotation of the approach is quite consistent in terms of: i) A functional system, which interacts regularly in a climate-resilient and sustainable manner; ii) A system exists in a defined space and time, whose structure, functions and organizational levels interact with each other; iii) A combination of important resource types (natural, socio-economic and cultural resources) developed and used by a complex of both ecological and social systems; iv) A constantly changing complex system with continuous adaptation (Truong Quang Hoc and Hoang Thi Ngoc Ha, 2019). Each social-ecological region has its own territorial characteristics, which is mainly reflected through the following factors:

Regional-institutional characteristics: Regional characteristics are objective factors defining regional institutions, thus, regional governance regulations are subjective factors. Regional institutions are institutions at the regional level that only exist to serve the governance of that region. For example, the Mekong River Delta has to rely mainly on water resources of the Mekong River; therefore, it requires an institutional connection to effectively manage and share water resources (Bui Quang Tuan, 2018).

Regional-economic characteristics: Each region has different resources for economic development. With a diversified river system and ecosystem, the Mekong River Delta has the potential and advantages for economic development of fisheries, fruit, rice, etc.

Regional – cultural and social characteristics: Culture and society play an important role in creating regional characteristics, which is reflected in the relationship between human and nature through cultural knowledge about dealing with the natural environment. At the same time, the accessibility to social resources such as support networks, cooperation mechanisms, participation in mass organizations, etc. is an opportunity to access scientific and technical resources, finance, information, etc. to adapt to climate change. Agricultural livelihoods associated with rivers are predominant in rural areas in the Mekong River Delta; however, this kind of livelihood is susceptible to natural disasters, drought, saltwater intrusion, riverbank and coastal erosion if there is no appropriate adaptation measure.

Regional – environmental and natural capital characteristics: Ecological region characteristics have direct and indirect impacts on the environment where humans live. The environment in the Mekong River Delta is associated with rivers and water, so residents' life is attached to the sea and alluvial grounds. However, climate change, natural disasters, and extreme weather have changed the living environment, migration and livelihoods of some community groups.

3.2. Approach to social-ecological regions in climate change adaptation: The case in Vietnam

In the process of human evolution and development, there is no natural system without human intervention, and at the same time, no social system lacks natural elements. The result of this interaction is the formation of social-ecological systems with closely related components to evolve together. Therefore, enhancing resilience according to the approach of social-ecological system for each specific locality and region is considered as a strategic solution for sustainable development in the context of climate change. (Truong Quang Hoc, Hoang Thi Ngoc Ha & Nguyen Tien Truong, 2015). This is emphasized by the following characteristics:

i) Clarity due to close, sustainable interactions and resilience of bio-geo-physical and social-economic factors, natural disasters, and climate change.

ii) Is established by defined spatial and temporal scales; structure with specific forms and functions; and hierarchical connectivity with two-way relationships (top-down and bottom-up).

iii) Is constituted by a set of important resources (natural capital, ecosystems, economy, society and culture, infrastructure, science and technology, finance, etc.) with linking flows governed by the integration of social and ecological system factors;

iv) Dynamic complex systems with the capacity to adapt flexibly (based on community and ecosystem). Therefore, this is a suitable territorial unit for implementing planning orientation based on its potential and comparative advantage (Pérez-Soba & Dwyer, 2016).

With these preeminent features, in recent times, the approach of social-ecological region and enhancing resilience has been widely applied in many countries around the world for sustainable development in the context of climate change (Holling & Walker, 2003; Resilience Alliance, 2007; WB, 2010; United Nations University, 2014). In Vietnam, research on resilience and adaptation to climate change based on social-ecological system has been conducted by domestic and foreign researchers with the support of international organizations (Truong Quang Hoc, Vo Thanh Son, 2008; ACCCRN – Vietnam, 2010; Truong Quang Hoc, Hoang Thi Ngoc Ha 2016; Shaw, 2013) with the principle that man is the center of the ecosystem, which means: i) People are the most powerful factor influencing the ecosystem, and ii) Ecosystem conservation activities must ultimately be directed towards and providing human social welfare (Millennium Ecosystem Board, 2005). As for social-ecological systems, the adaptation process is more complicated because of human intervention and human factors; thereby, it is likely to reduce or increase the resilience of the ecosystem as well as of the whole system.

a. Resilience of the social-ecological systems

Resilience: is a term commonly used in many different sciences, expressing the ability to recover or adapt well when faced with challenges in the course of existence and development. (Masten & Coatsworth, 1998; Darity, 2008). For such system defined as a set of elements, its parts interrelate, interact with each other and form a coherent whole; the system's resilience is the ability to self-reset its balance when faced with external impacts, demonstrated in the following states:

(i) Physical resilience

A physical system has a certain degree of resilience depending on the nature and structure of the whole system and each of its components, such as the resilience of a construction work depends on the construction planning and design with the appropriate calculation with the load capacity of the constituent elements (Truong Quang Hoc, Hoang Thi Ngoc Ha, Nguyen Tien Truong, 2015).

(ii) Ecological resilience

Ecological resilience is a term first proposed in 1973, expressing the stability, balance, and capacity of the ecosystem to self-regulate against external influences (Holling C.S. and Walker B. 2003; Lance H. Gunderson, 2000). Ecological resilience is maintained by fundamental structural processes on a number of scales, renewable sources, improvement, and biodiversity functions; is the process of changing metabolism in accordance with the environmental conditions. In fact, maintaining renewable capacity in a dynamic environment provides an ecological buffer that protects the system from natural and human impacts; resilience is not a single process but a response of the entire ecosystem with different levels of spatial and temporal scale; therefore, researching and learning about resilience capacity will be the basis for managers to make appropriate decisions in using and exploiting ecosystem service values towards sustainability and adaptive governance. (Lance H. Gunderson, 2000; Donald AF et al., 2019).

(iii) Resilience – adaptability

Resilience and adaptability are closely related, taking place intertwined within the system, demonstrating the system's sustainability against external factors. In fact, resilience – adaptability are the abilities to effectively maintain integrity, integrity, and reduce vulnerability in response to changing contexts. The above relationship shows that in order to ensure an effective response to external impacts, it is necessary to reinforce the system's resilience and adapt to changing conditions in a way that is in harmony with nature and human (Mark R., 2010).

(iv) Social resilience

Social resilience is the capacity of human and community to cope with and adapt to external impacts through environmental, policy and social changes based on four factors: (i) the components making up the system (individuals, communities); (ii) relationships (interactions between components – social relationships such as family, community, membership of associations or clubs, participation in decision making); (iii) innovation (external solutions and responses: R&D, new technology, knowledge, and skills); (iv) continuity: system characteristics maintained over time (shared traditional values and knowledge) (Adger, 2000; Truong Quang Hoc et al., 2015).

(v) Social-ecological resilience

Social-ecological system is the link between human and nature, in which human is the product of interaction between ecosystem and social system. This interaction is also known for a number of terms, such as human-environmental integration system, socio-ecology, or socio-ecology, which is formed based on factors influencing the system's resilience. For example, many factors such as water cycle, fertilizer, crop and climate diversity, etc. strongly affect the system, leading to different results. Diverse human activities in many different sectors affect and, at the same time, depend on the resilience of terrestrial, aquatic and marine ecosystems. In addition, many human activities, especially in terms of institutions, science and technology, can have a strong impact on increasing/decreasing the resilience of the whole system (Truong Quang Hoc et al., 2015).

b. Assessment of the resilience to the climate of the social-ecological system

There are many different approaches applied to assess the resilience of the social-ecological system to climate impacts. These approaches can be based on an assessment of the capacity of territorial capital to form livelihood modes, such as natural capital, financial capital, physical capital, human capital and social capital; in which, identifying the components of the ability to recover and adapt (hence the intervention points in the resilience management system) is the primary objective of the assessment (Resilience Alliance, 2007). Assessment of the resilience of the social-ecological system requires an interdisciplinary approach with the participation of relevant sectors on the basis of prioritization and the ability to appropriately integrate experiences and knowledge to put forwards solutions ensuring the totality on the basis of key factors in the interactive relationship of the social-ecological system, including: adaptation for change; Diversified development for reorganization and renewal; combination of different types of knowledge to cope; creating opportunities for self-organizing towards social-ecological sustainability (Folke & Berkes, 2003; Truong Quang Hoc et al, 2015). From the above viewpoint, the resilience and adaptation of the social-ecological system to climate change will be based on the following five factors:

(i) Infrastructure and facilities to maintain and develop the essential needs of human and production.

(ii) Society – culture: population, labor, education, health, social capital/social network, community willingness to participate, community knowledge, culture of dealing with nature.

(iii) Economy: income, employment, assets, finance-accumulation, budget subsidy.

(iv) Environment – nature: intensity/frequency of natural disasters, ecosystem/natural capital, land use.

(v) Institutions: risk management, knowledge management, agency coordination, policy integration, environmental policy, risk management (Shaw, 2013).

c. Social-ecological climate change adaptation in Vietnam

With diverse social-geographical features, the impacts of climate change in our country clearly show territorial characteristics. However, the scale and scope of the impacts of climate change are increasing strongly, exceeding the independent coping capacity of each individual locality. Therefore, it is necessary to have the connection and integration among localities and regions in responding to climate change. The National Target Program to Respond to Climate Change emphasizes the notion that "responding to climate change is conducted on the principles of Sustainable Development, ensuring systematic, integrated, inter-regional factors" (Prime Minister, 2008).

Table 1. The severity of climate change and natural disasters to several regions in Vietnam[89]

	Natural disasters	Northwest	Northeast	Red River Delta	North Central	South Central	Central Highlands	South East	Mekong River Delta
1	Storm	4	4	4	4	3	2	1	1
2	Tropical depression	4	4	4	4	4	-	1	1
3	Flood	4	4	4	4	4	4	3	2
4	Flash flood	4	4	-	3	3	3	2	-
5	Tornado, prime	4	4	3	2	2	2	2	1
6	Drought	3	3	3	4	4	4	3	4
7	Salinization	-	-	1	2	3	-	1	4
8	Flooding	-	-	3	3	4	-	2	2
9	Landslide	4	4	2	2	2	2	2	-
10	River and sea landslide	1	1	2	3	2		2	4
11	Sea level rise	-	-	2	2	2	-	1	4
12	Wildfire	4	4	1	4	3	2	2	2

Source: National Target Program on Climate Change, 2008; Institute of Hydrometeorology & Climate Change, United Nations Development Program, 2015; and author group update, 2018.

In principle, each locality/region itself has a certain specificity, a certain environmental load capacity, a certain resilience to climate change, depending on territorial location, capacity and adaptive resources. For example, the coastal area, which is influenced by both the law of the continent and the sea, forms diverse sources of capital for socio-economic development, but is also subject to the under pressure of natural and human laws, such as impacts of climate change leading to degraded coral reefs, with changes in climatic conditions leading to a decline in fisheries resources, thus affecting the productivity and yield of fishing and farming products.

The Mekong River Delta is assessed as one of the regions severely affected by climate change, including an increase in droughts. Drought occurs on a large scale with

[89](4) Very serious, (3) Serious, (2) Moderate; (1) Trivial, (-) Not affected

increasingly serious impacts affecting production, mainly due to the decline of water resources and lack of moisture reserves, This leads to the degradation of capital sources, which are the basis for people's livelihood activities, especially rural residents – those are vulnerable but have difficulty in recovering from a disaster due to limited drought adaptive resources and conditions, making it difficult to change livelihoods; challenges affecting the results of the national target programs, such as sustainable poverty reduction, new rural construction, etc.

Thus, climate change is increasing the complexity and severity of the impacts through changing the relationship between the natural system and the social system; considered as one of the main limiting factors in territorial development. However, responses to climate change, managed by administrative territory, have not taken into account inter-provincial and inter-regional climate change resilience (Nguyen Song Tung et al., 2017). Therefore, climate change adaptation based on social-ecological regions will bring about the following benefits:

- The suitability level of socio-economic conditions and natural resources, ecological environment for each sub-region.

- The ability to develop the sub-region's comparative advantages, potentials, and strengths.

- Promoting the historical values, indigenous knowledge, and cultural values of the community in adapting to natural disasters and climate change.

- Maintaining the sustainability of the natural capital system and flexibly respond to socio-economic risks and climate change.

- Enhancing connectivity among localities and between localities with centers (nuclear – economic drivers) and infrastructure development connecting localities within the region (Institute of Development Strategy, 2018).

- The scale of the sub-region will be consistent with the organization and management capacity of the local government, as well as the regional connection in responding to climate change among localities.

The results of practical research combined with analysis of framework for approaching social-ecological systems shows that the flexible customization of assessment indicators in accordance with specific territorial conditions, the results of implementation satisfying the practical requirements of several subjects, in different impact contexts, it can be used to answer questions related to the rational territorial management of policy makers, especially linkage, mutual relationship among factors through integrated analysis of development resources. This comprehensive and systematic research result will provide the most objective and scientific view of the research object and territory; thus, it is the basis for proposing proactive solutions to effectively adapt to unusual, extreme and unpredictable changes such as climate change. In particular, the application of theoretical analytical frameworks and functional zoning results according to the social-ecological approach is the spatial basis for the application of effective territorial development and management solutions through collective learning the territorial factors according to natural ecosystems and social systems. In other words, it is necessary to apply research results, evaluate ecological potential, spatial potential and social-cultural characteristics of the territory, conduct functional zoning on the principles of contingency, relative homogeneity, regional relationship, ensuring sustainable territorial development to create a scientific basis for the development orientation and spatial planning in accordance with the development priorities of each particular territory on the basis of ensuring the load-bearing capacity of nature. Additionally, the knowledge, cultural identity, and management capacity as well as ensuring feasibility in the implementation process should be taken into account.

4. Discussion and Conclusion

Climate change has seriously affected the coping resources of the territory, especially coastal deltas – which are influenced by both ocean and continental laws. Therefore, to proactively adapt to climate change, it is necessary to have appropriate solutions on the basis of a systematic and integrated territorial approach. In Vietnam, there are many territorial research projects with different approaches. However, with the increasingly complex impacts of unpredictable happenings of weather, it is required that territories must regularly update and apply a variety of appropriate research directions in order to maximize their potential.

The approach of social-ecological region is considered as an effective one with thinking about territorial specificity combined with comparing similarities and differences with other territories. This approach has been applied by many countries in adjusting the harmonious relationship between man and nature in order to seek solutions that both ensure sustainable development and well adapt to the increasingly unusual happenings from inside and outside the territory, including climate change. In fact, it has been shown that adopting a natural-social interdisciplinary approach will contribute to elucidating ecosystem responses, including adaptation to human impacts through livelihoods and socio-economic development. On the contrary, in terms of society-humanism, if the natural-social approach is not used, the exploitation of biodiversity resources will be ineffective and unscientific. That is when we do not comply with the social-ecological resilience threshold while allowing people's livelihood and economic activities to destroy the environment and deplete resources.

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5. References

1. ACCCRN – Việt Nam. 2010. Dự án mạnh lưới các thành phố châu Á có khả năng chống chịu với Biến đổi khí hậu ACCCRN-Việt Nam. Hà Nội

2. Adger, W.N. 2000. *Social and ecological resilience: are they related*? Progress in Human Geography 24(3): 347-364.

3. Berkes, F. and Folke, C. Eds. 1998. *Linking Social and* Ecological *Systems.* Cambridge Univ Press, Cambridge, UK.

4. Bùi Quang Tuấn. 2018. Phác thảo khung lý thuyết phát triển bền vững vùng. *Tạp chí Phát triển bền vững Vùng*, quyển 8, số 3:3-15.

5. Holling C.S.1973. Resilience and Stability of Ecological Systems, Annual Review of Ecology and Systematics, Vol. 4:1-23, Volume publication date November 1973. https://doi.org/10.1146/annurev.es.04.110173.000245

6. Darity, William Jr. 2008. *International Encyclopedia of the Social Sciences*, 2nd Edition, USA: 204-207, ISBN 978-0-02-866117-9; 0-02-866117-6

7. Ostrom, Elinor. 2009. A General Framework for Analyzing Sustainability of Social-Ecological Systems. *Science* 24 Jul 2009: Vol. 325, Issue 5939, pp.419-422 DOI: 10.1126/science.1172133

8. Falk, Donald A., Adam C. Watts, Andrea E. Thode. 2019. Scaling Ecological Resilience, *Front. Ecol. Evol*., 24 July 2019

9. Folke C.. J. and Berkes F. 2003. Synthesis: building resilience and adaptive capacity in social-ecological systems, Pages 352-387 in F. Berkes, J. Colding, and C. Folke, editors. Navigating social- ecological systems: building resilience for complexity and change. Cambridge University Press, Cambridge, UK, 2003.

10. Glaser, M. , Krause, G. , Ratter, B. M. and Welp, M. 2008. Human/Nature Interaction in the Anthropocene: Potential of Social-Ecological Systems Analysis, Gaia-Ecological Perspectives for Science and Society, Vol. 17 (1), pp. 77-80. https://doi.org/10.14512/gaia.17.1.18

11. Gunderson, Lance. 2000. Ecological Resilience – in Theory and Application, *Annual Review of Ecology and Systematics*, Vol. 31:425-439

12. Holling C.S. and Walker B. 2003. *Resilience defined - Entry prepared for the Internet Encyclodepia of Ecological Economics*, August 2003 [online] URL: http://isecoeco.org/pdf/resilience.pdf.

13. Hoover E. M. và Frank Giaratani. 1984. *An Introduction to Regional Economics*, Knopf Publishing House, New York.

14. Lê Bá Thảo. 1998. *Việt Nam: Lãnh thổ và các vùng địa lý*. Nxb Thế giới. Hà Nội.

15. Mai Trọng Nhuận. 2018. Tiêu chí phân vùng theo định hướng quy hoạch KT-XH theo hướng tích hợp giai đoạn 2021-2030. *Kỷ yếu Hội thảo Định hướng quy hoạch PTBV các tiểu vùng Tây Bắc*, do trường Đại học Tài nguyên và Môi trường Hà Nội tổ chức. Thành phố Bắc Cạn.

16. Pérez-Soba, Marta, Janet Dwyer. 2016. The Social-Ecological System Concept. DG AGRI Workshop, 5-6 December 2016.

17. Masten, Ann S., and J. Douglas Coatsworth. 1998. The Development of Competence in Favorable and Unfavorable Environments: Lessons from Research on Successful Children. *American Psychologist* 53 (2): 205–220

18. Millennium Ecosystem Board. 2005. Ecosystems and Human Well-being, MEA,

Malaysia and United States.

19. Nguyễn Ngọc Thanh. 2019. Nghiên cứu cơ sở khoa học và thực tiễn để xây dựng định hướng quy hoạch phát triển bền vững các tiểu vùng Tây Bắc. Đề tài thuộc Chương trình Khoa học và Công nghệ trọng điểm cấp Nhà nước giai đoạn 2013-2018 "Khoa học Công nghệ phục vụ phát triển bền vững vùng Tây Bắc", Mã số KHCN-TB/13-18, do Trường Đại học Tài nguyên và Môi trường Hà Nội chủ trì.

20. Nguyễn Song Tùng, Trương Quang Học, Trần Ngọc Ngoạn, Phạm Thị Trầm, Hà Huy Ngọc, Trần Thị Tuyết, Nguyễn Thị Bích Nguyệt, Lại Văn Mạnh. 2017. *Cơ chế chính sách liên kết vùng trong ứng phó với biến đổi khí hậu ở Việt Nam*. Nxb Chính trị Quốc gia - Sự thật, Hà Nội.

21. Shaw, Rajib. 2013. Climate and disaster resilience index in Asian cities. http://www.iedm.ges.kyoto-u.ac.jp/

22. Resilience Alliance 2007. Assessing resilience in social-ecological systems: A workbook for scientists.

23. Robinson, Mark. 2010. Making Adaptive Resilience Real, UK, ISBN: 978-0-7287-1490-8

24. Trần Thị Tuyết và các cộng sự. 2019. *Tác động của hạn hán đến sinh kế dân cư nông thôn tỉnh Ninh Thuận*. Nxb Khoa học xã hội, Hà Nội.

25. Trương Quang Học và Võ Thanh Sơn. 2008. Tiếp cận hệ sinh thái trong quản ý tài nguyên thiên nhiên. Trong*: Bảo vệ môi trường và phát triển bền vững: Tuyển tập các công trình khoa học và kỷ niệm 20 năm thành lập VACNE 1988-2008*. NXB Khoa học và Kỹ thuật, Hà Nội.

26. Trương Quang Học, Hoàng Thị Ngọc Hà, Nguyễn Tiến Trường. 2015. Đánh giá khả năng chống chịu biến đổi khí hậu của hệ sinh thái xã hội: Lý thuyết và nghiên cứu điểm tại Hải Phòng. Kỷ yếu Hội nghị Khoa học và Công nghệ về Bảo vệ Môi trường - Hội nghị Môi trường quốc gia. Hà Nội, 29/9/2015: 85-99

27. Trương Quang Học, Hoàng Thị Ngọc Hà. 2016. *Cơ sở sinh thái học cho phát triển bền vững và ứng phó với biến đổi khí hậu*. Trung tâm Nghiên cứu Tài nguyên và Môi trường. Hà Nội.

28. Trương Quang Học, Hoàng Thị Ngọc Hà. 2019. Đẩy mạnh đào tạo và nghiên cứu - ứng dụng về hệ sinh thái phục vụ phát triển bền vững đất nước. Báo cáo nghiên cứu của Trung tâm phát triển cộng đồng sinh thái (ECODE). Hà Nội.

29. United Nations University. 2013. *Toolkit for the indicators of resilience in Socio-ecological Production Landscapes and Seascapes,* UNU-IAS Policy Report

30. Viện Chiến lược phát triển. 2018. *Báo cáo nghiên cứu phân vùng phục vụ quy hoạch kinh tế xã hội giai đoạn 2021-2030*, Hà Nội.

31. WB.2010. *Convenient Solution to an Inconvenient Truth: Ecosystem-Based Approaches to Climate Change*. The World Bank.

SUSTAINABLE AQUACULTURE IN NAM DINH PROVINCE: PROBLEMS AND SOLUTIONS

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Abstract

In recent years, aquaculture in Nam Dinh province has been proven as an advantageous field of production with high socio-economic efficiency, contributing to job creation and increasing income for the people. The output of aquaculture increases every year, contributing to the development of the whole province's economy. However, at present, aquaculture in Nam Dinh province is facing a number of challenges and difficulties, such as management and planning of land for agriculture and aquaculture; the insufficient source of aquatic breeds (shrimp breeds) that has not been of quality control, environmental pollution problems in aquaculture and so on. These shortcomings affect productivity, quality, efficiency and the sustainable development of the industry. In the coming time, to have a sustainably developing aquaculture, Nam Dinh province needs radical solutions for the aforementioned problems.

Keywords: *Aquaculture, problems, solutions, Nam Dinh.*

1. Introduction

Aquaculture is a production activity based on the integration of available natural resources (sea surface, river water, ponds, low-lying fields, billabongs, lagoons, climate, etc) with the system of aquatic organisms (mainly fish, shrimp and other aquatic products) with direct human involvement. This activity in Vietnam includes the farming and cultivation of freshwater, brackish and saltwater aquatic products with the main forms namely intensive, semi-intensive, extensive and improved extensive farming; farming in cages on sea, river, lagoon or coastal water surface; mollusc farming; farming in ponds, lakes, lagoons; farming in low-lying fields and rice fields.

Nam Dinh is a coastal plain province in the south of the Red River delta, with three major estuaries: Ba Lat, Ninh Co and Day. Every year, a large amount of alluvium, organic matter and mineral salts come from rivers and deposit in the coastal area. With a coastline of 72km long, over 90,000 ha of fertile alluvial land and over 17,000 ha of land with water surface, Nam Dinh has a huge advantage for the development of exploitation and aquaculture. Over the past years, Nam Dinh has strongly developed aquaculture in both freshwater and brackish areas with a sharp increase in aquaculture production each year, contributing to job creation, income growth, and attraction the investment from many economic sectors in Vietnam and from other contries, contributing to the economic development of the locality. However, at present, aquaculture in Nam Dinh province is facing many challenges, such as: the conversion of the areas with inefficient rice or salt production into aquaculture areas; sources of aquatic breeds, environmental issues in aquaculture, product consumption, especially in the context that the Covid-19 pandemic has a significant impact on productivity, quality and efficiency and the sustainable development of aquaculture. Therefore, the sustainable development of aquaculture requires long-term strategic solutions based on scientific research results with an overview and sustainable approach.

2. Method

2.1. Research data

The paper uses databases from relevant agencies of Nam Dinh province, published plans and reports, and Nam Dinh's statistical documents related to aquaculture.

2.2. Research method

- Methods of collecting, processing and analyzing documents: The data collected from reports related to aquaculture of the Department of Agriculture and Rural Development of Nam Dinh province, main website of Nam Dinh newspaper, Nam Dinh province allow the researcher to have accurate assessment for the current situation in the area of the study.

- In-depth interview method: Subjects of in-depth interview are officers from the Department of Agriculture and Rural Development in Hai Hau district and Nghia Hung district, Nam Dinh province and some aquaculture farmers in Nam Dinh province.

3. Results

3.1. Current status of aquaculture in Nam Dinh province

Total aquaculture production in 2020

According to the report on the results of aquatic production in 2020 and the implementation of production tasks in 2021 of the Department of Agriculture and Rural Development of Nam Dinh province, the total aquaculture production in 2020 of the whole province is estimated at 170,490 tons, equal to 102.4% of the year plan and increasing 6.32% (+10,142 tons) in comparision with the previous year, of which aquaculture output reached 114,182 tons, equal to 102.41% of the year plan and increased 8.14% (+8,594 tons) compared to the previous year; exploitation output reached 56,308 tons, equal to 102.38% of the year plan and increased 2.8% over the previous year. The total production value of aquatic products in 2020 is estimated at 9,900 billion VND (current prices) and 4,900 billion VND (constant prices 2010), in which exploitation reaches 1,626 billion VND, farming reaches 3,274 billion VND. Overally, it accounts for about 33% of the structure of agriculture, forestry and fisheries [1].

Aquaculture area in 2020

* *Freshwater aquaculture:* the farming area is 9,800 ha, no increase compared to 2019; production reached 56,672 tons with an increase of 12.4% compared to 2019. In which:

- *Traditional fish farming (carp, mud carp and grass carp):* The farming area reached 9,400 ha; output is 38,600 tons, increased 11.8% compared to 2019.

- *Red snapper farming:* The farming area is 240 ha; the output reached 1,680 tons with an increase of 11.04% compared to 2019. In some places, the polyculture of red snapper and whiteleg shrimp achieved good results.

- *Giant snakehead farming:* With fast growth rate, stable consumption market, it continues to be chosen by many farmers. The farming area is 60 ha; production reached 1,290 tons with an increase of 9.2% compared to 2019.

Some special aquatic species with high economic value such as shortshell turtle, frog, eel, loach, large edible snail, hybrid catfish, etc which are commonly farmed by local people bring high income for farmers.

* *Brackish and saltwater aquaculture:* The farming area is 6,500 ha, increasing 85 ha compared to 2019. The output reached 57,210 tons with an increase of 4.2% compared to 2019. In which:

- *Brackish water shrimp farming:* The farming area reached 3,400 ha; brackish water shrimp production reached 7,280 tons, increasing 21.5% compared to 2019, reaching 98% of the plan. In which, tiger shrimp farming area is 2,400 ha, tiger shrimp production is 2,450 tons, increasing 3.64% in comparision with 2019. Whiteleg shrimp farming is still invested by localities with increasing level of intensive farming. In 2020, the farming area of whiteleg shrimp was 1000 ha with an increase of 60 ha compared to 2019; production reached 4,200 tons with an increase of 31.1% compared to 2019.

- *Clam farming:* the commercial clam farming areas has expansed stably with the farming area of 2,165 ha, the output of clam reached 39,500 tons with an increase of 4.05% compared to 2019.

- *Sea fish farming:* This is a species with high economic value and is increasingly being focused in brackish areas. In 2020, the area of sea fish farming was 615 ha; the output reached 5,210 tons, equal to 92.5% compared to 2019, due to the low price of fish at the beginning of the year, farmers released later than the previous year.

It can be seen that Nam Dinh's aquaculture has developed dramatically both in freshwater and brackish water farming areas. The cultured species are increasingly diversified, in which shrimp, four-eyed sleeper and bivalve molluscs (clams) are the main species which are focused on promoting development by Nam Dinh aquaculture, aiming to reorientation of restructuring of the aquaculture sector. To be specific, clam is identified as one of the main cultured species under the Provincial Agricultural Sector Restructuring Scheme towards increasing added value and sustainable development. To accomplish that goal, in recent years, the commercial clam farming areas of the province have been strictly controlled to European standards; to satisfy domestic consumption demand and raw materials demand of factories to process and export clam products to the European market. Clam farming, therefore, has created jobs, raised incomes and enriched many coastal households.

Production and supply of aquatic breeds

Nam Dinh province has a wide tidal flat, favorable for clam culture development and hatchery production. The seed supply source for clam farmers in the province mainly comes from natural collection and local production. With good quality and high survival rate, clam breeds produced and collected in the province do not only serve the needs of farmers in the area but also are consumed in provinces and cities namely Thai Binh, Hai Phong, Quang Ninh and so on. Clam farming and breed production has brought high income for many households in the coastal districts. Currently, the province has more than 100 hatcheries (producing saltwater and freshwater breeds). The people have mastered the breed production technology of many cultured species such as mollusks, four-eye sleeper. The quality of breed produced locally is increasingly guaranteed and trusted by the people.

According to a report by the Department of Agriculture and Rural Development of Nam Dinh province, production and nursing establishments in the province have focused on building infrastructure to meet production conditions. Up to now, 49 establishments have been inspected and granted certificates of eligibility for production and nursing (30 establishments will be granted in 2020). Condition maintenance checks have been conducted in accordance with regulations.

As a result, in 2020, the output of aquatic breeds of all types is estimated to reach 13,585 million with an increase of 10.23% compared to 2019. In which, freshwater seed production will reach 970 million, mainly traditional fish. The citizens have Access some cultured species such as eel, loach, Thai frog, large edible snail produced at the Special Aquatic Breeding Center and a number of facilities in Nghia Hung district. The brackish breed production continued to thrive, concentrating in coastal communes of Giao Thuy and Nghia Hung districts with main species namely clam, mussels, tiger shrimp, sea crab, four-eye sleeper etc. Brackish water breed production in 2020 will reach 12,615 million, equaling 111.11% compared to 2019.

3.2. Some current problems raised in aquaculture in Nam Dinh province

3.2.1. The prolem of management and planning of aquaculture area

From 2017 to 2020, Nam Dinh province has converted more than 2,871 ha of paddy land at the foot of low-lying fields or fields contaminated with salt and alum to concentrated aquaculture or switched to rice cultivation combined with aquaculture to have high economy efficiency. Specifically, the area switched to rice cultivation combined with freshwater fish farming is nearly 2,709 ha, of which in 2017, nearly 266 ha were converted; in 2018 nearly 566 ha; in 2019, over 1,095 ha; by 2020 more than 781 ha[90] will be converted..

According to statistics of relevant agency, the whole Nam Dinh province has about 16,150 ha of water surface which has been converted to effective aquaculture. For areas where previously ineffective rice, sedge, and salt production areas, the people who converted to aquaculture received support from the province in building technical infrastructure for production. The whole province has 44 transformed projects, of which 32 projects have achieved economic efficiency many times higher than pre-transformation. The farming method in the project areas has been shifted towards the establishment of intensive and semi-intensive farming areas. However, realizing that the profits gained from whiteleg shrimp farming, many households havespontaneously converted their unplanned areas to culturing whiteleg shrimp. Due to spontaneous and unplanned development, many farms do not meet the conditions of technical infrastructure, such as: storage ponds, settling ponds, water supply and drainage systems and so on. Shrimp ponds are interspersed with salt fields and vegetable fields; therefore, it is difficult to apply technical measures, especially in dealing with problems arising from water quality and disease. On the other hand, the electricity system serving the farming areas is incomplete. Shrimp farming must share the irrigation system with salt and vegetable cultivation, so there is no separate irrigation and drainage system. Many farmers lack knowledge of science, technology and experience, so diseases on white leg shrimp arise complicatedly, causing significant impacts on the economy and the farming environment.

3.2.2. The problem of breed sources and quality of aquatic breeds

For clam breeds production: The current challenge for the local clam breed production is that most of the hatcheries are small and produce by experience, therefore, the output is unstable and the quality is non-uniform. Aquatic breeds production infrastructure is self-invested by households and has not received the proper attention and support from the State, thus, has not yet ensured standardization; is vulnerable to weather and natural disasters related damages.

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[90] http://baonamdinh.com.vn/channel/5085/202010/tich-cuc-chuyen-doi-co-cau-cay-trong-tren-dat-trong-lua-kem-hieu-qua-2540435/

In addition, some aquatic breeds that cannot be domestically produced and have to be imported from China, have been interrupted and cannot be imported over the past time due to the impact of the Covid-19 pandemic, such as: garrupa, sea bass, red snapper... slowing down the farming season; Mollusk breed production in the first few months of the year faced many difficulties in importing and selecting quality original broodstock, leading to unqualified produced breeds.

Forthe main cultured species with high economic value, the second biggest demand is whiteleg shrimp, Nam Dinh province has not actively produced seed on the spot... The current source of shrimp seed is mainly from the Southern provinces, seed quality is hard to control, cost and loss rate during the transportation is high. In order to overcome difficulties and limitations in the aquatic breeds production, the Department of Agriculture and Rural Development of Nam Dinh province and related sectors are proceeding to implement supporting programs for hatcheries to upgrade technical infrastructure, employ new production technologies to meet the demand for farming, especially major breeds farming.

3.2.3. The problem of waste discharge in aquaculture and the risk of environmental pollution

Currently, industrial shrimp farming, intensive and semi-intensive shrimp farming areas in Nam Dinh province are thriving, associated with increased productivity, significant economic value. However, it will always carry potential risks of causing environmental pollution if businesses and farms do not follow the waste management process. Many for-profit shrimp farms in the province tend to make the most of their farming area and do not reserve enough area for settling ponds to treat shrimp farming water before discharging it.

In 2020, the province brackish water shrimp farming area reached 3,400 ha; the production reached 7,280 tons, increasing 21.5% compared to 2019, reaching 98% of the plan. In which, tiger shrimp farming area is 2,400 ha, tiger shrimp production is 2,450 tons, increasing 3.64% in comparison with 2019. Whiteleg shrimp farming is still invested by localities with increasing levels of intensive farming. In 2020, the farming area of whiteleg shrimp was 1000 ha with an increase of 60 ha compared to 2019; production reached 4,200 tons with an increase of 31.1% compared to 2019. [1]..

Reality shows that although industrial shrimp farming is well-developed in Nam Dinh, present concentrated shrimp farming areas have not had a separate water supply and drainage system, this is also one of the factors that put pressure on the environment. According to research by Le Thi Thanh Thuy, Nguyen Hong Son, Do Phuong Chi, Tran Quoc Viet, Bui Thi Lan Huong, Do Thi Thu Ha (2017) *The current status of shrimp farming water quality in coastal areas of Nam Dinh and Quang Ninh*, the current status of shrimp farming water quality in coastal areas of Nam Dinh and Quang Ninh provinces is mainly polluted with organic matter, such as: P, K, DO, NH$, TSS and Coliform. Especially in the post-culture wastewater, the contents of the above indicators are all high. According to research results, most of the shrimp farming areas do not have their own water supply and drainage systems planning, the water supplied to the aquaculture areas is shared with the irrigation system for agricultural production. On the other hand, the wastewater after farming is not treated and discharged into the canal system of the region, polluting the water quality in shrimp farming area, mainly organic pollution. In addition, the link between farming households in the region is not yet close, especially, the sense of responsibility in disease treatment is limited, leading to the spread of disease to the farmed shrimps [2].

Nevertheless, intensive shrimp farming brings profits, contributing to jobs creation in coastal localities. However, in reality, the lack of planning and people who do not comply with the regulations on seasons, farming density, disease prevention, wastewater treatment, or for-profit purposes tend to make the most of the farming area without reserving an area for settling pond to treat wastewater before discharging into the environment, increase the production without caring about waste disposal ... has seriously polluted the aquaculture environment. Chemical abuse for water cleaning purposes and antibiotics abuse to treat shrimp diseases not only have a negative impact on the production environment but also affects the surrounding environment. In addition, the farming households and aquaculture establishments are not aware of improving ponds, wastewater treatment, industrial shrimp sludge. In fact, the sludge in aquaculture (industrial shrimp farming, intensive shrimp farming, industrial pangasius farming...) contains food sources of residual, decomposing rotting, chemicals and antibiotics, minerals such as Diatomite, Dolomite, Sulfur, and toxic substances in alum soils. These substances could not only spread diseases to other households that use the polluted water sources for farming but also cause direct contamination of groundwater, surface water and indirectly affecting the living environment of the surrounding residents.

3.2.4. The problem of aquaculture output

The current reality shows that the logistics and service system of Nam Dinh is still small and have not yet met the purchasing, preserving, and processing demand, thus reducing the value of seafood products; processing and exporting seafood remains limited, mainly for domestic consumption, there has not a product chain with export value.

Due to the impact of the Covid -19 pandemic, the prices of fresh seafood of all kinds in the domestic market plummeted, bringing many hardships upon the people. For seafood export, according to the Department of Agriculture and Rural Development of Nam Dinh province statistics, in 2019, seafood exporting businesses exported through small quotas to China about 3,000 tons of goby, 40 thousand tons of exploited aquatic products, 200 tons of fresh shrimp; about 6,000 tons of clams exported to Europe, Japan, and Korea. However, from the beginning of 2020 up to now, most seafood products of exporting businesses were stored. In the domestic market, social distancing causing many difficulties regarding raw materials to seafood processing businesses, leading to higher production prices and reduced output of goods consumed due to reduced domestic consumption demand. In addition, China's border trade policy of not importing seafood products through unofficial channels, but via official ones, along with EC's issuing of a "yellow card", costing seafood exporters to Europe more money and time due to goods detained for inspection.

3.3. Some policies recommendations to develop aquaculture in Nam Dinh towards sustainability

Based on the results of analysis on the current status of aquaculture in Nam Dinh province, the article proposes a number of recommendations to develop sustainable aquaculture ensuring harmony between socioeconomic and environmental development, including:

Firstly, perfecting the legal policy on state management for aquaculture, step by step bringing aquaculture establishments to comply with the law on production conditions, quality assurance, and food safety and hygiene, in accordance with the standards of the international market. Building and perfecting the quality control system for aquaculture materials (seeds, feed ...); at the same time, speeding up the socialization of quality control and testing materials used in aquaculture.

Secondly, strengthening the State management on environmental protection by authorities at all levels; agencies involved in the enforcement of the Law on Environmental Protection for aquaculture and seafood processing establishments. In particular, improving the appraisal capacity, reports on environmental impact assessment of investment projects, as well as strictly comply with the process of preparing and evaluating environmental impact assessments in accordance with the law. Strengthening the State management of product and goods quality, food safety and hygiene, building and protecting copyrights, and protecting trademarks.

Thirdly, the planning for aquaculture development should be based on ecological zoning, development of technical infrastructure for water supply, drainage, and waste treatment for industrial, and intensive aquaculture... in order to meet the requirements of resources, infrastructure, contributing to environmental sanitation, disease prevention, and specified environmental standards. At the same time, investors in aquaculture farming and processing have to focus on investing and operating centralized collection systems, properly classifying industrial and domestic solid waste; managing, storing and transferring hazardous solid waste in accordance with regulations, as well as developing a centralized wastewater treatment system, waste gas treatment system ensuring environmental standards.

Fourthly, investing in infrastructure, scientific and technical innovation for aquaculture. Increasing investment in science and technology, research and development and production of quality mollusks, step by step proactively meeting local demand for breeds, creating an active position in production.

Fifthly, fostering trade promotion for local seafood products to reach major markets. Supporting and connecting associations and businesses to be the direct subjects carrying out joint activities on trade promotion, developing seafood consumption markets for major seafood products. Building distribution networks, directly sign contracts with food supply organizations, distribution centers, supermarkets of large markets. Promoting the formation of distribution channels for domestic aquatic products from producers and firms to markets and supermarkets through a system of wholesale markets and large fishing centers.

4. Discussion and Conclusion

Over the past years, aquaculture in Nam Dinh province has gained several achievements and certain development in many fields. The district's aquaculture has achieved many good results with a sharp increase in aquaculture production compared to 2019.

The current situation of aquaculture in Nam Dinh province remains spontaneous and unsustainable with rapid increase in the value of aquaculture production, yet ineffective area planning, aquaculture seed production has not kept up with the development requirements, the waste discharge in aquaculture is likely to cause environmental pollution, and the problem of product consumption is also facing difficulties in the context of the Covid-19 pandemic.

In the coming time, in order to develop aquaculture in Nam Dinh province toward sustainability, it is necessary to synchronously implement solutions to facilitate the district's aquaculture to become a strong economic sector of the province, contributing to improve income, protect workers' health in aquaculture and processing businesses and protect people's health.

Notes: The article is part of the research results of a ministry-level topic: *The attitude of Northern coastal area residents towards the current exploitation of coastal natural resources;* Office of Vietnam Academy of Social Sciences presides over and PhD. Bui Thi Van Anh is in charge.

5. Reference

1. Báo cáo kết quả thực hiện nhiệm vụ sản xuất thủy sản năm 2020; triển khai nhiệm vụ sản xuất năm 2021 của Sở Nông nghiệp và Phát triển nông thôn tỉnh Nam Định.

2. Lê Thị Thanh Thủy, Nguyễn Hồng Sơn, Đỗ Phương Chi, Trần Quốc Việt, Bùi Thị Lan Hương, Đỗ Thị Thu Hà (2017) *Hiện trạng chất lượng môi trường nước nuôi tôm vùng ven biển Nam Định và Quảng Ninh.* Tạp chí Khoa học Công nghệ Nông nghiệp Việt

Nam, số 2(75) 2017.

3. Bùi Đắc Thuyết, Trần Văn Dũng (2013), *Hiện trạng nghề nuôi ngao ở một số tỉnh ven biển miền Bắc và Bắc Trung Bộ, Việt Nam.* Tạp chí khoa học và phát triển, tập 11 số 7 năm 2013.

4. https://nongnghiep.vn/thuy-san-nam-dinh-phat-huy-loi-the-d273086.html

5. http://baonamdinh.com.vn/channel/5085/202010/tich-cuc-chuyen-doi-co-cau-cay-trong-tren-dat-trong-lua-kem-hieu-qua-2540435

6. http://hoinongdan.org.vn/sitepages/news/37/84951/nam-dinh-hieu-qua-nho-chuyen-doi-dien-tich-sang-nuoi-thuy-san

7. http://baonamdinh.vn/channel/5085/202005/ho-tro-doanh-nghiep-thuy-san-vuot-kho-2537477/

GREEN ECONOMIC DEVELOPMENT - CHALLENGES FOR VIETNAM

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Abtract:

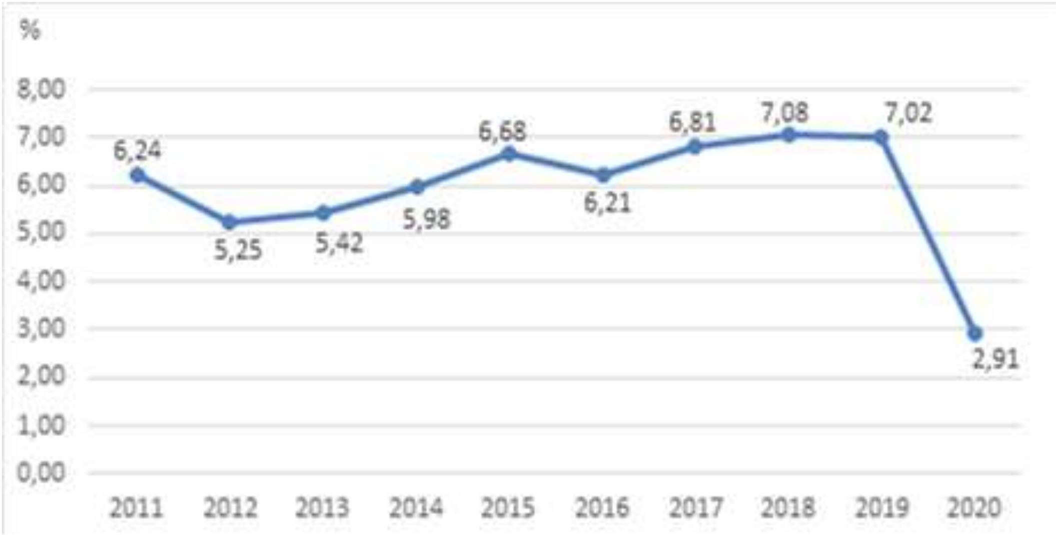
Green economic development is an indispensable trend that is being concerned by countries around the world, aiming to protect a clean and sustainable living environment. In Vietnam, the concept of a green economy has been mentioned in recent years and there are many policies to develop a green and sustainable economy. Green economy is a combination of 3 factors: economy - society - environment. Sustainable green economy is the activities that generate profits or have benefit values, aiming to develop the life of human social community. At the same time, these activities are Eco-friendly, if these three factors reach equilibrium, sustainability will be satisfied. With the advantage of being located in the tropical and monsoon region of Southeast Asia, with the abundance of solar and wind energy, and with the rapid growth of organisms, this is an opportunity for Vietnam to participate in millennium target programs towards "Green Economy".

Besides such favorable opportunities for green economic development in Vietnam as the consensus of the world, the support and assistance of countries and international organizations in the world, these are all in joint efforts to mitigate and adapt to climate change on the basis of "Green Economy". It is necessary to recognize the challenges to guide development.

Key words: *Green economy, sustainable development, environment, challenges*

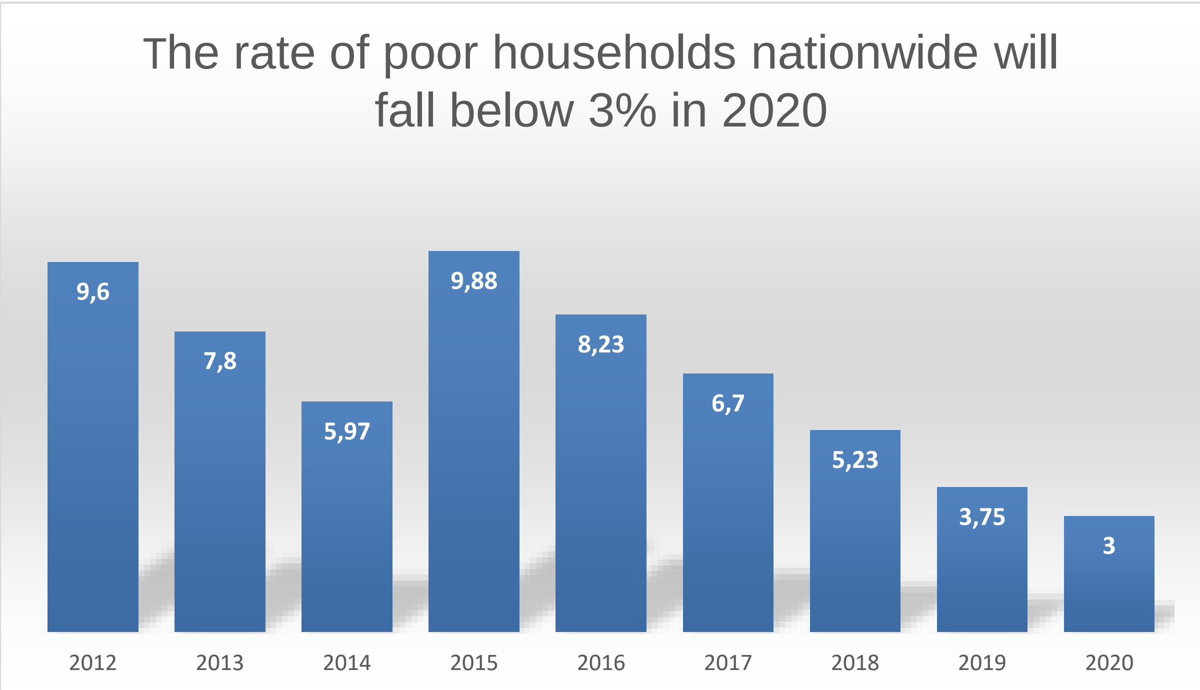
1. Introduction

Vietnam’s economic growth has witnessed positive aspects for being continuous, stable and inclusive in which beneficial to the whole society. The average growth rate of gross domestic product (GDP) in 2017 reached 6.81%/year, in 2018 reached 6.7%/year, in 2019 reached 7.02% and in 2020 reached 2.91%.



GDP growth rate in the period 2011 – 2020

In addition, before the negative impacts of the Covid-19 pandemic, although GDP growth in 2020 reached the lowest rate during the 2011-2020 period, it was a success for our country to be listed in the group of countries with the highest the growth rate in the world. Vietnam reduced the poverty rate from nearly 60% in the 1990s to less than 3% by 2020. This is the great success and pride of Vietnam.



Estimated percentage of the poverty rate from 2012 to 2020

Vietnam has a strong aspiration that by 2035 the country will become a modern industrial country towards prosperity, creation, equity and democracy (according to the World Bank Governance Indicator, Vietnam Estimated figures for Voice and Accountability is quite low – around -1.38 in 2019). Experiences from many countries show that green economic development is an indispensable trend. In order to implement a green economy, one of the motivating tools is to protect the environment, develop clean production technologies and clean energy, which are aimed at rapidly achieving sustainable economic growth.

2. Methods

This paper uses the methodology of dialectical and historical materialism; Using the main research methods in economics including methods of statistics, analysis, synthesis, expert, data analysis and processing...

The paper also collects data related to it from secondary documents such as textbooks, books, reports on socio-economic development, green economic development in general, and Vietnam in particular, etc.

The research uses the method of synthesizing and analyzing information, documents, reports of competent agencies, Ministries and branches on issues related to the research field.

3. Results

3.1. Green economy and green economic development trend in Vietnam

There are many different definitions of green economy, in which the definition of the United Nations Environment Program (UNEP, 2011) in the book "Towards a green economy - Road map for sustainable development and poverty reduction" is most cited by scholars in Vietnam: "A green economy is one that enhances people's well-being and improves social justice, at the same time, significantly reduces environmental risks and ecological deficiencies. To put it simply, a green economy has a low emission level, efficient use of resources and it moves towards social justice". Up to now, the concept and perceptions about green economy are vague as there are many different interpretations. Western countries define the green economic model; developing countries move towards green growth strategy. Regardless of the approach, concepts are consistent that a green economy consists of three pillars: economic development (economic growth, employment); environmental sustainability (carbon energy reduction and natural resource depletion...); social cohesion (ensuring the goal of poverty reduction, equality before the opportunities created by the green economy, providing a healthy living environment). Thus, there is a close relationship between green economy and sustainable development, in which the concept of a green economy comes after, associated with climate change. Green economy not only includes economic goals, but also more importantly, extends social and ecological goals. In fact, a green economy is also sustainable development, more specifically, it is a way of expressing sustainable development in the context of climate change, with a lot of emphasis on environmental resources. In the green economy, environmental resources are considered as the decisive factor in economic growth, improving the value chain, bringing stability and long-term prosperity. Sustainability in environmental resources, response to climate change is considered as the focus of the green economy. The concept of "green economy" does not replace the concept of "sustainable development", but it is increasingly being recognized as a suitable model as the foundation for sustainable development. In other words, a green economy is an economic strategy to achieve sustainable development goals.

In terms of awareness, understanding what is a "green economy" today in Vietnam is still very new, requiring research and widespread dissemination of knowledge among leadership circle, policymakers, businesses and people. Without adequate awareness, social consensus will not be achieved, so it will be difficult to implement. A green economy associates with the use of renewable energy, low carbon, green growth, investment in restoring ecosystems, solving livelihoods in association with environmental restoration. In fact, production technology in Vietnam today compared to the world is mostly obsoleted technology, it consumes a lot of energy. Therefore, changing new technology to suit the green economy will be a big challenge if there is no help from high-tech countries around the world. In many rural and mountainous areas, people's livelihoods still face many difficulties.

Regarding the mobilization of capital for the implementation of the goal of "Building a green economy", although Vietnam has escaped the threshold of a poor country, the national accumulation compared to developed countries is still too low. This has a significant impact on the implementation process towards "Green Economy".

Moreover, the current policy mechanism towards the implementation of the "Green Economy" in Vietnam is quite ambiguous, while in the world, new approach has just been proposed. The review, amendment and supplementation of relevant policy mechanisms to suit the new development model in the direction of restructuring the economic sector and moving towards the "green economy" is a great challenge.

Although Vietnam has a policy towards a green industry that consumes less energy and limits polluting production, the implementation is still sporadic and asynchronous due to the lack of a clear development strategy and planning towards green in this area. This is also the general situation for other areas of the economy.

The existence and development of more than two centuries of traditional economics shows that this theory has put too much pressure on the natural world and its resources. Current economic growth is reaching a level of more devastation than the creation of real wealth, leading the world to a great economic recession, severe ecological crisis and climate change. What the world has been going through forces us to rethink about economic development goal. The current economic development poses a great challenge for nations towards improving the quality of life, meeting social needs and ensuring a sustainable environment.

A green economy with low-smog and green industrial areas, using new eco-friendly energy sources, green belts, and large-scale eco-tourism areas to re-establish a balanced ecosystem, is a common development trend of all countries in the world.

In Vietnam, the trend of green economic development is only at the starting point. With the advantages of latecomer, we can completely develop a comprehensive green economy, towards sustainable development, achieving the harmonious goal among economic enhancement, social security, and environmental protection.

3.2. The situation of green economic development in Vietnam

- ***Negative impacts from climate change on the economy***

Vietnam is one of the few countries severely affected by climate change (CC), also suffered many negative impacts from natural disasters and epidemics. According to calculations, in the 2002-2010 period, the lowest nationwide damage caused by natural disasters was 0.14% of GDP (in 2004) and the highest was 2% of GDP (in 2006).

On average, in the past 15 years, natural disasters have caused a loss of about 1.5% of GDP annually. According to the climate change scenarios of the Ministry of Natural Resources and Environment (2012), by the end of the twenty-first century, if the sea level rises 1 meter, it may directly affect the life and livelihood of about 20% of the population and losses can be increased up to 10% of GDP per year.

The Climate Change Vulnerability Research Report (2012) of DARA International Organization also showed that climate change could cost Vietnam about $15 billion per year, equivalent to about 5% of GDP. If Vietnam does not have a timely response, climate change damage will be estimated to reach 11% of GDP by 2030.

Vietnam's economic development will inevitably generate a large number of emissions in the near future. Harmonization of domestic priorities with international efforts to reduce greenhouse gas emissions is essential and beneficial to the country's green growth direction.

- ***Green economic development policy***

Recognizing the impacts of climate change on people's lives over the past years, Vietnam has had many green economic development policies. The XII Congress of the Party reaffirmed the policy of "rapid and sustainable development" and green economic development: “Ensuring rapid and sustainable development on the basis of macroeconomic stability and continuously improving productivity, quality, efficiency and competitiveness. Harmonious developing between breadth and depth, focusing on deep development; developing knowledge economy, green economy. Economic development must be closely linked with social and cultural development, environmental protection, and proactive response to climate change. Ensuring national defense and security, maintaining peace and stability in order to build the country".

In 2004, the Prime Minister issued Decision No. 153/2004/QD-TTg on the strategic direction of sustainable development in Vietnam (Vietnam Agenda 21). The strategic direction for sustainable development in Vietnam clearly stated that the priority activities in the economic field are the implementation of "clean industrialization" and the building of a "green industry".

In 2012, the Prime Minister issued Decision No. 432/QD-TTg approving the Vietnam Strategy for Sustainable Development for the period 2011-2020, which clearly stated: "Sustainable development is a cross-cutting requirement in the national development process; combining closely, reasonably and harmoniously economic development with social development, protecting natural resources and the environment, ensuring national defense, security, social order and safety"; and "Science and technology are the foundation and driving force for the country's sustainable development ...

In the Vietnam Sustainable Development Strategy for the period 2011-2020, it also clearly stated the tasks for this period, including the "Development and implementation of a green growth strategy, ensuring economic development towards low carbon; Using energy economically and effectively; Developing clean energy, renewable energy to ensure national energy security ...

In order to implement the policy of sustainable development and green economic development, the Prime Minister issued Decision No. 1393/QD-TTg dated September 25, 2012 approving the "National Green Growth Strategy. period 2011-2020 and vision to 2050". This is the first and comprehensive strategy on the field of green economic development in Vietnam, in line with domestic conditions and catching up with the general trend in the world.

On August 26, 2016, the Government issued Resolution No.73/NQ-CP approving the investment policy of 21 Target Programs for the 2016-2020 period, including the Target Program to respond to climate change and green growth. The goal of the Program was to simultaneously implement solutions to adapt to the impacts of climate change and mitigate greenhouse gas emissions, ensuring the safety of human lives and property; Strengthening the capacity of human and natural systems to adapt to climate change; Green growth and enrichment of natural capital become the main trend in sustainable economic development; Restructuring and perfecting economic institutions towards greening existing industries and encouraging the development of economic sectors using energy and natural resources efficiently with high added value.

The program also set a specific goal to strive until 2020, which was to plant and restore 10,000 hectares of coastal mangroves, watershed protection forests to adapt to climate change, absorb 2 million tons of CO_2 per year and create stable livelihoods for the people. By 2020, reducing the intensity of greenhouse gas emissions by 8% -10% compared to 2010 level; reducing energy consumption as a percentage of GDP from 1% to 1.5% per year; building a Center for research, application training and green building technology transfer in Vietnam with an area of 50 hectares. Developing action plans on green growth at the sector, regional and local levels ...

It can be affirmed that Vietnam clearly sees the role of sustainable and green development and has made great efforts to devise many programs and plans for implementation. Currently, production technology in Vietnam compared to the world is mostly old and outdated technology that consumes great energy, therefore, changing new technology to suit the green economy is a big challenge without the help of high-tech countries around the world. Besides, in many rural and mountainous areas, people's livelihoods still face many difficulties.

Although Vietnam has escaped the threshold of a poor country, the national accumulation compared to developed countries is still too low, which significantly affects the implementation of a green economy. Moreover, the current policy mechanism to implement a green economy in Vietnam is almost unclear, while the world has just proposed an approach. Reviewing relevant mechanisms and policies, amending and supplementing them to suit the new development model in the direction of restructuring the economic sector and towards a green economy is a great challenge for Vietnam.

3.3. The challenge of green economic development for Vietnam

Since 2000, Vietnam has become acquainted with the trend of green economic development in the world, a small number of green energy projects have been implemented in experimental form. After a period of finding out and learning from other countries' experiences on green economic development, Vietnam researched and implemented the 3R project (Reduce, Reuse, Recycle), foreign experts considered the research process and result to be theoretically good Following the development of green energy of countries around the world, at present, Vietnam has started implementing bio-energy projects ...

With the advantage of being in the tropical monsoon area, with abundant solar and wind energy, and with fast growing organisms, these are an available advantage for Vietnam to participate in millennium target programs towards building a "green economy" of sustainable development. Along with the advantages in developing a green economy in Vietnam are difficulties and challenges.

Reality shows that environmental pressure has threatened Vietnam's long-term sustainable growth. Over the past years, the achievement of growth has been partly based on large trade-offs for environmental issues the rapid depletion of resources is a problem of great concern. Environmental pollution from industrial and urban wastewater leads to serious health risks, especially for children in areas around Hanoi and Ho Chi Minh City. In the future, Vietnam is one of the most vulnerable countries to climate change, in which the population and economic activities concentrated in the Mekong River Delta region bear the highest risk. Risks also rise due to increased energy consumption and heavy reliance on coal-fired power. In recent years, the increase in greenhouse gas emissions of Vietnam has been high in the world.

Environmental problems pose as much a threat to long-term growth as productivity challenges. If Vietnam continues to pursue the current growth model, by 2035 these problems will be more serious, in which the process of industrialization and urbanization will further deplete land, water and energy resources. One lesson learned is that the quality of air and water environment is not only important for ecological issues and life quality in general, but also for increasing income. Vietnam is facing the following challenges:

First, Depletion of natural resources: Vietnam depends more on natural resources than most other countries in the region. This is most evident in the labor structure. About 50% of the workforce depends on agriculture or land in various forms. Poor agricultural development policies exacerbate soil erosion, destruction of primary forests and biodiversity, such as in the Northwest and Central regions. Erosion contributes to increase the frequency and severity of floods for agricultural land and downstream populations.

Much of the mangrove protection forest has been destroyed, according to World Bank estimates, with annual losses of 34 million USD. Overexploitation has depleted coastal fisheries, threatening the livelihoods of hundreds of thousands of people. Agricultural output has risen sharply but overuse of land, fertilizers and pesticides. Without regulations and strict controls, in the next 20 years there will be fierce competition for arable land, more and more forest lands will be converted to agricultural purposes and so those precious resources will be increasingly depleted.

Secondly, the deterioration of environmental quality: The quality of soil, water and air has worsened significantly. Water pollution has become more serious, especially in areas near Hanoi and Ho Chi Minh City. Air quality has also decreased due to increased use of fossil fuels for electricity generation, industrial use and transportation. Low air quality causes high rates of respiratory diseases among children under 5 years old. Due to low air quality, an estimated 4,000 premature deaths per year are related to coal-fired power. In urban areas, environmental pollution caused by domestic and industrial wastewater has poisoned water sources, adversely affecting economic activities, although not fully evaluated, the impact on human health is very serious.

Thirdly, risks due to climate change: Climate change aggravates the consequences of unsustainable natural resource use and environmental degradation. Vietnam is one of the countries most heavily affected by climate change due to its geographic location, a dense population of lowland areas, and the economy is heavily dependent on vulnerable industries because of climate change. For example, the recent typhoon No.10 has caused heavy damage to some Central provinces, the total damage is estimated at 11,283 billion VND, killing and injuring hundreds of people.

Projections of precipitation, temperature and sea level indicate that areas with high density and economic importance face great risks. The threats from climate change indicate the need for an informed approach to demographic, socio-economic, political and natural ecological factors in resource allocation decisions, coordination in planning and using land and other resources. To mitigate the risks posed by climate change, climate-resilient development is needed.

Fourthly, Energy consumption is increasing: Energy use in Vietnam is growing faster than in any other country in the region, mainly due to increased electricity consumption. According to current trends and policies, the density of coal used for electricity generation will increase from 32% in 2014 to 54% in 2030, while about 60% of coal used for electricity production will have to be imported. Vietnam's energy consumption intensity is also among the highest in the world, one of the main reasons is inefficient energy use.

Fifthly, our economy lacks supporting industries and high-tech industries that use energy and resources efficiently, and environmental economics such as: Environmental industry, environmental services, waste reusing and recycling industry, waste energy production, renewable energy, production of goods, products meeting environmental standards, organic agricultural products...

Although we have had mechanisms and policies to encourage and promote the development of eco-friendly economic sectors, the implementation process faces many difficulties in terms of capital, technology, and unstable output, competitive advantages, and low profits, therefore, we have yet to form economic sectors strong enough to effectively solve the current environmental problems.

4. Conclusion

Economic development poses a great challenge for countries towards improving the quality of life, meeting social needs and ensuring a sustainable environment. A green economy with low-smog, green industrial zones using new energy sources that are eco-friendly, green belts, and large-scale eco-tourism areas to re-establish a balanced ecosystem is a common development trend of all countries in the world. In Vietnam, the trend of green economic development is only at the starting point. With the advantages of a latecomer country, Vietnam can completely develop a comprehensive green economy, towards sustainable development, achieving the harmonious goal of economic growth, ensuring social security, protecting environment.

5. References

1. Prime Minister (2004), Decision No. 153/2004/QD-TTg, Government of the Socialist Republic of Vietnam;

2. Prime Minister (2012), Decision No. 432/QD, Government of the Socialist Republic of Vietnam;

3. The Government of the Socialist Republic of Vietnam (2016), Resolution No. 73/NQ-CP, Government of the Socialist Republic of Vietnam;

4. DARA International (2012), Research report on Vulnerability to Climate Change.

5. National Strategy and Policy on Natural Resources and Environment (2011), Synthesis Report for Policy Makers, Towards a Green Economy, Road map for Sustainable Development and Poverty Alleviation, Agricultural Publisher;

6. Nguyen The Chinh (2011), Transforming the mode of economic development towards a green economy in Vietnam, Institute of Strategy and Policy for Natural Resources and Environment;

7. Nguyen Hoang Oanh, Truong Thi Nam Thang (2009), Policy Research Report of the Ministry of Foreign Affairs of Vietnam, “Trends in green economic development during and after the global financial-economic crisis and policy recommendations for Vietnam”;

8. Tran Thanh Lam (2013), Green economy towards sustainable development and poverty alleviation, Financial Magazine;

9. Department of Water Resources Management (2012), Decision No. 1216 / QD-TTg of the Prime Minister approving the National Strategy for Environmental Protection to 2020, vision to 2030, Ministry of Natural Resources and Environment;

10. World Bank (2019). Worldwide Governance Indicators (WGI) Project. The World Bank, Washington DC, USA.

BENEFITS OF CIRCULAR ECONOMY: FROM THEORY TO IMPLEMENTATION IN THE WORLD AND THE PROBLEMS TO VIETNAM

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Abstract

Various studies have shown the theoretical benefits of circular economy. The circular economic development has shown that such benefits have been realized in many different countries. Vietnam advocates a circular economic development in order to gain many benefits from different aspects of socio-economic life and to have certain advantages and disadvantages. The article studies how different circular economy models in the world and in Vietnam have been implemented and what benefits have been obtained.

Key words: *Circular economy, the benefits of circular economy, linear economy*

1. Introduction

Since the 1990s, the concept of circular economy in the context of modern societies, enhanced standards create many factors that have a negative impact on the health and ecosystems as well as pose many dangers. harmful to the environment and development. Until now, there are many different expressions of menstrual cough.

The World Economic Forum (EEA, 2017) said that: The weekly economy is purely an industrial system that is restored or recreated according to ideas and designs. It replaces the final concept with recovery, conversion to use. quantitative regeneration, eliminating the use of toxic chemicals, loss of usability and return to organisms, and cross-target design waste removal of material, products, systems and business models.

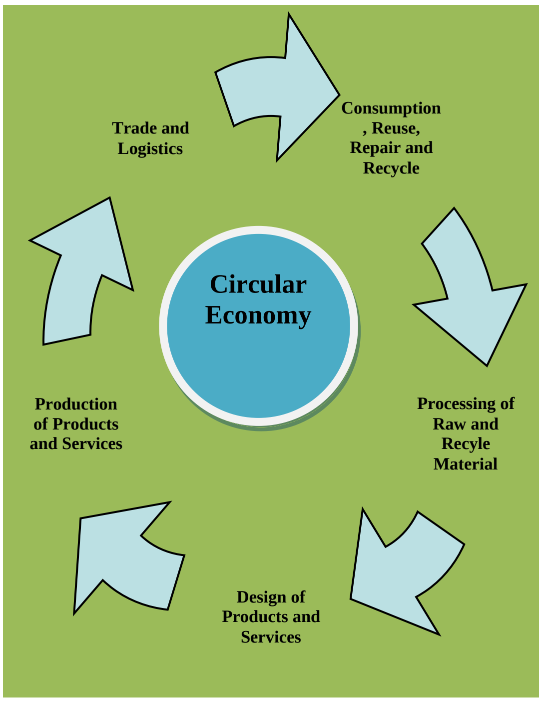
Ellen McArthur's hand defines a circular economy (Ellen MacArthur Foundation, 2013): "Looking beyond the current model of artisanal mining, a circular economy fulfills the goal of redefining growth, focusing on activities that bring about It extends the economic activity of gradually leaving the work of enjoying resources and designing waste out of the system. , Model week to complete construction of economic, automatic and social capital. ”.

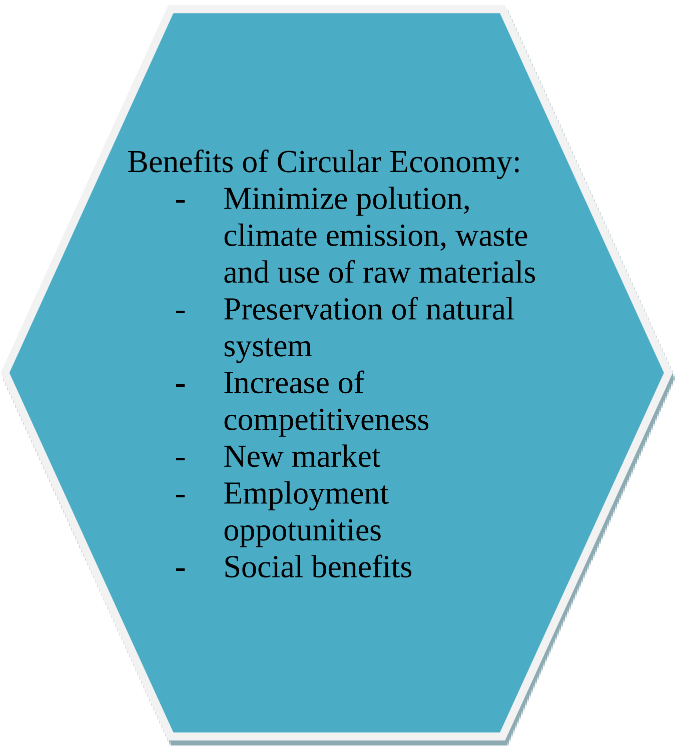
Thus, circular economy (CE) is the design, production and service activity that sets the goal of prolonging the life of matter and eliminating negative impacts on the environment, thereby minimizing the harming the quality of life through recycling solutions, using recycled input materials to save on natural resources. It is also about managing and rationally using renewable resources, managing waste by recycling to optimize value on the principle that the longer materials and resources are used, the more value we can get from us.

In comparision with circular economy, a linear economy that computes as a flow, transforms natural resources into basic materials and products and then sells information through a series of value-added steps, tends to sell as much as possible, leading to a waste of using the resources of other sources of finance even on three sources.

In linear economy, goods are produced from natural resources, sold to the market, consumed and then on-site eliminated. A linear economic model that leverages resource exhaustion and produces a relentless page quality. The economic model completely replaces the online economy with the aim of minimizing waste and protecting the environment. In the completed economic model, the enterprise applies a closed and production cycle, the alternative contaminants because they are discarded, wasted and polluted the environment, will become raw materials for new products to emerge.

Report of finish Environment Institute (Annukka Berg and others, 2018) showed the key components of circular economy and its benefits as following:





The article researches on the benefits of the circular economy that are manifested in many different areas of productive life such as in the agricultural sector, in the protection of the environment, and on the corporate and the whole national economy. From there, the research team also presented the advantages and disadvantages of implementing circular economy in Vietnam.

2. Method

Circular economy is a relatively new field in terms of theory and practice. Countries do not have adequate regulations on the implementation of circular economy. Therefore, the article is mainly based on qualitative method, review and description of documents.

The author from the National Academy of Politics used a qualitative method, a descriptive review of the literature to search for theories about the benefits of the circular economy that have been mentioned many times in the studies of other countries in the world.

The author from the Ministry of Natural Resources and Environment use empirical research methods to compare and search in the implementation of circular economy models in the world. At the same time, this method also raises problems for the development of circular economy in Vietnam in the coming time.

3. Results

Practice circular economy in the world

Around the world, the circular economy has a huge impact on economic development. The 2016 report by the Ellen MacArthur Foundation and the United Nations Conference on Trade and Development (UNCTAD) shows that India will generate $ 218 billion in economic value added by 2030 and nearly triple the figure by 2050 when applying the principles of circulation in three areas: city and construction, food and agriculture, vehicle manufacturing and mobility. Likewise, in China, the circular economy makes goods and services cheaper, reducing fine dust emissions by 50%, greenhouse gas emissions by 23% and traffic congestion by 47% by 2040.

Circular economy helps the world save 4,500 billion USD by 2030, Europe alone can save 600 billion EUR (about 660 billion USD) per year. (European Commission, 2018a).

The European Union moves towards the circular economic model as one of the pillars of the EU 2020 strategy and applies the principles of cyclic economics as part of the sustainable development strategy, which defines the take various actions in the European Union's Action Plan for the Circulatory Economy, aiming to make all waste a resource. As a result, new industries focus on recalling, cleaning, and reusing old products to produce new ones.

The EU proposes to define a primary material yield goal to measure the amount of value created per unit of raw material or product. Based on GDP related to raw material consumption, this figure will be set at 30% by 2030. This package also includes a legislative proposal to review waste targets including recycle targets. Recycling 70% of municipal waste, 80% recycling of packaging waste and bans any recyclable goods landfill. (European Commission, 2018a).

By the end of 2018, there were 34 countries in the world taking the first step in laws and policies to promote a circular economy. In cities around the world, city governments are becoming an incubator of ideas that can deliver broader policies and can inspire action in both the public and private sectors. Sweden is one of the leading countries in the world for waste management and recycling. The waste is recycled and used for purposes such as biogas and energy. Sweden has now become a waste importer with more than 2.3 million tons of waste being imported each year. Thanks to people's awareness of environmental protection, government encouragement as well as an efficient garbage collection system, the proportion of recyclable waste of households has increased from 38% in 1975 to 99% today. Only 1% of the waste goes to landfills.(European Commission, 2014.)

Toronto collects organic waste from households in the city and turns it into biogas that can fuel trucks or be used for heating. In New York, city governments promote capital recycling initiatives by extending the life of products by recycling, reusing, and adopting a sharing economy.

Reality of the circular economy in Vietnam

In Vietnam, circular economy is concerned to some concepts, such as: Sustainable production and consumption; green supply chain; green consumption… Reality shows that the circular economy is the best way to break the long-standing relationship between economic growth and negative environmental effects.

In the agricultural sector: Currently, the country has nearly 200 farmers and dozens of cooperatives are also benefiting from this link between farmers and businesses. This number will increase when the 4F Farm - Food - Feed - Fertilizer (4F) Complex Project includes: Raising organic pigs, producing bio-products, producing organic feed. and organic fertilizer production is gradually being formed on an area of 15 ha in Phong Dien district, Thua Thien Hue province. The four plants in this complex will form a closed cycle from livestock to farming, from crop to soil. In which, the bio-safe and organic pig farm with an area of 2ha is the first completed item of the 4F biosafety livestock complex project.

Circular eonomy with products produced through the farm form is considered an inevitable development trend to promote the efficient and sustainable development of rural agriculture. The Garden-Pond-Stable (VAC) model and the Garden-Pond-Booth-Biogas (VACB), Garden-Pond-Stables-Forest (VACR) model have been applied by many localities across the country. VACB is a solution to help overcome irrationality in waste management, rational use of agricultural residues, to return soil fertility. Safe handling of animal wastes, renewable energy creating fuel sources for living against environmental pollution and contributing to reducing emissions, reducing greenhouse effects causing climate change.

In the operations of enterprises, many new production and business models that tend to get closer to the circular economy in the private sector have been implemented quite successfully like the model of eco-industrial parks in Ninh Binh, Can Tho. and Da Nang, saving 6.5 million USD / year; models of processing aquatic by-products; Vietnam Packaging Recycling Alliance (PRO).

The foreign-invested sector plays an active role in promoting the circular economy in Vietnam through recycling plans for waste and by-products with state-of-the-art and advanced waste treatment processes transparency control. Nestlé Company produces unburnt bricks from boiler waste, processes fertilizers from non-hazardous sludge and uses milk cartons for ecological roofing. Nestlé also plans to recycle and reuse 100% of its product packaging by 2025.

Heineken Vietnam has nearly 99% of waste or by-products reused or recycled, 4/6 breweries use heat energy from renewable energy and fuels, and do not emit carbon. Unilever Vietnam implements a program to collect and recycle plastic packaging and sort waste at source ...

In June 2019, 9 pioneering companies to found the Vietnam Packaging Recycling Alliance (PRO Vietnam) include: TH Group, Coca-Cola Vietnam, Friesland Campina Vietnam, La Vie, Nestlé, Nutifood, Suntory PepsiCo Vietnam Nam, Te tra Pak and Universal Robina Corporation.

In the textile and garment industry, parts of the rags are recycled by the enterprise into new fabrics and clothing and clothing products created using a portion of this recycled fabric are labeled circular economy products. Parts such as coffee bean grounds and pods are utilized and produced into standard coffee cups and are also labeled circular economy products.

4. Discussion and Conclusion

Numerous studies point to various benefits of the circular economy. Altogether, some of the following benefits can be found:

- Circular economy is about reducing greenhouse gas emissions, positively impacting ecosystems and combating overexploitation of natural resources, increasing the sustainability and efficiency of land use in agriculture. The circular economy reduces the use of raw materials, optimizes agricultural productivity and reduces negative externalities caused by the linear model, avoids greater pollution caused by the production of materials.

The transition to a circular economy is the process of responding to climate change adaptation requirements. This is an adjustment process aimed at minimizing negative effects of the linear economy, creating a long-term resilience, and is the pathway towards a low-carbon economy, especially in heavy industries. Recirculating economic development could halve carbon dioxide emissions from industry by 2030, compared with 2018 levels.

- Benefit from protecting natural systems, especially in the agricultural sector.

The European model of the recirculating economy in agriculture has the potential to reduce the use of man-made fertilizers by 80% and thus contribute to the natural balance of the soil. Land degradation causes an estimated 40 billion US dollars in damage annually worldwide, and there are potential costs such as increases in addition to fertilizer use, loss of biodiversity and loss of unique landscapes. While the demand for raw materials will increase due to the increase in world population and consumer demand, activities in the recirculating economic model use less raw materials by focusing on extending the cycle. of raw materials. A pathway towards a low carbon economy, especially in heavy industries. Recirculating economic development could halve carbon dioxide emissions from industry by 2030, compared with 2018 levels. Europe's agricultural cyclical model is likely to reduce usage by 80%. Fertilizers are artificial and thus contribute to the natural balance of the soil. Land degradation causes an estimated 40 billion US dollars in damage annually worldwide, and there are potential costs such as increases in addition to fertilizer use, loss of biodiversity and loss of unique landscapes.

- The circular economy creates high economic growth potential. Through resource-efficient use, businesses have the opportunity to produce cheaper by offering products and services with multiple use functions. When compared to the linear extraction of common raw materials, the circular economy model has the potential to lead to greater material savings. While the demand for raw materials will increase due to the increase in world population and consumer demand, activities in the recirculating economic model use less raw materials by focusing on extending the cycle of raw materials.

Employment benefits: The development of the cyclical economic model could bring more local jobs to primary and semi-skilled jobs. An August 2018 study on circular economy performance suggested that 50,000 new jobs could be created in the UK and 54,000 in the Netherlands. (European Commission, 2018a)

- The benefits of increasing competitiveness of businesses and the economy: For businesses, the circular economic model helps businesses become more flexible, increasing their ability to cope with changes from supply of raw materials, reducing the amount of raw materials, increasing recycled materials, thereby creating new profits. The circular economy also creates a demand for new services for businesses to seek business opportunities. New services that may arise are collection logistics and support of end-of-life products introduced into the system, product marketing services and sales platforms that facilitate the longevity of the product longer, reproducing parts and components and refurbishing products or services provide expertise.

From the corporate perspective, the circular economy also brings a new perspective on the relationship between markets, customers and natural resources, thereby contributing to the promotion of new innovative business models, disruptive technology for higher business growth through cost cutting; reduced energy consumption and CO2 emissions; supply chain strengthening and resource conservation. The circular economy is a distinctly different business model, forcing companies to rethink everything from how products are designed and manufactured to their relationship with customers. The preeminence of the circular economy is to help businesses do business well, while moving towards a zero-emission economy and protecting the environment, thereby solving the long-standing relationship between economic growth and its negative effects to the environment.

There are some problems in the circular economic development in Vietnam:

First, the implementation of a circular economy in Vietnam has a number of basic advantages. Vietnam is continuing to perfect the socialist-oriented market economy institution, transforming from a linear economy to a circular economy with many new business models based on the innovation of public science. technology and policy reforms contribute to rapid and sustainable economic development. The circular economic development policy is mentioned in the Politburo's Resolution 55-NQ / TW of February 2020 on the orientation of Vietnam's National Energy Development Strategy to 2030, with a vision to 2045. In which, it is affirmed to give priority to developing renewable energy, develop power plants using waste and waste to protect the environment and develop a circular economy. The Resolution of the XIII Congress of the Party continues to affirm the policy of "building a green economy, a circular and environmentally friendly economy" and "building roadmaps, mechanisms, policies, law, to form and operate a cyclic economic model ”, the revised Environment Law 2020 lawizes the regulation of the circular economy. With the development of science and technology and the fourth industrial revolution, the circular economy associated with high technology, along with the promotion of digital transformation will be a great opportunity to explore and discover many awards. methods to improve the efficiency of natural resource use. Circulating economy will also reduce the pressure of resource shortages, environmental pollution, large amounts of waste, especially plastic waste. This contributes to the implementation of the sustainable development goals (SDGs) and the response to climate change, the reduction of greenhouse gases, which are recovered almost completely and not emitted into the environment. Therefore, circular economic development will receive the consensus of the whole society.

In addition, from an enterprise perspective, the circular economy brings a new perspective on the relationship between markets, customers and natural resources, thereby contributing to promoting innovative business models. new, disruptive technologies for higher business growth through cost cutting; reduced energy consumption and CO2 emissions; supply chain strengthening and resource conservation. The circular economy is a distinctly different business model, forcing companies to rethink everything from how products are designed and manufactured to their relationship with customers. The preeminence of the circular economy is to help businesses do business well, while moving towards a zero-emission economy and protecting the environment, thereby solving the long-standing relationship between economic growth and its effects. negative to the environment.

Second, the implementation of the circular economy in Vietnam has many difficulties and challenges. Vietnam's biggest challenge in adopting a recirculating economic model is the cost of recovering value from waste. The cyclic economy is a closed model when using this cycle's waste for the new cycle's input. In Vietnam, the amount of waste is forecast to double over the next 15 years. The rate of waste recycling in Vietnam is less than 10% of the total amount of waste. This is a small percentage compared to other countries that have been implementing cyclic economic models. The amount of plastic waste and plastic bags nationwide currently accounts for about 8-12% of domestic solid waste. If on average about 10% of plastic waste is not reused but completely disposed of, the amount of plastic waste and plastic bags discharged into the environment is approximately 2.5 million tons / year. The high rate of waste makes it difficult to manage, collect and recycle waste resources.

In addition, the current economic system in Vietnam is moving towards the demands of a linear economy. When making economic decisions, enterprises prioritize to consider market signals, not pay much attention to positive or negative externalities factors to society and the environment. Circulating economy business models are more difficult to develop, as most investors are still working on linear economic logic. Many companies still have goals that focus on short-term value creation, while the cyclical economic model is the one that creates long-term value.

The next difficulty comes from consumer perception about the use of products in the circular economy in Vietnam. In many countries, CE-labeled products are actively supported by consumers, while in Vietnam there are also many products made from by-products, scrap, and recycled materials ... but it has not been "certified" and the market's reception is still very limited.

Legal and infrastructure conditions for the circular economic development are lacking, making it difficult for the implementation of new business models. The circular economy requires a product creation strategy from the outset, designing items to last as long as possible, and planning to bring raw materials back into the economy later. Achieving this will require a large investment in collection, sorting and recycling infrastructure. Demand for recirculating and alternative products remains small. There is a lack of qualified specialists with technical or information technology and communication knowledge. The GDP index does not consider social and environmental factors, and does not encourage value creation in both of these areas.

Therefore, to promote circular economic development for sustainable development of the country, in the coming time, it is necessary to perfect the legal system and policies to promote a circular economy, reduce dependence on natural resources. course for growth. It is necessary to build a database on the circular economy associated with the digital economic transformation and the fourth industrial revolution. Promote cooperation and linkages between economic sectors and social organizations in building a circular economy in Vietnam, in which the Government plays a leading and tectonic role. Propagating for all people to change their thinking about growth, improving the quality of life, production and business associated with environmental protection

5. References

1. Almas Heshmati (2015), A Review of the Circular Economy and its Implementation. Forschungsinstitut zur Zukunft der Arbeit Institute for the Study of Labor.

2. Andrew Morl (2015), Delivering the circular economy: a toolkit for policymakers. Foundation Ellen MacArthur.

3. Anne Velenturf, Phil Purnell (2018), What a sustainable circular economy would look like, https://theconversation.com/what-a-sustainable-circular-economy-would-look-like-133808.

4. Annukka Berg, Riina Antikainen, Ernesto Hartikainen, Sari Kauppi, Petrus Kautto, David Lazarevic, Sandra Piesik and Laura Saikku, Circular Economy for Sustainable Development, 2018,

5. Nguyen The Chinh, Opportunities and challenges for circular economic development in Vietnam, https://www.tapchicongsan.org.vn/web/guest/kinh-te/-/2018/815962/co- Questions-and-to-be-for-the-economic-economic-from-Viet-Nam.aspx

6. Christina Nunez, Building a circular economy: five key concepts,

7. https://www.nationalgeographic.com/science/2020/04/partner-content-circular-economy-event-recap/

8. Phong Du (2019), Circulating Economy: Limits, https://khoahocphattrien.vn/chinh-sach/kinh-te-tuan-hoan-nhung-gioi-han/20191114022018520p1c785.htm

9. https: //khoahocphattrien.vn/thoi-su-trong-nuoc/khong-phan-loai-tai-nguon-khong-the-xu-ly-rac-thai-hieu-qua/20191110940359900p882c918.htm

10. https://congthuong.vn/mo-hinh-kinh-te-tuan-hoan-trong-nong-nghiep-cau-chuyen-tu-doanh-nghiep-nganh-chan-nuoi-141064.html

11. http://www.monre.gov.vn/Pages/cac-mo-hinh-kinh-te-tuan-hoan-trong-linh-vuc-nong-nghiep.aspx

12. https://tuoitre.vn/9-cong-ty-bat-tay-thanh-lap-lien-minh-tai-che-bao-bi-viet-nam-20190621143616913.htm

13. Ellen MacArthur Foundation, Towards the Circular Economy 1 and 2, 2012 and 2013, https://www.tapchicongsan.org.vn/web/guest/kinh-te/-/2018/815962/co-hoi-va-Thach-for-the-money-economic-economic-perfect-Vietnam-Vietnam.aspx

14. Erik JanHultinkb, sciencedirect.com/science/article/abs/pii/S0959652616321023?via%3Dihub

15. European Commission, 2018a. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a monitoring framework for the circular economy. http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1516265440535&uri=COM:2018:29:FI, Accessed 15 June2018

16. European Commission, 2014. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Towards a circular economy - A zero waste programme for Europe. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52014DC0398, Accessed 15 June2018

17. EEA, 2017. Circular by design: Products in the circular economy. European Environment Agency, Copenhagen

18. MartinGeissdoerferabPauloSavagetaNancy M.P.BockenabErik JanHultinkb, The Circular Economy - A new sustainable paradigm?

19. Mayer, A. Haas, W., Wiedenhofer, D., Krausmann, F., Nuss, P., Blengini, G. A., 2018. Measuring Progress towards a Circular Economy: A Monitoring Framework for Economy-wide Material Loop Closing in the EU28. Journal of Industrial Ecology, In press.

20. McDonough, W., Braungart, M., Cradle to Cradle: Remaking the Way We Make Things, New York: North Point Press, 2002.

21. Teresa Domenech, Explainer: What is a circular economy ?,

22. https://theconversation.com/explainer-what-is-a-circular-economy-29666

CULTURE EDUCATION OF RESPO1 NSIBILITIES TO THE NATURAL ENVIRONMENT FOR STUDENTS IN THE INTERNATIONAL PROCESS

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Abstract

In the context of Vietnam's extensive international integration, the problem of environmental pollution is becoming more and more urgent. On the basis of clarifying the content of "cultural behavior towards the environment", the article states the importance of educating "cultural behavior with the natural environment" for students in the current period and proposes some of this important awareness educational content for students.

Keywords: *Cultural behavior with the natural environment, Cultural education in dealing with the natural environment, Students, International integration.*

1. Introduction

The process of integrating into the world economy has brought about positive and negative changes in all aspects of socio-economic life in countries around the globe - including Vietnam. Besides global issues such as climate change, hunger eradication and poverty alleviation, etc., in Vietnam "Environmental pollution has been slowly improved; environmental pollution in many places is very serious, especially in some craft villages and river basins; handling of environmental violations is not serious. The awareness of environmental protection of a part of people and businesses is not high. Many natural ecosystems, especially forests, wetlands, and marine vegetation, have decreased in both area and quality. Forest protection is still inadequate, deforestation and forest fires are still ongoing. Many precious species and genetic resources are in high danger of extinction. It is still difficult to overcome the consequences of environmental pollution left by the war" [2, pages 258-259]. The issue of cultural education to deal with the ecological environment for students - the future owners of the country, is inevitably set forth, has an urgent meaning, and makes an important contribution to the development of the land sustainable Vietnam.

In the future, students are a high-quality human resource; is the force that determines the development of society and nation, and is also the subject of great influence by the natural and ecological environment in the development process of the country. Therefore, the education of cultural awareness towards the environment for this force helps them realize their responsibility in building and protecting the natural environment. The environment as well as educating the people about environmental protection in general and students in particular, from the perspective of nature, the ecosystem has been approached by researchers for many years. There are many new ways of thinking, new approaches and new contributions such as the concept of the environment, the cultural environment, the environmental culture, the interrelationship between the natural environment and the man-made environment (cultural culture). culture - society ..), how people behave towards the natural environment..., which refers to the education of students' awareness of protecting the natural and ecological environment. On the basis of inheriting these results, we focus on studying the issue of educating students to behave culturally with the natural environment, thereby proposing a number of cultural education contents. respond to the natural environment for this object.

2. Method

The article uses methods of analysis and synthesis, comparison, statistics, collection and processing of secondary information, assessment, forecast and decision.

3. Results

3.1. The concept of "cultural behavior with the natural environment"

- Cultural behavior

Behavioral culture was formed when civilization developed at a certain level in order to express how people behave towards nature, towards society and towards themselves. Assoc. Prof. Do Long in "Psychology with behavioral culture" said that: “Behavioral culture is a system of attitudes and behaviors determined to handle human-to-human relationships on legal and ethical grounds in order to accelerate the development of the community and society”[6]. Some authors believe that behavioral culture is a way of behaving, is an expression of the philosophy of life, way of thinking, and way of acting of a community of people in dealing with and dealing with relationships between people and people. nature, with society, from the micro (family) to the macro (human world). In the study "Culture of behavior of Hanoians with the natural environment", author Nguyen Viet Chuc said that: behavioral culture includes ways of relationships, attitudes and actions of people towards the natural environment, to society and to others. [1]

Thus, it can be understood in a general way that behavioral culture is the behaviors, behavioral patterns, and standards of behavior in the behavioral relationship between people and different objects expressed through language, behavior, lifestyle, psychophysiology… Behavioral culture is a constituent part of culture. That is the system of values and standards that regulate the behavior of each individual in the community.

- Natural environment

In 1981, the United Nations Educational Organization (UNESCO) gave the following definition of the environment: Environment includes all natural and man-made systems in which people live and work themselves to exploit natural or man-made resources to satisfy their needs.

In Article 3 of Vietnam's Law on Environmental Protection: Environment includes natural and man-made material factors that are closely related to each other, surround people, and affect life, economy and society. society, existence, development of humans, organisms and nature.[8]

- Culture of dealing with the natural environment

The culture of dealing with the natural environment is the harmonious behavior of people with nature, the harmony with nature, the adaptation to the living environment to regulate their life rhythms in order to protect and build the natural environment. building a better environment.

3.2. Degradation of the natural environment in Vietnam today – consequences of human behavior towards the natural environment

After 35 years of implementing Doi Moi, Vietnam has achieved great achievements in all fields, creating many outstanding marks; in which the economy grew continuously, becoming one of the fastest growing economies; people's material and spiritual life is constantly being improved; health and health care quality is enhanced; national defense and security have been consolidated and stabilized; external relations, international integration are increasingly extensive and effective,...Along with the process of socio-economic development, environmental pollution and environmental incidents are increasing, seriously affecting people's lives. This is the consequence of human behavior towards the natural environment.

- Declining forest resources and biodiversity

Over the course of development, forest cover in Vietnam has decreased rapidly and the quality of forests in forested areas has been excessively reduced. Previously, the entire country of Vietnam was covered with forests, but only in the past few decades, forests have been severely degraded. The national forest area has decreased significantly, since 1943 there was about 43 percent of the natural forest area. By 1995, natural forests had been encroached on, converted to use purposes and over-exploited, the area is only 8.25 million hectares. In recent years, the total forest area tends to increase to 41.5 percent in 2017, but most of the increased area is planted forest [7]

Some localities have high forest cover in the Northern Midlands and Mountains, North Central Coast and Central Highlands, such as Yen Bai province 62.8%; Tuyen Quang 64.9%; Bac Kan 72.1% (the highest in the country); Quang Binh 67.0%; Kon Tum 62.3%.

The biological resources of species in our country, like in the world, are decreasing day by day. According to the Red Book of the International Union for Conservation of Nature, if in 1996 there were only 25 endangered species of animals in Vietnam, by 2014, this number had reached 188 species. In Vietnam, according to statistics of the Ministry of Natural Resources and Environment, there are currently 4 extinct animal species, 5 extinct species in nature, 48 very endangered species and 113 endangered species, 37 very dangerous plant species. level, 178 endangered species. The number of breeds and strains of animals and plants cultivated for agricultural, forestry, fishery, medical production... has disappeared quite quickly, among these there are many precious varieties.

The main reason leading to the above situation is natural disappearance and over-exploitation; Climate Change; environmental pollution from the use of pesticides, plastic products... and invasive species. In which, urbanization, deforestation, agricultural development are the main causes causing nearly 75% of the terrestrial environment to be changed, causing species and ecosystems to decline.

- Land degradation

Soil degradation is a common trend in large areas of land, especially in mountainous areas, where the ecological balance has been seriously disrupted due to the lack of forest cover. Salinization, acidification and marshification on an area of millions of hectares in the plains are also the main causes of stagnation of the production capacity of the land. Vietnam has nearly 25 million hectares of sloping land (76 percent of the natural land area) with many limitations for agricultural production, of which more than 12.5 million hectares of bad land and over 50 percent of the delta area are "land problem". The phenomenon of desertification in Vietnam is also quite serious, concentrated mainly in the narrow sandy strips stretching along the central coast, concentrated in 10 provinces from Quang Binh to Binh Thuan with an area of about 419,000 ha and in the plains. by the Mekong River with an area of 43,000 ha. In the northern mountainous provinces, where there are still many bare hills and mountains, floods are causing landslides, erosion and degradation to arid deserts. In the past 40 years, the process of desertification due to mobile sand has been very serious, especially in regions with particularly hot and dry weather in the dry season, with low average annual rainfall, such as in the south central coastal provinces.

The impact of land degradation and reduction of arable land makes our country facing great challenges to solve many serious problems of soil environment, in order to ensure food safety and survival. of the whole nation with nearly 100 million people by the year 2020.

- Air pollution

Over the past few decades, Vietnam's economy has developed rapidly with an average GDP growth of about 7% and now Vietnam has become a middle-income country, with over 10,000 USD/person by 2020. The urbanization process is increasing rapidly with about 22% of the urban population. However, with the increasing urban population, the growing industry, the increasing waste of environmental pollution, especially air pollution.

The main sources of urban air pollution include transportation, industries, handicrafts and construction activities. Pollution levels of dust and harmful emissions in many places exceed the allowable standards many times, especially in some big cities such as Hanoi, Ho Chi Minh City, exceeding the allowed standards by 2-3 times. Hanoi has up to 237 days/year of poor air quality, 21 days of bad air quality and one day of hazardous air quality. Hanoi is listed as one of the ten most polluted cities in the world (according to Tien Phong Electronic Newspaper, March 4, 2016).

- Water pollution and water security issues

In recent years, the depletion of water resources in the system of rivers and reservoirs across the country is taking place more and more seriously. In urban areas, an estimated 15 million m3 of solid waste is generated each year – about 80 percent coming from households, restaurants, markets and commercial areas. In big cities with many industrial zones such as Ho Chi Minh City, Hanoi, Binh Duong, Hai Phong, Dong Nai, water pollution is quite serious. In Hanoi, the amount of wastewater generated is about 1.2 million m3/day, far exceeding the design level of 509,000 m3/day and night of wastewater treatment stations that have been put into operation (approximately 50 percent of wastewater volume need to be treated), the actual amount of wastewater treated is only about 20 percent.[4]

3.3. The importance of educating students on how to behave with the natural environment

The years in the university lecture hall are the period when students are not only more perfect in psychology but also accumulate knowledge and life capital. Students must actively make decisions about attitudes, actions and take responsibility for themselves instead of receiving regular guidance and protection from their families. Students will absorb and accumulate specialized knowledge, and at the same time expand their opportunities, create and develop their intellectual potentials, live a new life more actively, establish relationships They participate in the socialization process, participate in the socialization process…and after a short period of time, they participate in the whole process of creating and protecting their living environment in a defined space from family to living area, work and your sphere of influence. The education of a sense of cultural behavior with a good environment will greatly influence students' understanding of the environment properly; make students aware of the consequences of wrong/illegal actions or less likely to be affected by the environment. Not only that, well-educated people will stay away from illegal, thereby being well aware of their rights and responsibilities towards society, contributing to the sustainable development of the country.

Currently, environmental pollution and climate change are becoming a big challenge for both humanity in general and Vietnam in particular. Environmental pollution and climate change seriously affect all aspects of human life; comprehensively change the process of development and global security such as: food security, water security, energy security,...; affecting social, cultural, diplomatic and commercial safety issues in countries. Vietnam has been identified by the IPCC (Intergovernmental Panel on Climate Change) as one of the five countries that are and will be most affected by climate change. The gloomy picture of the natural environment in our country as well as in the world recently has clearly reflected the lack of awareness of human responsibility to nature. In order to form and develop a sense of environmental protection, we need to educate the culture of dealing with the environment. This is considered an important and long-term political task; need the correct orientation, unity of the Party and State, the cooperation of the whole society. Cultural education on environmental behavior for young people and students as an activity in ideological work, therefore, is always closely associated with important political goals and tasks. Cultural education in dealing with the environment is a process to form and affirm good personality qualities in students in relation to nature, and also a process to help students stay awake and aware. and competent in combating anti-environmental counter-propaganda trends. In the past time, a number of reactionary forces, taking advantage of some environmental instability, have carried out propaganda attacks with many exaggerated, distorted, anti-positive, counter-valued and counter-cultural contents to inciting young people, causing confusion and oscillation, and reducing confidence among young people and the entire people about the orientations, guidelines and policies of the Party and State towards the environment. Therefore, education on environmental behavior for students contributes positively to affirming the correctness and science of environmental propaganda activities according to the Party's orientation. Educating students on environmental behavior, helping young people not only have high qualifications, a firm political ideological stance, but also be responsible for the community and sustainable development. of the future of mankind.

Educating students on environmental behavior is of great significance, in order to promote the aggressive role of students on all fronts in the cause of national construction and defense. Through the activities of the Ho Chi Minh Communist Youth Union and the Student Union, promote the education of cultural awareness of living environment for students and young people through skills education activities. soft; volunteering activities, competitions, cultural, artistic and sports activities; through the examples of outstanding youth in the country as well as young environmental activists around the world….Other mass organizations cooperate to create favorable conditions for students to visit and learn about the living environment in Vietnam. a broader, different and richer scope, thereby not only helping students to understand more, better and more fully about the environment, but also have the opportunity to "live with others", with the environment to learn from. that cultivates humanistic principles and values in environmental behavior.

Thus, educating students on behavior culture at universities is important not only for the purpose of comprehensive education of the new generation, but also for spreading educational meaning to the whole society especially in responding to climate change and protecting natural resources.

3.4. Proposing some content of cultural education to behave with the natural environment for students

In order to educate students about environmental behavior, the educational content needs to be built appropriately. Students have the ability to acquire general theoretical and scientific knowledge, and at the same time have the ability to systematize knowledge and be highly creative. If environmental education for preschool children, primary school students mainly through stories, poetry, games; educate junior and senior high school students through simple and individual lessons; Through specific activities, cultural education on environmental behavior equips them with broader, more general and profound knowledge, more intrinsic, especially students majoring in environmental science. school with orientation to work and research in the field of environment.

Firstly, students need to be educated to have a scientific and complete understanding of the human living environment; the function and role of the environment (function is the living space of the community of people and organisms; the function of containing the resources necessary for life and production; the function of storing waste and self-cleaning; function of storing and providing information to people) [5, pages 11-15]; about challenges at many levels (in the spatial scale from the locality where you are studying and living to the national, regional and global scale), the harsh environmental impacts that are present on human life; on how to deal with the community's common living environment responsibly and equally; about the "price" to pay if people behave unkindly and unkindly to the environment in terms of law, morality, and quality of life in both the present time and the near future.

At universities, core courses in any field of humanities, social sciences, natural sciences, earth sciences, life sciences... can participate in equipping students knowledge about the environment and orientation of attitudes towards the environment, for the environment in all aspects and activities of human life. It can be from words, words, ways of writing, how to interact with each other directly, indirectly between people; consumption style of everyday items to the way of production, labor, travel and enjoyment, life satisfaction in both spiritual and material aspects... Therefore, in construction program of each subject as well as the entire program of the whole course, educators need to pay attention to the education of "a sense of cultural behavior with the environment" for students, considering this an important goal, throughout in the education and training of the young generation in the new context.

Secondly, students need to be educated to be aware of the reality of soil, water and air pollution, depletion of forest resources, marine resources, urban pollution, and rural environmental pollution. , ... and the impact of climate change is seriously threatening the existence and development of society; understand the underlying cause of the situation. Through teaching activities, by methods and forms of active scientific education, with each specific lesson, teachers lead and analyze, and orient learners to have the right awareness of the subject. : The inevitable causal relationship between the exploitation and use of the ecological environment by humans and the impact of the ecological environment on human life. This is an important basis to form in learners a sense of self-consciousness about their own position and role in relation to the ecological environment, establishing awareness and correct actions in the practice of transformation activities nature.

Thirdly, students need to be educated about the values standards in the relationship with nature in accordance with the times. In the context of the socialist-oriented market mechanism and the integration of the world economy in our country today, the issue of environmental culture education for Vietnamese students needs to be based on a Ecological ethical standards aim to regulate each person's individual behaviors through which people must have a sense of responsibility, attach themselves to the ecological environment, consider the benefits of the ecological environment to be the main ones. benefits for themselves and the community. This system of ecological ethical standards and values is the unification of the objective needs of society, the voluntary and active activities of people in the rational exploitation and use of natural resources. natural resources and environmental protection.

At present, some basic standards need to be emphasized in relation to behavior with nature:

- Maintain a green - clean - beautiful living environment in personal and community life

- A civilized and thrifty lifestyle

- Building a green growth model (production according to environmentally friendly advanced technologies; effectively exploiting resources, switching from large-scale exploitation to in-depth exploitation, limiting the use of resources) non-renewable energy, combining processes that protect biodiversity and ensure the resilience of nature)

- Promote the spirit of self-discipline, voluntariness, conscience and responsibility in all life activities, complying with the Law on Environmental Protection; proactively equipped with skills and ready to coordinate actions in problem solving [3, pages 126-127].

In the context that the quality of people's living environment tends to decrease to a level of concern because of the increasing violation of these important principles and values in dealing with the environment, the Educating all people, including students and young people, in these principles and values of humanity is very important. This requires that education in general and higher education in particular, when building a moral value system for the young generation, must pay attention to these principles and values in all human activities with respect to the living environment.

Fourthly, students need to grasp the basic guidelines, lines and policies of the Party and State on environmental issues, advanced international books and newspapers on environmental ethics education. ... In addition, it is necessary to build projects for students and seek financial sources, organizations to link and support in the process of designing ideas to protect the natural and social environment. the country integrates widely and deeply into the international socio-economic life, in the digital age with its preeminent, the connection - association - coordination between scientists, educational researchers, etc. cultural education to behave with the ecological environment becomes favorable. Through the activities of association and cooperation in research, exchange of experiences with individuals and international scientific organizations, the lecturers are in charge of cultural education to behave with the ecological environment for students. Students have the opportunity and conditions to exchange, learn and acquire experiences in ecological ethics education of countries, regions and international organizations in order to improve the quality and effectiveness of the teaching and learning process. ecological ethics education for pupils and students; connecting and sharing information, capturing the current situation of ecology and environment in the world, in the region and in the country, ..

Through educational methods and different forms of educational organization, the teacher - as a guide for learners to access necessary ecological knowledge, learn and research about responsibility in the process of maintaining and protecting the current state of the ecological environment and developing the ecological environment in the area of residence, of Vietnam and the world, etc.

4. Discussion and Conclusion

On the basis of approaching the problems of the natural environment of Vietnam today and the role of students in the development of the country in the future, the article has clarified the author's point of view on the sense of behavior. culture with the environment; The importance of educating students about culturally behavior with the environment and the contents that need to educate students about cultural behavior towards the environment.

5. References

1. Nguyen Viet Chuc (editor) (2002), *Behavioral culture of Hanoians with the natural environment*, Institute of Culture and Culture and Information Publishing House,

Hanoi.

2. Communist Party of Vietnam (2016), *Documents of the 12th National Congress of Deputies*, Office of the Party Central Committee, Hanoi.

3. Vu Dung (2011), *Environmental ethics in our country today: Theory and practice*, Publishing House. Encyclopedia, Hanoi.

4. Hanoi Department of Natural Resources and Environment (2018), *Environmental Report 2018*.

5. Nguyen Duc Khien, Nguyen Kim Hoang (2011), *Environmental Ethics*, Publishing House, Information and Communication, Hanoi.

6. Do Long (2008), *Psychology with behavioral culture*, Culture and Information Publishing House.

7. Ministry of Agriculture and Rural Development (2017), *Decision No. 1187/QD-BNN-TCLN on announcing the status of forests nationwide*.

8. National Assembly (2020), *Law on Environmental Protection of Vietnam*

THE GRASSROOTS POLITICAL SYSTEM – A KEY FACTOR IN THE SUSTAINABLE DEVELOPMENT IN ETHNIC MINORITY AND MOUNTAINOUS AREAS IN VIETNAM AT PRESENT

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Abstract

The sustainable development of Vietnam's ethnic minority and mountainous areas is a developmental process based on economic growth associated with progress and social justice, this contributes to use reasonably the natural resources and protecting the ecological environment, it also is a key factor for improving quality of life for the ethnic minority communities. However, the state of sustainable development in ethnic minority and mountainous areas of Vietnam is still inadequate and limited which is main cause of these problems due to lack of fully promoting the role and responsibility of the grassroots political system for sustainable development of ethnic minority and mountainous areas. Therefore, the key factor that need to recognize properly about the role and implement all of comprehensive solutions to promote the role of the grassroots political system in the sustainable development of ethnic minority and mountainous areas in Vietnam at present, thereby improving the quality and developing the sustainable social economy in this area.

Keywords: *Sustainable development; The grassroots political system; Ethnic minority and mountainous areas.*

1. Introduction

The sustainable development in Vietnam's ethnic minority and mountainous areas are a major strategy that throughout the developmental process. In developmental process follow the socialist-oriented market mechanism, the sustainable development of ethnic minority and mountainous areas has not only gained the enormous achievement but also confronted many challenges. Specially, Industrial Revolution 4.0 and the fierce resistance of the hostile forces have affected strongly on the facets that need to find the realizable solves to determine the roles, functions and tasks of the Political System at all levels in the sustainable development in ethnic minority and mountainous areas, this is a fundamental requirement in the current period.

There are many scientific studies on sustainable development, especially sustainable development of ethnic minority and mountainous areas such as: The State study by Nguyen An Ninh (2018): Studying state management models about the ethnic policies in some countries around the world and lessons have learned for Vietnam; Management of social development in ethnic areas and ethnic minorities in our country by Nguyen Lam Thanh published in the Legislative Research, March 2018; Organizing the political system - the central issue in building fast-growing, sustainable institutions in Vietnam of Ta Ngoc Tan, published in The Journal of Political Theory, January 2019... However, lack of the specific studies on the role of the grassroots political system in the sustainable development in ethnic minority and mountainous areas in Vietnam, this article is the basis for clarifying the theoretical and practical issues of sustainable development in ethnic minority and mountainous areas; thereby proposing the significant solutions to promote the role of the grassroots political system in the sustainable development in ethnic minority and mountainous areas in Vietnam.

2. Method

This article used a comprehensive approach to collecting and summarizing the recent studies and reports related to this topic. All data was collected base on the second-party data provided by state management agencies such as: General Statistics Office of Vietnam; Committee for Ethnic Minorities; Party ministries and local governments to shed light on the role of the grassroots political system in the sustainable development in Vietnam's ethnic minority and mountainous areas.

3. Results

3.1. State of the sustainable development of Vietnam's ethnic minority and mountainous areas in recent years

Vietnam's ethnic minority and mountainous areas account for three-quarter of the country's area that is key residence where have 53 ethnic minorities with over 14 million people. This is an essential area of defense, security and external affairs; that is the place where there are many mineral resources, diverse dynamic and plant ecosystems; there are over 14 million hectares of forests which are aquatic water sources associated with national hydropower projects that both providing electricity and providing production and living water at the lower land. Sustainable development in Vietnam’s ethnic minority and mountainous areas is part of the country's sustainable development, it exists inseparably and basing on the national sustainable development strategy. This is the development process which is based on the economic growth associated with progress and social justice, using reasonably the natural resources and protecting the ecological environment contribute to establish and protect the fatherland.

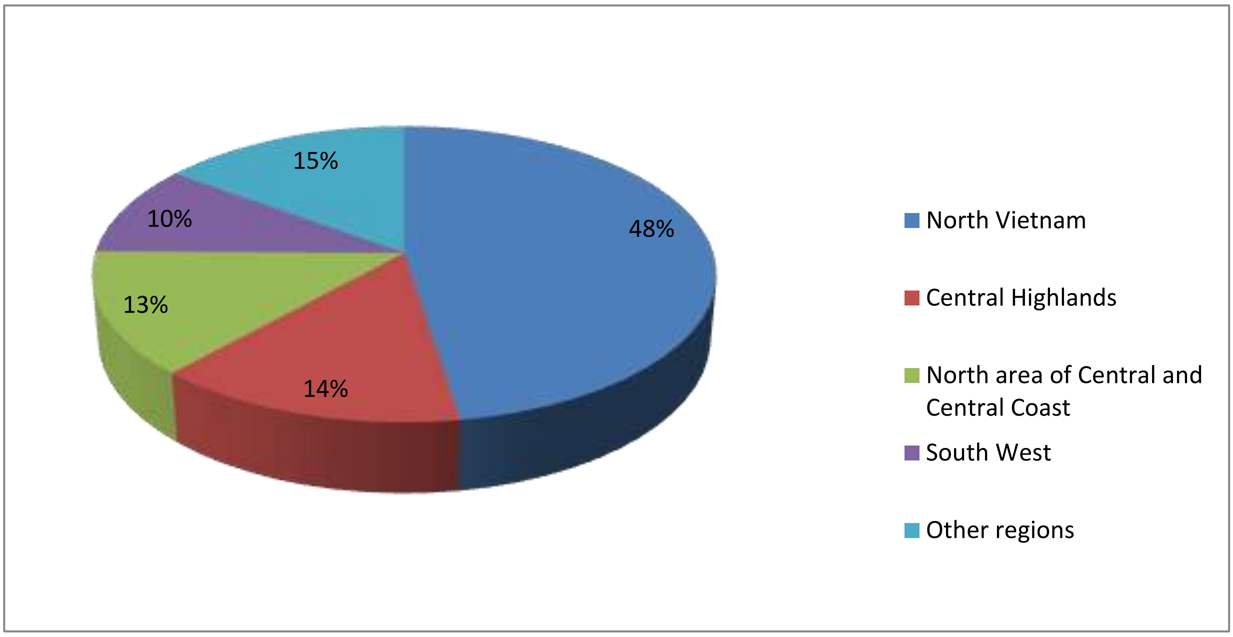

Chart 1: Distribution of Vietnam's ethnic minority population by region (Unit:%)

Source: Committee for Ethnic Minorities - General Statistics Office, Results of investigations to collect information on the socio-economic situation of 53 ethnic minorities in 2019, Statistics Agency, Hanoi, 2019

Perceiving precisely about the position and importance of the sustainable development in ethnic minority and mountainous areas. In recent years, Vietnam's the Party and State have had many comprehensive strategies and policies link to solve problems that are both basic, urgent and significant to create the sustainable socio-economic development in this area. The opinions and guidelines of Vietnam's the Communist Party determined: "Developing comprehensively all of facets such as the politics, economy, culture, society and security - defense at the ethnic minority and mountainous areas; attaching economic growth to solving social problems and implementing effectively the national policies; caring about training and fostering human resources, especially the ethnic minority cadres; preserving and promoting the traditional values and cultures in the common development of the Vietnamese ethnic community"[91]. Implementing this policy, the Vietnam's Government has promulgated the specific policies and plans for each period such as: Orientation of Vietnam's Sustainable Development Strategy (2004); Ethnic work strategy to 2020 (2013); The Millennium Target for ethnic minorities associated with the goal of sustainable development after 2015 (2015); National target program for sustainable poverty reduction for the period 2016 - 2020 (2016); The National action plan for the Implementation of the 2030 Agenda for sustainable development (2017) has promulgated with aims: "Maintaining the sustainable economic growth link to implement the progress, social justice and ecological

[91] Communist Party of Vietnam (2003), Documents of the *7th* Conference of the IX Central Committee, National Politics Publishing House, Hanoi.

environment protection, effectively natural resources use and management, proactively respond to climate change; ensuring that people expose their potentials, participating and enjoying equally the developmental achievements; building a peaceful, prosperous, democratic, just, civilized and sustainable Vietnamese society"[92]. In order to successfully achieve this overall goal, the 2030 Agenda has identified 17 specific goals, therein 15/17 goals related to ethnic minority and mountainous areas including 5 economic goals, 6 socio-cultural goals and 4 ecological environment goals.

In recent years, Implementing the Party and the State's guidelines and policies about sustainable development, Vietnam's ethnic minority and mountainous areas have developed comprehensively and solidly. The economic growth rate of ethnic minority and mountainous areas is quite high, reaching an average of 7% and increasing gradually every year that higher than the national average, therein the Northwestern provinces increased by an average of 8.4 % per year, the Central Highlands increased by an average of 8.1 % per year, the Southwest increased by an average of 7.3% per year[93]. The economic structure shifted in the right direction, initially forming agricultural - forestry production areas such as coffee, tea, rubber, pepper, medicinal plants, trees for timber and out-of-wood products... The infrastructure of ethnic minority and mountainous areas gradually completed and associated with the socio-economic development of each region lead to meet the needs of the people. Number of poor households in poor districts and the difficult communes decreased rapidly, people's quality of life markedly improved in recent years. The grassroots political system of ethnic minority areas is strengthened, and promoting effectively. The National defense and security maintained, it ensured the social and political stability. The national unity is increasingly reinforced and strengthened. The ecological environment was protected and developed harmoniously. However, Vietnam's ethnic minorities and mountainous areas are still the most difficult areas where are the lowest quality of human resources and the slowest socio-economic development. This is place that can access to the lowest basic social services, the high rate of poor households. Therefore, the effectiveness of the sustainable development process has represented significantly challenges for the political system at all levels. Specifically:

In the domain of economics, although this domain has gained many achievements but the economic scale in ethnic minority and mountainous areas in Vietnam has been still limited and the fundament of agricultural production still depends on natural characteristics; transferring of economic structure is slow, many developmental sectors are not

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[92] The National Action Plan for the Implementation of the 2030 Agenda for Sustainable Development (Promulgated together with the Prime Minister's Decision *No. 622/QD-TTg on May 10, 2017).*

[93] The overall plan on socio-economic development in ethnic minority and mountainous areas for the period 2021-2030 (Promulgated together with *Resolution No. 88/2019/QH14 on November 18, 2019 of the National Assembly)*

commensurate with the potential. The cost of producing and circulating the goods is large that should be very difficult to attract social resources to invest in socio-economic development affect to the sustainable development. According to the results of the database about the state of the socio-economic of 53 ethnic minorities in 2019, there are 5,266 communes in ethnic minority and mountainous areas, therein 1,957 communes in zone III and 20,139 villages outside communes in Area III are difficult. The proportion of employees work in the agricultural sector accounts for over 80%, technical infrastructure was still low and it did not meet the needs of socio-economic development. In 2019, there are still 54 communes without roads connecting to the commune center and the district center; 9,474 villages without hardened roads; 3,400 villages without electricity; 4,355 schools have not been solidification; 1,148 communes without marketplaces; 1,749 communes without cultural houses; 7,072 villages do not have cultural houses or community activists. The ethnic minority and mountainous areas of Vietnam are having the highest of poor households in the country, the average income rate of ethnic minority households in many places is only 40-50% of the average income in the region; the proportion of population is 14.7% but the poverty rate accounts for 55.27% of the total poverty households of the country. There are 9 provinces with a poverty rate of over 90%; 4 provinces have a poverty rate of 70% - 90%. There are some ethnic minority groups that the high percentage of poor households up to 70-80% such as O Du, Co, Kho Mu, Xinh Mun, La Ha, Khang, Mong and Xo Dang.[94]

In the domain of socio-culture, the ethnic minorities have approached and enjoyed the basic socio-cultural services lower level than the national average, there are about 21% of ethnic minorities over 15 year old who could not read fluently the Vietnamese and about 30% of ethnic minority pupils have not yet attended school hat the right age; The level of access to medical services is still difficult, the rate of issuance of health insurance cards is high but the rate of medical examination and treatment is still low, the percentage of pregnant women who received regular examinations is 71%, the rate of childbirth at home is 36.3%, the proportion of malnourished children are 32%; nearly one-third of ethnic minority households have not approached to sanitation water; 15.3% of ethnic minority households stay in temporary homes, especially 14 ethnic minorities have a temporary housing rate of nearly 50%; 2/3 of ethnic minority households do not have sanitation factories.[95]

In the domain of natural resources - environment, Vietnam’s ethnic minority and mountainous areas are mainly alpine, border, divided terrain and harsh climate. This is the place where is the worst infrastructure in the country and affected by the climate changes and environmental incidents such as landslides in the provinces of Uncle Central and Central

[94] Committee for Ethnic Minorities - General Statistics Office, Results of investigations to collect information on the socio-economic situation of 53 ethnic minorities in 2019, Statistics Agency, Hanoi, 2019.
[95] Committee for Ethnic Minorities - General Statistics Office, Results of investigations to collect information on the socio-economic situation of 53 ethnic minorities in 2019, Statistics Agency, Hanoi, 2019.

Coast; floods, flash floods in northwestern provinces; droughts in the Central Highlands...These are taking place seriously and unpredictably. The root of these problems was the decrease of forest resources because of the excessive logging and deforestation for industrial land, the nomadic habits of the ethnic minorities. The illegal mining of some minerals such as gold, tin and building materials has polluted the environment. The development of under-calculated hydropower works has had the negative effects on ecological environment issues, disrupting ecological balance, changing the flow and affecting the social stability, labor, employment, life and living space of villages in ethnic minority and mountainous areas.

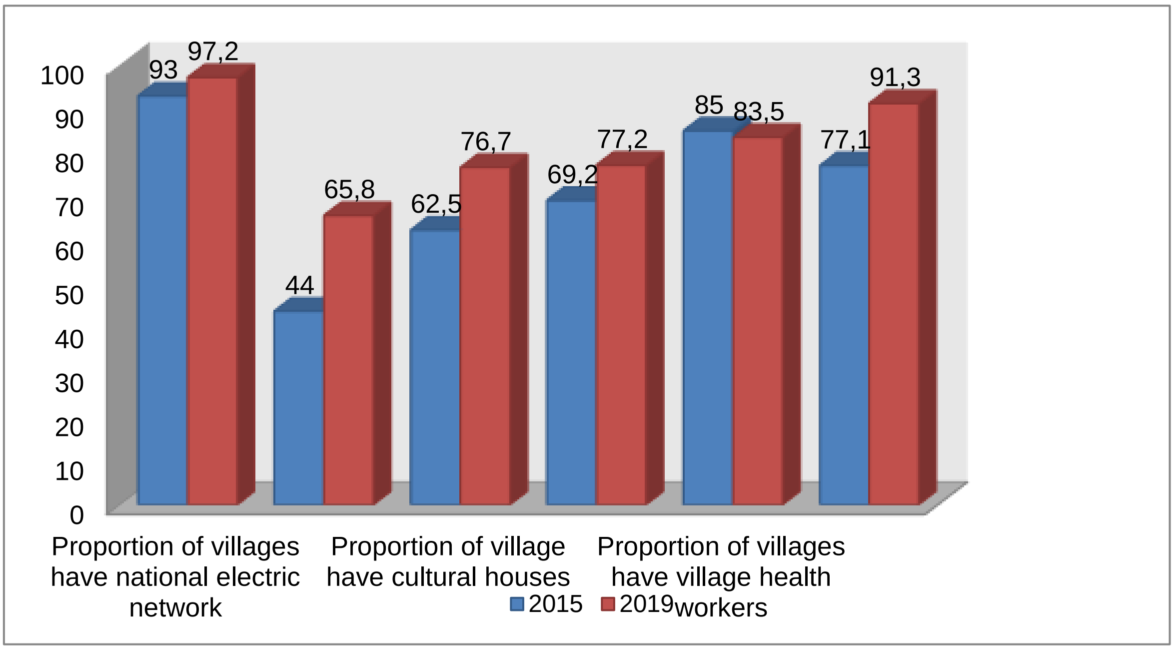

Chart 2: ***Some indicators about state of the socio-economic of 53 ethnic minorities in 2015 and 2019*** *(Unit: %)*

Source: Committee for Ethnic Minorities - General Statistics Office, Results of investigations to collect information on the socio-economic situation of 53 ethnic minorities in 2019, Statistics Agency, Hanoi, 2019.

The results showed that the situation of sustainable development in ethnic minority and mountainous areas in Vietnam in the recent years. Although the important results have achieved but there are still many difficulties, challenges and disadvantages about economy, culture - society and ecological environment. There are many causes that lead to this situation, but the subjective causes are the main. It is: establishing, managing and monitoring the policies to support socio-economic development in ethnic minority and mountainous areas are overlapped; the resources are scattered; lacking of determine clearly about responsibilities of all levels and sectors lead to use the low investment that impacted to exploit inefficiently the local’s potentials, advantages and the internal forces in ethnic minority and mountainous areas. In particular, the role of the grassroots political system about sustainable development at the ethnic minority and mountainous areas has not really been fully promoted; the leader, organizer and supervisor's ability is still weak and inevitable; staff's awareness, responsibility and qualifications is still limited and not meet the practical requirements; there have not been many significant measures to promote the role of elements (party organizations, governments and socio-political organizations) in sustainable development that greatly affected the quality and efficiency of sustainable development at ethnic minority areas and mountainous areas in Vietnam at present.

3.2. The grassroots political system and its role in the sustainable development of Vietnam's ethnic minority and mountainous areas at present.

The political system in Vietnam is a socialist political system consisting of the Communist Party of Vietnam, the State of the Socialist Republic of Vietnam and socio-political organizations. All of organizations are operated according to the mechanism and relating with each other in order to strengthen the leadership role of the Party, managing effectively of the State and ensuring the power belongs to the people. Vietnam's political system holds the entire system of practical social powers from the political power, the state power to other powers in society including the establishment, organization and supervision's powers to perform the developmental system in general and the sustainable development institutions in particular. Therefore, the effective implementation of sustainable development can only occur when there is a good, reasonable and effective political system.

In the political system of Vietnam, the grassroots political system is the last level that is established in communes, wards and towns. The whole apparatus of the grassroots political system includes: The Party at grassroots level; the government at grassroots level; The Fatherland Front and socio-political organizations of the people at grassroots level. These elements are closely tied together and forming a political system in each administrative unit, operating according to the principled functional relationship: The Party leads, the administration manage and the people master. Accordingly, the Party at grassroots level lead comprehensively by the resolutions, orientating the central tasks, selecting the staff, inspecting and supervising the implementation of resolutions of the People's Councils and People's Committees and examining to conduct the State's policies and laws. The government at grassroots level (People's Councils and People's Committees) where implement the State's legal policies according to the statutory jurisdiction, directly managing and managing the society to maintain security and political stability, organizing the performance of socio-economic tasks, improve people's quality of life. The Fatherland Front and other socio-political organizations at grassroots level participate in managing in their localities and supervising the implementation of policies and laws of the people's councils, people's committees, party members and staff; propagating and mobilizing people to comply with the Party's guidelines, the State's policies and laws.

In ethnic minority and mountainous areas, the grassroots political system is established in commune-level administrative units. According to the Prime Minister's Decision No. 33/2020 on November 12, 2020 about the criteria for the division of ethnic minority and mountainous areas in the period 2021-2025, commune-level administrative units of ethnic minority and mountainous areas are communes with the proportion of ethnic minority households in the total number of households living in communities from 15% or more. Accordingly, there are 5,468 commune-level administrative units (51 provinces, cities and 548 districts) belong to ethnic minority and mountainous areas in Vietnam. Currently, the grassroots political system in ethnic minority and mountainous areas is being built and solidly consolidated. On average, each commune has 20 cadres and civil servants, of which more than 90% of commune-level cadres and civil servants are ethnic minorities. All commune-level cadres and civil servants have professional qualifications, leadership capacity, and management capacity up to standards as prescribed.

Table 1: ***Number of communes in ethnic minority and mountainous areas in Vietnam*** *(Unit: Commune)*

	General	**Urban, agricultural**		**Area**	
		Urban	**Rural area**	**Border**	**Other**
NATIONWIDE	**5468**	**696**	**4772**	**424**	**5044**
Norther midland and mountain	2422	228	2 194	212	2210
Red River Delta	283	47	236	17	266
North area of Central and Central Coast	1213	70	1143	110	1103
Central Highlands	726	127	599	36	690
South East	361	115	246	32	329
Mekong Delta	463	109	354	17	446

Source: Committee for Ethnic Minorities - General Statistics Office, Results of investigations to collect information on the socio-economic situation of 53 ethnic minorities in 2019, Statistics Agency, Hanoi, 2019.

The grassroots political system plays a very important role that decide the success or failure of the implementation of the Party's guidelines and policies and the State's laws. The grassroots political system directly leads, directs and organizes the implementation the objectives of socio-economic, defense and security at the locality. The study about the role of the grassroots political system in the sustainable development of Vietnam's ethnic minority and mountainous areas is essential that contribute to clarify the functions, tasks, powers and effects of Party organizations, governments and socio-political organizations in performing the tasks about the economic and social sustainable development and environment in ethnic minority and mountainous areas in Vietnam at present.

According to the opinion's Marxism - Leninism, there is anything or phenomenon that exists in reality, it has a certain connection and playing the important role in the movement and development of one or another group of things or phenomena. As a result, things and phenomena reveal attributes, establishing their existence and distinguishing between them and other things and phenomena. Thus, the role is objectively established by the social position of each subject in the system of social relations and specific activities. The same subject, manifesting its role will be different when the social relations, the domain of activity and purpose are different.

The role of the grassroots political system in the sustainable development of ethnic minority and mountainous areas was formed based on the socialist legal relations, it was established by the Party and the State of Vietnam base on the system of opinions, guidelines and policies of the Communist Party of Vietnam and the Constitution and laws of the State. The Communist Party of Vietnam always determines and implements the sustainable development of ethnic minority and mountainous areas as the responsibility of both the political system at all levels and branches, especially the political system in the area where inhabited by ethnic minorities. Vietnam's Constitution 2013 also clearly defines the roles and responsibilities of the Party organizations, governments and socio-political organizations in the country's economic-social development, environment and defense-security as well as ethnic minority and mountainous areas. In addition, the Law on Government's Organization and the local's organizational rights; the directives and recommendations of the Party; The National Assembly and the Government also defined the roles and responsibilities of the political system about sustainable development at all levels. On that basis, it stipulates the functions, tasks and powers of the grassroots political system, creating the objective legal position to perform the tasks of sustainable development in general and sustainable development in ethnic minority and mountainous areas in particular. The role of the grassroots political system in the sustainable development of specific ethnic minority and mountainous areas will be represented below as follows:

Firstly, the grassroots political system is a force to directly propagate to increase the cadres, party members and people's awareness about the guidelines and policies of the Party and the State of Vietnam in the sustainable development of ethnic minority and mountainous areas. This is an important role of the grassroots political system in the sustainable development in ethnic minority and mountainous areas, because the sustainable development's policies of ethnic minority and mountainous areas can only be achieved effectively when the staff, Party members and people have perceived exactly about the sustainable development's role, importance, content, requirements and measures in developing the locality's economy, socio-culture, environment and defense and security. Therefore, the cadres, party members and people should be propagated to increase their awareness through the activities of the grassroots political system , especially propagating and mobilizing the people. Accordingly, all of the Party and the State and organizations' opinions, guidelines and policies about sustainable development will be fully communicated to each cadre, party member and people that help them to properly realize to identify clearly responsibilities in performing the sustainable development goals in their localities.

Secondly, the grassroots political system is the subject of the sustainable development goals' leadership, management, direction and organizing the implementation in ethnic minority and mountainous areas; taking care of improving the quality of life for ethnic groups in the area. This is the most important role that decide on the quality and efficiency of the sustainable development process in ethnic minority and mountainous areas. In fact, promoting the role of the grassroots political system in the sustainable development of ethnic minority and mountainous areas is the process that change the policies, directions and measures related to the sustainable development's core contents into the practical results through the state apparatus's organized activities and the widespread participation of organizations, units, families, individuals and the whole society to realize the goals and policies set. In this process, the grassroots political system plays the significant role that both as the subject of leadership and management as well as a key force in the implementation of economic, cultural - social, environmental and defense and security objectives in the area, contributing to improve people's quality of life and developing a comprehensively and sustainable locality

Thirdly, the grassroots political system is an important force in coordinating and participating in the implementation of the sustainable development's programs and projects of the central, local and other organizations in the area belong to their managemental scope. This is an important role of the grassroots political system in the sustainable development at Vietnam's ethnic minority and mountainous areas at present, because the real implementation of sustainable development's policies shows that there are many Ministries, branches and political systems at all levels participating in the establishment, management and monitoring sustainable development's policies in ethnic minority and mountainous areas. This leads to the majority of policies being formulated and implemented according to the requirements and responsibilities of each Ministries and branches that lacking of general coordination, thereby creating the duplication, dispersion and lacking of connection between policies. While the sustainable development policies are implemented at the specific locations. Therefore, the participation and coordination of the grassroots political system is essential, especially supervising the implementation of economic, social and environmental developmental programs and plans in the area belong to the managemental scope. From there, ensuring sustainable development policies are implemented in the most effective direction and contributing to improve the practical benefits to the Party, government and local people.

Fourthly, the grassroots political system is the nuclear of national unity, creating the social consensus; maintaining the social and political stability; establishing the prosperous areas to create the foundation for the process of the economic and social sustainable development, environment in ethnic minority and mountainous areas. Maintaining the social and political stability, enhancing the social consensus and uniting the whole people is both a goal and a prerequisite for the sustainable development in ethnic minority and mountainous areas in Vietnam. This shows the important role of the grassroots political system in the sustainable development in ethnic minority and mountainous areas in Vietnam at present. Through the performance of functions and tasks of the grassroots political system, especially the leadership and management of the Party, government and people's organizations; propagating and mobilizing people to organize the production, preserving and developing of national cultural characteristics, solving social problems that arising in the area, especially ethnic and religious issues; organizing the struggles with the hostile forces. This will contribute to maintain the social and political stability, strengthening the solidarity of the whole people and making the socio-political establishment stronger and stronger. Moreover, this will also create the favorable conditions for the process of the economic and social sustainable development, environment at the ethnic minority and mountainous areas in Vietnam at present.

Thus, the grassroots political system plays an important role in successfully deciding of the economic and social sustainable development, environment, defense and security in ethnic minority and mountainous area. In fact, the construction, consolidation and promotion of the role of the grassroots political system in ethnic minority and mountainous areas has achieved many important results. People's lives of ethnic minorities have had positive changes. However, the role of grassroots political system in ethnic minority and mountainous areas has not been effectively promoted. Its has not yet made a fundamental and breakthrough change in the rapid and sustainable development of the economy, society and environment. In the current context, facing to the high requirements of the sustainable development in ethnic minority and mountainous areas and impacting of the Industrial Revolution 4.0. Besides, the fierce resistance of hostile forces and the complexity of the ethnic minority issues that need to find the comprehensive solutions to promote the role of the grassroots political system for the sustainable development in ethnic minority and mountainous areas, contributing to The Socialist Republic of Vietnam’s solid protection in the current situation.

3.3. A number of solutions to promote the role of the grassroots political system in the sustainable development in Vietnam's ethnic minority and mountainous areas present.

In the development orientation to 2030, the Communist Party of Vietnam determined: "Continuing to strongly innovate about thinking, establishing and perfecting the regulations of the economic and social sustainable development, environment, the social and political stability, promptly removing the difficulties and problems; promoting all potentials and resources create the new motivations for the fast and sustainable development of the country"[96]. Besides, considering the strengthening and promoting the role of the grassroots political system at the ethnic minority and mountainous areas is an important solution for the sustainable development of ethnic minority and mountainous areas.

At present, promoting the role of the grassroots political system in the sustainable development in ethnic minority and mountainous areas in Vietnam is the comprehensive policies and measures. In order to improve the quality and efficiency perform the functions and tasks of each element in the grassroots political system in ethnic minority and mountainous areas. Accordingly, promoting the role of the grassroots political system in the sustainable development in ethnic minority and mountainous areas in Vietnam, the basic solutions will be represented below as follows:

Firstly, Increasing awareness and responsibility of the grassroots political system for sustainable development in ethnic minority and mountainous areas of Vietnam at present. In order to implement this solution, it is necessary to strengthen the propagating and education of Marxism - Leninism, Ho Chi Minh Ideology, the Party and the State's opinions, guidelines and policies about sustainable development in ethnic minority and mountainous areas for cadres and party members in the grassroots political system. Establishing the right motivations, attitudes and responsibilities for staff, especially the key staff in the grassroots political system in the sustainable development of ethnic minority and mountainous areas of Vietnam at present.

Secondly, establishing and consolidating regularly the powerful grassroots political system in the ethnic minority and mountainous areas. Focusing on strengthening a pure grassroots Party, enhancing leadership's ability for the organizations in the grassroots political system; strengthen the State management, improving the organization's capacity to implement the tasks of the economic and social sustainable development, the social and political stability; promoting the role of the Fatherland Front and socio-political organizations in propagating, and mobilizing people participate in implement the sustainable development policies in the area.

Thirdly, coordinating closely between the grassroots political system and the upper political system and other locality's forces for the sustainable development in ethnic minority and mountainous areas in Vietnam at present. Accordingly, the political system at

[96] Communist Party of Vietnam, Documents of the 13th National Congress of Delegates, episode 1, National Politics Publishing House, H.2021, p.114.

all levels from districts, provinces and central levels must perform their managemental functions, tasks and powers. Moreover, promoting the advantage conditions about all aspects perform effectively the grassroots political system's policies about sustainable development at ethnic minorities and mountainous areas. Especially, promoting the role the district-level political system in directing and operating the tasks that should link to reality.

Fourth, finalizing the legal prescribes about the functions, tasks and powers of the grassroots political system for the sustainable development in ethnic minority and mountainous areas of Vietnam at present. Accordingly, it is necessary to review the system of relevant laws and regulations, adjusting and finalizing the current regulations, focusing on research and promulgate the regulations about the functions, tasks and powers of the grassroots political system for sustainable development. Especially, coordinating to implement and supervise the programs and projects in ethnic minority and mountainous areas.

4. Discussion and Conclusion

Sustainable development in ethnic minority and mountainous areas is an important mission of the Party and the State of Vietnam. In fact, the sustainable development in ethnic minority and mountainous areas has achieved the positive results by the efforts of all levels, contributing to changing the aspects in ethnic minority and mountainous areas. However, the grassroots political system is coping with the great challenges that have to find the appropriate solutions face to these issues. Therefore, promoting the role of the grassroots political system for sustainable development in ethnic minority and mountainous areas is objectively required, it is necessary to implement synchronically the solutions such as increasing awareness and responsibility of the grassroots political system; strengthening and establishing a powerful political system in ethnic minority and mountainous areas; closely combining the grassroots political system with the upper political system and other forces in the area; finalizing the legal prescribes about the functions, tasks and powers of the grassroots political system are important solutions contribute the sustainable development of Vietnam's ethnic minority and mountainous areas.

5. References

1. The Government of the Socialist Republic of Vietnam (2019), *The master plan on socio-economic development in ethnic minority and mountainous areas and the difficult conditions areas in the period 2021 - 2030*, Hanoi.

2. Communist Party of Vietnam (2003), *Documents of the 7th Conference of the IX Central Committee,* National Politics Publishing House, Hanoi.

3. Communist Party of Vietnam (2021), *Documents of the 13th National Congress of Delegates*, episode 1, National Politics Publishing House, Hanoi.

4. Nguyen An Ninh (2018), *Research on state management models on ethnic minority policy in some countries around the world and lessons learned for Vietnam (2017-2018), State-level topics*, Institute of Ethnic Minorities, Hanoi.

5. The National Assembly of the Socialist Republic of Vietnam (2020), *Resolution No.120/2020/QH14 on approving investment guidelines for the national socio-economic development target program in ethnic minority and mountainous areas for the period 2021 -2030*, Hanoi.

6. Pham Quoc Thang (2018), *Research on proposing solutions and models to improve the capacity of the grassroots political system in some key areas in the Northwest region, National topics*, Hanoi National University, Hanoi.

7. Committee for Ethnic Minorities (2016), *Preliminary report on the implementation of the Ethnic Minority Work Strategy to 2020 and 1year implementation of Directive 28/CT -Ttg of September 10, 2014 of the Prime Minister, No. 13/BC-UBDT*, January 20, Hanoi.

8. Ta Ngoc Tan (2019), *Organization of the political system - the central issue in building fast-growing and sustainable institutions in Vietnam*, Journal of Political Theory, Hanoi.

9. Nguyen Lam Thanh (2018), *Social Development Manager of ethnic minority and ethnic minority areas in our country*, publication Legislative Research, Hanoi.

HIGH QUALITY HUMAN RESOURCES - KEY FACTOR ENSURES THE SUSTAINABLE AGRICULTURE DEVELOPMENT IN VIETNAM NOWADAYS

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Abstract

In the present period, developing the sustainable agriculture has become the main concern all of countries in the world. In Vietnam, Party and State have perceived the importance of sustainable development, establishing the opinions of sustainable development into the resolutions, strategies and socio-economic developmental plans in general, agricultural development in particular. Government established system of the total solutions to develop sustainable agriculture, especially high-quality human resources that play significant roles in developmental strategies. The article generalized the state of agricultural production in Vietnam in recent years. Base on analyzing the role of high-quality human resources for sustainable agricultural development, the article proposes some of the essential solutions to develop high-quality human resources to meet the requirements of sustainable agricultural development in the international integration in Vietnam nowadays.

Keywords: *High quality human resources, agriculture, sustainable development, human resources.*

1. Introduction

Agriculture is the specific domain that play particularly important role in socio-economic development, contributing to ensure national defense security and raising the national position in the international arena. The development of agriculture and rural areas has been identified by the Communist Party of Vietnam as a strategic missionto meet the requirements of industrialization and modernization of the country.

Nowadays, many countries are confronting with the competitionofthe scientific and technological revolution (especially the Fourth Industrial Revolution) that ismore and more fierce in the worldwide globalization and international integration period. Besides,the opportunities and advantages of developing in agriculture, Vietnam is also facing the difficulties and challenges in this competition. In this context, Vietnam's agriculture needs to change to adapt and develop sustainably to achieve these targets. Therefore, developing high-quality human resources is one of the breakthroughs and key issues that determines the industrialization, modernization of agriculture, developing Vietnam's agriculture follow themodern and sustainable way.

2. Methods

The article used anoverall and comprehensive approach to collect and summarizethe last studies and reports that related to this topic. All of the data wascollected based on second-level data by a number of organizations such as the Communist Party of Vietnam, the Ministry of Agriculture and Rural Development, and the General Statistics Office.

3. Results

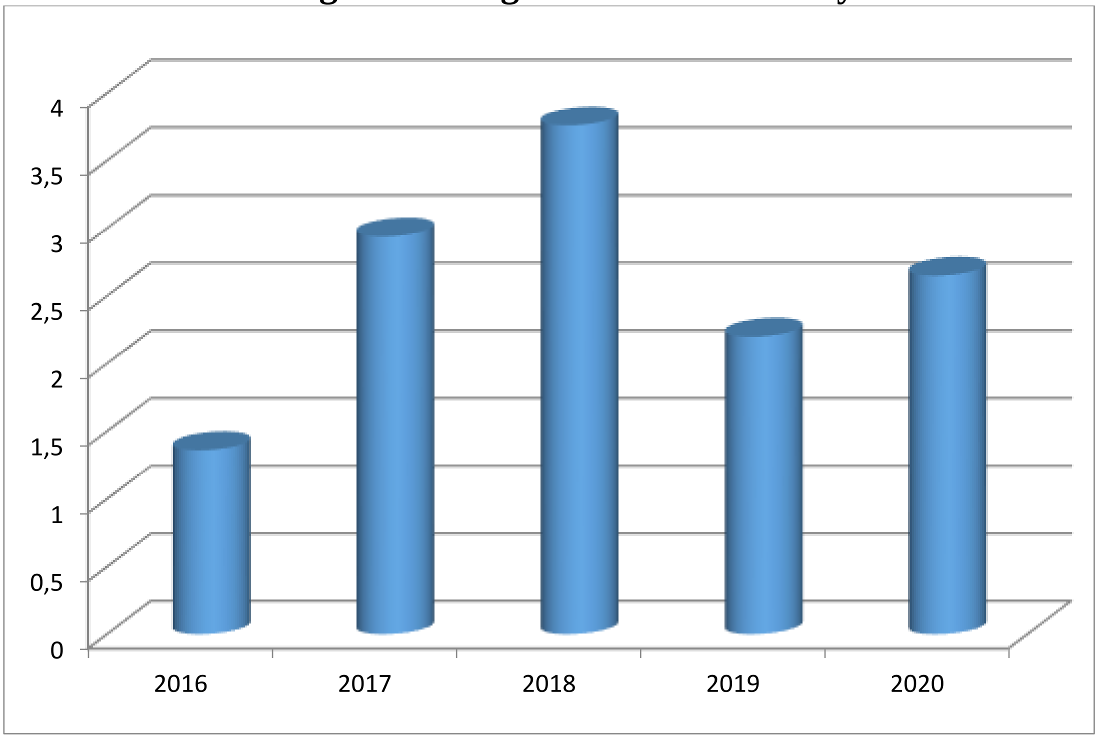
3.1. Overview of the situation of agricultural production and human resources agriculture in Vietnam recently

Vietnam is the developing country; agriculture is still one of an economic field that has made an important contribution to the socio-economic development in Vietnam. Over 35 years of conducting the comprehensive national innovation, under the attention of the Party, the State, Vietnam's agriculture has gained the huge achievements. The rate of average growth reached about 3.5% per year that wasthe high rate in Asia in general, Southeast Asia in particular. After a prolonged period of provisions shortages, Vietnam has gradually become one of the powerful countries about exporting of agricultural products in the world. During the period 2008 - 2017, the GDP growth rate of Vietnam's agricultural sector reached an average of 2.66% per year.

In 2020, In the context of the difficulty and complex numerous problems happened not only in Vietnam but also many countries in the world, especially the impact of the Covid-19 pandemic, Vietnam's agriculture still maintains a growth momentum of 2.65%, the total exported turnover reaches 41.2 billion USD[1]. Vietnam's agricultural consumption market is expanding, the structure of production is more efficient and associated with the market demand. Many productive models were applied high technology, organic agricultural production that were deployed to bring many great values of goods. The internal structure of agriculture shifts towards promoting advantages, relating to market demand and adapting to climate change. Agricultural development has been associated with the effective exploitation of natural resources, reducingthe environmental pollution and solving the social problems such97as employment, economic restructuring, ensuring national food security. On the international level, Vietnam's agriculture is gradually participating strongly in the process of integration and globalization; the quality of lifein many rural areas changed; the material and spiritual life of the citizen in most rural areas is improving.

[97]Ministry of Agriculture and Rural Development (2020), *Summary report on implementation of agricultural and rural development plans in 2020 and implementation of the plan in 2021*, Hanoi.

The agricultural growth rate over the years



(Source: analyzed from the General Statistics Office: Report on socio-economic situationyears 2016, 2017, 2018, 2019, 2020).

Although Vietnam's agriculture has gained the remarkable achievements but the quality, sustainability and method of agriculture develops still exist many limitations andinadequacy. The growth rate of the agricultural sector is unstable, the competitiveness is still low and promoting resources for production development is not high (the growth rate in the years from 2016 to 2020 about 1.36%, 2.94%, 3.76%, 2.2% and 2.65%, etc.). Transferring about the economic structure and innovating of production method in agriculture is slow, the small and scattered production is still popular; the productivity, quality and added value of many itemsare low, economic structure and labor in rural areas are still shifting slowly. Lack of planning for developing agriculture and rural, socio-economic infrastructure is still weak, the environment is increasingly polluted; the capacity to adapt and deal with natural disasters is still limited. The material and spiritual life of a part of rural people is still low, the proportion of poor households is unsustainable, especially in ethnic minority.

There are many reasons leading to these limitations, but the most basic reason is that our country's agricultural human resources are still limited and inadequate. As a developing country, the scale of human resources in the agricultural sector accounts for a large proportion of the total human resources of the Vietnamese economy. Along with the development of the country, human resources in agriculture will decrease in both quantity and proportion in total human resources of society. When the number of human resources in the agricultural sector is decreasing, the requirements for capacity, qualifications, qualities and skills of the remaining human resources must be higher to meet the requirements of accelerating industrialization and modernization. of agriculture and rural areas. This is the objective law of the process of industrialization and modernization of the country.

However, the proportion of employees that have the agriculture's technical qualifications is still low when people compared to the labor market's needs. Results of vocational training and job creation for rural workers, especially in areas where agricultural land is recovered, are still limited. The proportion of sustainable jobs increases slowly, unstable jobs, temporary jobs are still quite high; The young workforce tends to move away from agriculture and rural areas. The limitations on the qualifications of human resources in agriculture directly hinder the process of transferring and applying the achievements of modern science and technology and advanced techniques into production.

In the next years, theworldwide backgroundandAsia zone is predicted to continue to be complicated, unpredictable: slow economic growth; the commercial wars amongthe economic powerful countries; the trend of increasing the use of technical barriers and the method about commercial defenses increase to protect domestic production; the fourth industrial revolution is impactingstrongly to many aspects; the Covid-19 pandemic has erupted and spreading in important export markets of Vietnam's agriculture, forestry and fisheries. China, EU and the US had to take the preventive measures that have caused of the disruptions to the global supply chain;… Facing the new pressures,developing the comprehensiveagriculture towards sustainability becomes a strategic goal that our Party and people are determined to implement. The Resolution of the 13th Congress of the Party determined: "Continuing to effectively implement the policy of agricultural restructuring, agricultural development, rural economy associated with new rural construction towards ecological agriculture, modern rural areas and civilized peasants"[2]. In order to construct and develop a smart agriculture, international integration, climate change adaptability, value-added raising and sustainable development need to perform drastically andsynchronize many solutions, in which the development of high-quality human resources is identified as a significant strategic which plays a key role in the decision.

3.2. The role of high-quality human resources in the sustainable agricultural development in Vietnam present

The sustainable agricultural development is a developmental model thatis associated among agricultural growth and the natural environment, poverty and the habitat of farmers as well as rural people. Developing the sustainable agriculture and constructing a new rural need to ensure the effective economic development, a fair society and protect the natural environment. Accordingly, the role of high-quality human resources in sustainable agricultural development in Vietnam is presented in some key aspects such as:

Firstly, the high quality humanresources of agriculture are the management of the vital forces, exploiting and promoting effectively resources for the sustainable agricultural development.

Manplays the significant role of the developmental strategy, as well as the subject of development. In the process of production, humans are not only a constituent factor but also a decisive factor in the exploitation, use, protection and regeneration of other resources. In fact, all of natural resources, technical facilities, and technical science are limited, itcan only promote the effect through the roleof human resources. There are many potential and advantages about geographical conditions, natural resources, technical science and labor ... to develop a tropical agriculture towards the modern in Vietnam. However, the process of exploiting, use and promote those potentials depends on the qualities and capacity of the workforce in this field. High-quality human resources are workforce whichwere trained basically and professionally withthe high technical qualifications. They are a vital forcein studying and evaluating the potentials; determining strengths and the advantages to comparewith agricultural development of each region in the country. Thence, managers advise and propose the appropriate strategies for rural agricultural development.

In recent years, Vietnam's resources are severely impaired, the process of the fast industrialization, modernization and urbanization lead to the area of agricultural land to be increasingly shrinking; the natural resources are exploited indiscriminately leadingto declines,ecologicalimbalances. In addition, the amount of groundwater, aquaticresources,forest resources are seriously threatened from over-exploitation and unplanning ....The agriculture's high-qualityhuman resources with their capacity and qualifications are the core force inidentifying the effects of exploiting resources in the agricultural production activities and rural economy. From this basis, managers propose the solutions and directions forremediation;proposing the policies for exploiting the local advantages. The productivity of labor, crop productivity, livestock, income and benefits of workers will be guaranteed and increasedwhen the agricultural advantages are exploited and used effectively.

Secondly, high-quality human resources in agriculture are a leading force in promoting the research and applyingthe achievements of modern science and technology to production. From there, improving productivity, quality, efficiency and competitiveness, and developing agriculture to meet the requirements of international integration.

Nowadays, the strong development of the modern scientific and technological revolution, especially the Fourth Industrial Revolution that is opening up the great opportunities for the development in the numerous sectors, especially agriculture. Many countries consider to apply the high technology for agriculture as a breakthrough to move from low-value-added agriculture to high-value-added knowledge-based agriculture which is also an important solution to successfully restructure in the agricultural sector. InDocuments of the 13th National Congress of Delegate Vietnam's Party determinedthe main task in the agricultural development in the period of 2021 - 2025 as that: "Developing the agricultural goods should concentrateon the large-scale plansfollow the modern path, applying the high technology, value-added improvement and sustainable development"[3].In order to achieve the goal that State proclaimed we need toconduct the researches, apply and transfer the achievements of advanced technical science into agricultural production. This process gets fast or slow, achieving the high or low efficiency depends on the role of high-quality human resources, especially science and technology staff in the field of agriculture.

High-quality human resources are a prerequisite condition for promoting the development and applyingabout the science and technology in the agriculture, especially the professional agricultural sector. In fact, high-qualityhuman resources have been making outstanding contributions in the fields of state management, research and transfer of science and technology in agriculture in the whole country. The livestock crops have strongly developed base on the technical advances of science and technology such as the "3 reduce, 3 increase" system in rice intensive cultivation; the application of GAP, HACCP, ISO processes ... has a great effect on improving product quality.

Thirdly,high-quality human resources in agriculture are an important force contributing to ensuring food security, maintaining socio-political stability, improving the material and spiritual life for employees in agricultural and rural areas in Vietnam nowadays.

Food security is a critical issue thatis not only problem in the immediate future but also a long-term strategic issue of worldwide in general, Vietnam in particular. In recent years, Vietnam's agriculture has been impacted by the difficult andcomplex condition of the epidemics but Party and State have improved the maximum role of agricultureas a "platform" and "lifes up" for the country's economy.In the past, Vietnam had to import the food but it has become a major food export in the world today which contribute significantlyabout the country's economic development. To achieve those important results, it is impossible not to mention the role of high-quality human resources which were trained professionally with the basic knowledge and skills, they are also the core force for promoting the process of restructuring our country's agricultural sector towards improving the added value. Moreover, promoting the strong application of advanced technology and techniques to production, improving productivity and quality of agricultural products, developing agriculture in response to climate change, contributing to ensuring national food security, stabilizing the socio-economic situation for the country to continue to develop.

In the coming time, the worldwide political situation often has unpredictable uncertainties, climate change and increasing thecomplex situation of the epidemic has impacted significantly on agricultural production, but problem of the national food security is being impacted directly. The agriculture'shigh-quality human resources need to promote their role in forecasting the demandsof domestic food and exports. From there, managersestablish the plans in adjusting the activitiesof production, promoting industry restructuring, preventing and minimizing the effects of epidemics and weather on efficiency ofproduction, investing all resources for agricultural development, contributing to ensuring national food security in all situations.

High-quality human resources also play an important role in contributing to the opportunities of jobs, incomes lead to improve the material and spiritual life for employees in the field of agriculture. In fact, the area of cultivated land is decreasing, labor productivity and the infrastructure conditions is still low in the agricultural and rural areas in Vietnam.Therefore, the agricultural workers' life is still lower than urban areas. Unemployment and lacking of work still remain potential in agricultural and rural areas, especially theneedy areas. Due to the process of industrialization and urbanization lead to number of agricultural labor transfer from the countryside to cities for finding employment, this created the pressures on urban areas and arousing many negative social phenomena. On the other hand, the process of switching to the market mechanism led to a small part of farmers lack of land, they have to employ on the land previously owned by them. The differentiation of rich and poor in agricultural and rural areas is increasingly acute and pressing.

High-quality human resources in agriculture with a team of managers, scientists, agricultural entrepreneurs and farm owners have an important role in advising, proposing the appropriate plans and exploiting maximally the potentials and advantages of each local region. When the advantages are exploited and used effectively, the productivity of labor, crop productivity, livestock will be increased, the income and benefits of workers will be guaranteed to be higher and higher. In addition,high-quality human resources also play an important role in researching, and developing the cooperation programs; supporting farmers in production, preservation, processing and consumption of products, vocational training, improving qualifications for farmers, attracting farmers to work at high-tech agricultural production enterprises ... contributing to the chances of employment, raising incomes and improving the lives of workers in agricultural and rural areas.

Fourthly, high-quality human resources in agriculture play the important role in protecting the ecological environment of agricultural and rural areas in our country nowadays.

The development of agriculture and rural areas associated with ecological environment protection is an important objective in restructuring the agriculturedevelopmental project as the important criteria of the National Target Program for new rural construction in Vietnam present. Implementing the above policies requires promoting the role of many organizations and forces, in which high-quality human resources play the significant role.

The agriculture'shigh quality human resources which are managers, experts, scientists, skilled workers have an important role in evaluating and effectively determining the effects of resource extraction (land, water, biodiversity, minerals)in activities of agricultural production to ecological balance.Thereby advising and proposing the specific solutions for the developmental programs and the projects. Supervising and checking the level of pollution and therisk of environmental pollution affect to nature and agricultural products to identify solutions to limit and minimize to the environmental pollution. Moreover, high-quality human resources are also the core forces in the development of organic agriculture, ecological agriculture, high-tech agriculture which contributing positively to the protection of the ecological environment.

In recent years, all of countries is being impacted by the global warming and natural disasters which are increasing seriously. In addition, the epidemic situationis complicated on a huge scale which impact to the crops, livestock and humans. Thus, the number of pesticides used in agriculture will increase every year. Using products of the unknown pesticidesharm seriously agricultural production and people's lives, polluting the ecological environment. Therefore, a team of experts, scientists and agricultural managers need to research and propose appropriate solutions to raise the people's awareness in using the safe of fertilizers and pesticides such as: encouraging farmers to produce and use quality pesticides and herbs, expanding the application of technical advances;the programs about improving cultivation andproducing the safe crops ... to adapt to climate change and protect the ecological environment.

3.3. The basic solutions to develop high-quality human resources to meet the requirements of sustainable agricultural development in Vietnam nowadays

Firstly, improving awareness about the role of high-quality human resources for sustainable agricultural development in Vietnam nowadays.

This is the most important and decisive solution relate to the quality of high-quality human resource development to meet the requirements of agricultural and rural development in Vietnam today. The Party, State, ministries and people need to be aware of rightly the challenges about the quality of agricultural human resources in Vietnam in the context of globalized competition and the development of the modern scientific and technological revolution. Without improving the professional skills of workers through training, it is impossible to improve labor productivity in this field and therefore we cannot compete on the quality of agricultural products. These are responsibilities and duties of all levels, sectors and society, especially agriculture and rural development.

Secondly, innovating the state management about the development of high-quality human resources meets the requirements of sustainable agricultural development.

Perfecting and improving the capacity, effectiveness and efficiency of the management apparatus on human resources development of the Agriculture and Rural Development Sector. Clearly define between state management functions and career activities. Strengthening decentralization, improving the autonomy of human resources training institutions. Implementing the planning of a network of high-quality human resource training institutions for the agriculture and rural development sectors nationwide, fitting with the development orientation of sectors, regions and localities in agriculture and rural areas. Innovation in training management goes hand in hand with the innovation of recruitment and use of high-quality human resources after training. Implementing the State's policies and having appropriate policies and mechanisms to develop high-quality human resources in agricultureincluding the contents of the working environment, employment policies, incomes and living conditions ... at the same time, there is a policy to prioritize and attract students to study agricultural and rural development disciplines and trades.

Thirdly, innovating the activities of training high-quality human resources in agriculture towards modern way, fitting with reality to meet the needs of rural socio-economic development in Vietnam.

Improving the quality of training, on the basis of enhancing the conditions to ensure the quality of training, especially the quality of human resources towards the output standards that fit with the needs of using high-quality labor in agriculture and rural areas. Innovating about training methods that meet the diverse needs of students and the development needs of each field of agriculture, forestry and fishery according to different levels. Connecting training institutions with production facilities in agriculture and rural areas, in order to improve professional skills for post-training students. Standardize teachers in higher education institutions and colleges to improve the quality of training of highly qualified human resources in the field of agriculture and rural development.

Focusing on improving the qualifications of technical staff and managers; there are many policies to attract high-tech labor resources. Training and retraining for people to access and use machinery and equipment in preservation, preliminary processing of agricultural products and processing of agricultural products. Strengthening the development of information technology systems, improving awareness about the policies of the Party and the state.Especially, applying new scientific and technological advances are highly applicable. Goverment need to encourage agricultural enterprises to apply high technology in some key products, creating conditions to entice theinvestmentsof inside and outside the province. Enlisting funding from programs, projects, integration, concessional loans from development banks, science and technology funds in combination with budget funds for agricultural and rural development to invest in infrastructure for production development, receiving technology application transfer, vocational training, technical training for high-tech agricultural production areas.

Fourthly, improving the effectiveness of vocational training for farmers before the development of the modern scientific and technologicalrevolution.

Training on the basis of the real needs of the farmer, linking training with job settlement for workers. Relating to vocational training programs with new rural construction programs. Reviewing the list of training occupations for re-approval to suit the labor demands of enterprises and the requirements of the labor market, fitting with the new rural construction planning, meeting the task of restructuring sectors and sustainable poverty reduction on the basis of thoroughness and serious implementation of the motto "vocation is only trained when people are identified really about employment and post-apprenticeship income".

Programs and training materials should be built flexibly and closely with reality; organizing about vocational training through many flexible and appropriate forms. In addition, training and fostering necessary knowledge and practical skills, it is recommended to focus on fostering knowledge and soft skills on labor law, labor safety, business knowledge and starting enterprises in competitive conditions of market mechanisms,... Closely attach the review and determination of the list of training occupations with the vocational orientation and advice for employees to choose. There are active methods to solve the output for agricultural products. Creating the favorable conditions for employees to borrow production and business loans and creating chances about jobs after studying to promote the effectiveness of teaching and apprenticeships.

4. Discussion and Conclusion

The sustainable agricultural development is an objective inevitabletrend, it also is adevelopmental goal of many countries in theworld. In Vietnam,the potential and advantages for agricultural development are still great. However, if people want those potentials become the reality and the developmental agriculture to become an important spearhead in theeconomy, we need to invest comprehensively in the development of high-quality human resources. High-quality human resources inagriculture with a team of management leaders, scientific and technological staff, entrepreneurs and workers who are professional training with the high technical qualifications, good professional skills, good health and good qualities will be the main motivation and the key factor ensuring the comprehensive development of Vietnamese agriculture in the direction ofmodernity, efficiencyand sustainability in the current conditions of international integration.

5. References

1. Nguyen Thi Anh (2020), *Sustainable agricultural and rural development in our country*, Communist Magazine.
2. Ministry of Agriculture and Rural Development (2020), *Summary report on implementation of agricultural and rural development plan in 2020 and implementing plan of 2021*, Hanoi.
3. Communist Party of Vietnam (2021), *Documents of the 13th National Congress of Delegates*, Episode I, National Truth Politics Publishing House, Ha Noi.
4. Communist Party of Vietnam (2021), *Documents of the 13th National Congress of Delegates*, Episode II, Truth National Political Review, Ha Noi.
5. General Statistics Office, Socio-economic report in 2016, 2017, 2018, 2019, 2020.

IMPROVING THE QUALITY OF ADVANCED HUMAN RESOURCE TRAINING IN MILITARY SCIENCE AND TECHNOLOGY TO ADAPT TO THE FOURTH INDUSTRIAL REVOLUTION

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Abstract

Developing military science and technology potential to adapt to the Fourth Industrial Revolution requires a well-rounded strategy in which human resource training in military science and technology takes priority over other factors. Improving the quality of advanced human resource training in military science and technology is not only a mission to develop military science and technology potential but also an essential requirement to reinforce military strength, fulfilling the requirements for the process of building and defending the Socialist Fatherland of Vietnam in a new state of affairs. The Fourth Industrial Revolution has significantly influenced all-round process of education and training, especially advanced human resource training in military science and technology.

Keywords: *High quality human resources, Fourth Industrial Revolution*

1. Introduction

The Fourth Industrial Revolution is no longer a new trend, and indeed it is happening. This revolution clearly has a sharp impact on every social aspect including the matter of improving the quality of human resource training in military science and technology. Building a "revolutionary, formal, high-skilled, modernized" military in the context of the Fourth Industrial Revolution requires a well-rounded strategy in which advanced human resource training in military science and technology takes priority over other factors. Education and training strategy in the armed forces during the period 2011-2020 is determined: "Training the advanced human resource of the armed forces has a strategic meaning in the process of building a revolutionary, formal, high-skilled, modernized Vietnamese National Army. This in part determines the success of building and defending the Socialist Fatherland of Vietnam in a new state of affairs."[98]

[98] Ministry of National Defense (2013), *Strategy of developing education and training in the army during the period 2011-2020*, enacted with Decision no.2523/QD-BQP passed by Minister of National Defense on Sept. 15th, 2013

2. Methods

The article used an overall and comprehensive approach to collect and summarize the last studies and reports that related to this topic. We mainly use statistical methods, synthesis and secondary data in this article research.

3. Results

Advanced human resource training in military science and technology is an interconnected, unitary process which is mainly manifested in its quantity, forms, divisional structure, training contents, and capability to enable a sustainable, long-term employment of those trained individuals for the goal of nation-building and defense. Each mentioned factor either directly or indirectly influences the quality of human resource in military science and technology. Among those factors, however, recruitment process serves a decisive role. If the recruitment process produces an outcome of below required standards, the wanted post-training results will hardly be obtained. Hence, to work towards the goals, contents, and requirements of improving the quality of advanced human resource training in military science and technology, the process of recruitment must be appropriately appreciated. In fact, in recent years, the number of applicants for different majors is relatively high, yet the overall quality of applicant pool remains low. This problem impedes the process of improving the quality of advanced human resource in military science and technology nowadays.

Other than recruitment process, factors, such as training goals, program contents, training methods of each specialization and each study level, play an integral part in influencing the quality of human resource in military science and technology. K. Marx stated: “Altering human’s mutual instincts to make humans possess knowledge and tactful habits in a specific profession, meaning to become a full-grown and distinctive worker, necessitates a certain level of education”[99]. To attain a certain level of knowledge and ensure continuous enhancement of human resource in military science and technology, all the factors relating to training process must be considered, for example: training goals, contents, methods, investment in modernizing infrastructure, and attractive benefits for advanced human resource in military science and technology. To be more specific, in the current situation, to improve the quality of advanced human resource training in military science and technology regarding the adaptation to the Fourth Industrial Revolution, in our opinion, some main matters, as following, need to be addressed:

First, military technology institutes need to standardize goals and clarify training motto accordingly to the objective requirements for improving the quality of human resource in military science and technology nowadays.

Current training goals and requirements of military technology institutes are: Educating military engineers, cadres, technicians to have decent work-related understanding,

[99] K.Marx(1867), "Capitalism", K.Marx & F. Engels - complete works, vol.23, p.285. National Politics Publisher, 2002.

strong political mind, ability to think independently and creatively; Undergraduate level, graduate level, and military talents; In-depth work-related knowledge and ability to fulfill appointed responsibilities. Based on the general goals, each specialization taught at military technology institutes is materialized to reach specific sub-goals in accordance with the quality, capability, and knowledge required for the respective positions that will be occupied by those trained groups upon graduation. Throughout the process of standardizing goals, the relationship between goals of the whole training program and goals of each specific period, each study level, each school year, and each specialization must be harmonized; Simultaneously, the process should comply with current developing strategy of the armed forces: "revolutionary, formal, high-skilled, modernized."

Process of standardizing training goals must meet the requirements of integrating and outcome of undergraduate level being equivalent to that of national standard, suiting with each study level, specialization, and typical characteristics of training young cadres, high-quality cadres in the domain of military science and technology. Standardizing training goals must direct towards creating and developing young human resource which has enormous potential and adaptive capability to keep pace with the development of science and technology revolution, especially military science and technology nowadays. Indeed, this is one of the important factors for the process of building a "revolutionary, formal, high-skilled, modernized" army in the context of the Fourth Industrial Revolution. Accordingly, human resource training goals must include the requirement for a well-rounded basic understanding, yet an in-depth knowledge of the specialization. Besides, other matters, such as political and moral qualities, professional motives, are also main contents and ultimate goals that should be strived for in standardizing training goals for advanced human resource in military science and technology at the present.

Standardizing training goals needs to rest on cognitive basis and are able to resolve conflicting aspects such as: conflict between comprehensiveness and intensiveness; conflict between meeting short-term demand and meeting long-term demand; conflict between adjusting quantity and advancing quality of human resource; conflict between reality as well as potential existing during training process and ultimate goal which is ensuring the success of training human resource in military science and technology with sufficient quantity, appropriate structure, and high quality. This way, drawbacks deeply rooting in human resource training in military science and technology can be adequately addressed, thereby facilitating the adaptation to the Fourth Industrial Revolution.

As a matter of fact, apart from conventional functions and responsibilities of researching, mastering, and developing military science and technology, the crew of cadres and technicians also has to deal with many complex and sophisticated situations in the real world. This fact entails the need for required knowledge level of the staffs to be reflected in training goals standardization, taking into account the fundamental core, systematization, persistency, and the possibility of changes in reality to make appropriate adjustments or complements if necessary.

Motto of human resource training in military science and technology nowadays is "hands-on learning", "theory is consistent with actuality", "a close relationship between school and military units is fostered." Therefore, a proper apportion among theory and practice, politics, military, and technical skills is crucial for the coherence not only between theorical knowledge and practical experiences but also between knowledge of military science and technology and knowledge of other necessary fields. Within the context of the Fourth Industrial Revolution, science and technology in general and military science and technology in particular are climbing the ladder and achieving major breakthroughs, laying a firm foundation for further development in almost all military elements. A sound foundation of modern science and technology will bring about many potentials for military arms and equipment. This, accordingly, leads to the demand for transforming the process of advanced human resource training in military science and technology these days. The resolution of the Party Central Committee XII's 5th Conference emphasized on "growing human resources, especially high-quality one, and seizing the opportunities and accomplishments of the Fourth Industrial Revolution."[100] This is, indeed, a wise strategy of our Party. In modern war, payrolls of combatant arms are fundamentally lean and highly mobile; Also, the battleground is expanded, making it more difficult to recognize the boundary between battlefront and home front. Combat operations have also significantly changed. Collaborative combat and independent combat are tightly combined thanks to modern communication system. Strategies, command system, and combination of different types of military weapons and equipment have sharply altered. Perspectives on combat space, time, objectives, and strategies are considerably changing as well. These altered factors have deeply influenced the process of advanced human resource training in military science and technology. V.L. Lenin asserted that: "…modern war as well as modern techniques require high-quality human resource. Without land forces and marine forces, along with creative ideas and consciousness, victory in the modern war is unattainable."[101] Thus, training process in military technology institutes these days must be built based on the practical military conditions. This is the only philosophy to be considered accurate in standardizing goals and requirements for advanced human resource training in military science and technology nowadays.

Second, continue to update training programs for advanced human resource in military science and technology and thereby aim at a well-rounded, firm, and in-depth development.

Training syllabus regulates system of vital knowledge for learners. This is one of the most important matters in advanced human resource training in military science and technology to adapt to the Fourth Industrial Revolution. As we all know, the nature of the

[100] Vietnam Communist Party, Document of the 5th Conference - Central Committee XII, Office of Party Central Committee, Hanoi, 2017, p.54.

[101] V.I.Lenin (1905), "Hai cang Lu- thuan that thu" , V.I.Lenin-complete works, vol.9, Progress Publisher Moscow. 1979, p.191

Fourth Industrial Revolution is relying on the foundation of digital technology and mingling with smart technologies, therefore resulting in the arrivals of new jobs, technologies, and techniques. This phenomenon arises not only in the general workforce but also in the domain of military science and technology. Thus, it is required that military engineers be equipped with the latest knowledge, skills, and qualities to keep up with new demands in practice. To meet this requirement, it is recommended to quickly complete training syllabus in an open and integrating way while speedily scrutinizing and properly arranging the contents included in the training syllabus. Moreover, it is essential to focus on leading fields which greatly affects the development of military science and technology in the context of the Fourth Industrial Revolution.

When updating training syllabus, training capability and demands need to be accurately determined with a concentration on developing plans and forecasting future demand for human resource in different fields of the armed forces. Under current circumstances, training syllabus need to acknowledge the importance of improving education and training quality in accordance with regional and international standards, thereby bringing about positive transitions in advanced human resource training in military science and technology.

Update on training syllabus needs to rest on practical requirements of current military activities and learners' abilities and requirements, thus ensuring lean, modern, practical characteristics as determined in our Party's ideology: "Quickly transforming education procedures from mainly providing knowledge to thoroughly developing learners' capabilities and qualities; hands-on learning; theory is consistent with actuality. Education and training development must go along with demands for economic and social developments, nation-building and defense, science and technology enhancement, requirements for human resource and workforce development"[102]. Training syllabus needs to equip learners with both knowledge and skills that are suitable with the fast changes of the Fourth Industrial Revolution, especially changes in military science and technology. Training programs must aim at developing both capabilities and qualities of learners, thereby ensuring harmonious combination of moral, rational, physical, and artistic aspects; providing education with regard to becoming an ethical person, obtaining fundamental understanding and vocational knowledge; Particularly, teaching duration for foreign languages, information technology, and technology needs to be extended appropriately. Open-training programs must be carried out in such a way that is flexible and compatible with the fast changes of the Fourth Industrial Revolution. Also, training programs need to focus on the close relationship between "theory and actuality", "link between school and military units" … This way, education is worth to be considered a priority in implementing plans and programs of economic and social development, as our Party determined: "Transforming

[102] Vietnam Communist Party, Documentary of the 12th National Party Congress, Office of Party Central Committee, 2016, p.114-115.

education and training both fundamentally and comprehensively; improving the quality of human resource; promoting research, development, and applications of science and technology; maximizing leading, central role of education, training, science and technology in our country's transformation and development progess.[103]

However, updating syllabus for advanced human resource training in military science and technology is a complex problem these days. This complexity directly derives from conflicts arising during training process, in which the major conflict is between the fast augmentation of humankind knowledge, particularly improvements in military science and technology, and limited time for training. To settle this conflict, the problem arising in the process of updating training syllabus is the need for a fundamental, systematic, and in-depth resolution. Therefore, under current circumstances, training syllabus update needs to be coupled with the current requirements for army's development, particularly military science and technology's development, and to be suitable with prevailing trends of education development both nationally and globally. Most importantly, training syllabus update for advanced human resource training in military science and technology needs to be well-rounded and practical with a concentration on systematic, unitary, flexible, and modern characteristics. Some other problems emerging during the process of updating training syllabus are: scrutinizing, eliminating overlaps in different subjects and modules; determining the accurate volumes of fundamental knowledge and specialization's knowledge; new subjects and new problems need to be researched fundamentally and systematically so as to, then, be added to the syllabus; rectifying adverse trend of prioritizing only specialization's subjects over other scientific subjects and vice versa.

Third, acknowledging the importance of modernizing education and training's methods, investments, and improvements in military technology institutes to energize learners.

Accompanying training syllabus update's progress, a crucial factor contributing to the improvements of advanced human resource training in military science and technology under the influence of the Fourth Industrial Revolution is transformation in education and training's methods. Teaching methods these days are required to focus on teaching learners to study and think independently; Particularly, encouraging self-study and life-long study among learners is very important. This means that we have to "continue to quickly modernize teaching methods; encourage positiveness, proactiveness, and creativity among learners when it comes to knowledge and skills application; change the habit of passive learning and memorization. The emphasis should be teaching and encouraging independent study and thinking, thereby equipping learners with the abilities to absorb new knowledge and skills by themselves"[104]. Under the strong influence of the Fourth Industrial Revolution

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[103] Vietnam Communist Party, Document of the 12th National Party Congress, National Politics Publisher, 2016, p.77.
[104] Vietnam Communist Party (2013), Document of the 8th Congress - the 11th Party Central Committee, Office of Party Central Committee, Hanoi,p.128-129.

on all social aspects including military science and technology, humankind knowledge is rapidly gaining in numbers. Therefore, the essence of advanced human resource training in military science and technology must be instilling in learners the abilities to think logically, synthesize, and apply absorbed knowledge in practice. Professors must inspire learners to be proactive in studying and researching so that learners can devise new findings and effectively address new problems without rigidly sticking to outdated methods. Professors also need to trigger and nurture both critical thinking and creativity of learners; In return, learners must be surrounded by a creative environment because only in such environment can learners' potentials of consciousness and practice be maximized. Under prevailing circumstances, the effectiveness of advanced human resource training in military science and technology is not measured by the volume of delivered knowledge but mostly by the development of creative ability, logical thinking, adaptive ability, and the ability to apply acquired knowledge in military practice. Military technology institutes need to provide military engineers and cadres with decent infrastructures for the purpose of promoting self-study and avoiding being left behind by the current state of technology explosion.

Aside from transforming teaching methods, upgrading teaching facilities is also an important factor to exploit full benefits of currently available resources. Apparently, modern technological facilities have become an inevitable element of modern education system in the prevailing situation. Hence, the process of advanced human resource training in military science and technology requires gradual investments in modern facilities, coupled with carefully considered alternative of upgrading equipment which is directly involved in technical specialization of each study level and each major.

Fourth, completing system of policies and procedures for training and developing advanced human resource in military science and technology.

This is one of the crucial factors generating direct motivation for continuous improvements in advanced human resource training in military science and technology of our country nowadays. Our Party has determined that: "Completing institutions for developing, applying science and technology, education and training, human resource, especially high-quality human resource"[105]. With the passage of time, our Party, nation, and army have passed many proper institutions and policies, favorably influencing the process of advanced human resource training in military science and technology. However, during the progress of implementation, the existing policies exhibit some drawbacks and fail to exert expected effects. As a result, improving quality of advanced human resource training in military science and technology requires not only regular adjustments and complements but also complete, appropriate institutions and benefit schemes for in-charge staffs.

4. Discussion and Conclusion

In the forthcoming years, it is necessary to continue to rigorously implement

[105] Vietnam Communist Party, Document of the 5th Congress - the 12th Party Central Committee, p.54.

"Proposal of ameliorating and developing military teaching staffs". In the short term, training and re-training teaching staffs, taking on different forms, should be further advanced. In arranging and appointing teaching cadres, people with decent abilities and qualities are prioritized to effectively nurture the potentials of this group. Functional departments, together with military units, elect officers who possess adequate abilities and teaching skills, to receive trainings for changes in work position, from working in military units or factories to working as lecturers. Selections of lecturers among outstanding students are prioritized. Furthermore, it is beneficial to establish partnerships with other universities and military technology institutes to recruit students graduating from technology specializations with decent abilities, qualities and are willing to work for military institutes in the long term; expand joint training networks; send outstanding cadres, lecturers, and students abroad to enhance their technical knowledge …

The works of completing institutions and policies for training advanced human resource in military science and technology need to be carried out simultaneously in all aspects such as: career orientation, education and training's quality, development policies, working conditions and environment, along with benefit schemes' policies and military home front policies … Especially, employment and benefits must be concentrated on to generate motivation and encourage positive attitudes towards continuous improvements in all aspects among students of military technology institutes. Proper, effective policies regulating scientific research activities should be implemented; Excellent research proposals should also be offered well-deserved rewards.

In conclusion, the Fourth Industrial Revolution has significantly influenced all-round process of education and training, especially advanced human resource training in military science and technology. Therefore, improving the quality of human resource in military science and technology entails education and training's process to be transformed with adaptation to the Fourth Industrial Revolution. In other words, the progress of building a "revolutionary, formal, high-skilled, modernized" army under the context of the Fourth Industrial Revolution largely depends on the exploitation of human resource, especially advanced human resource training in military science and technology these days.

5. References

1. General Statistics Office, Socio-economic report in 2016, 2017, 2018, 2019, 2020.

2. To Hien Tha (2014), Creating a healthy competitive environment - Solution in anti-monopoly business in our country today.

3. Phan Huy Duong (2018), Solutions for developing high quality human resources, Labor and society;

4. Key Economic Region in Northern Vietnam: Current situation and emerging issues for sustainable development

ECONOMIC ACTIVITIES AND ENVIRONMENT IN KACHIN STATE, MYANMAR

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Abstract

This paper is consideration toward sustainable economic management for development and natural resources conservation to bring green, clean environment and stability of climate situation, recommendation bring to the peoples to keep rivers and forests of Kachin State. The damages such as social, environmental are throughout the state by the extensive and unsustainable mining includes problems to river ecosystems, mercury contamination, deforestation and social disintegration. A major aim is to focus on environmentally harmful and unsustainable resource extraction and to contribute knowledge and experience for development of the local people and the environment. Any mining, gold, amber and jade mining brings immediate wealth for some, but has serious long-term problems for people and environment. Today, the majority of the world's population lives in urban areas. Before the industrial age, cities for commercial trade and administration, but people resided in rural areas, engaging in mining, subsistence agriculture etc. Advances in technology from the industrial era created a highly productive sector: manufacturing. The focus shifted to meeting the needs of modern life but economic activities still depend upon natural environment. It needs to be highlight for sustainable development goal.

Keywords: *clean environment, conservation, development, sustainable economic management.*

1. Introduction

Kachin State, (343799.999 sq. miles) is made up of beautiful snow capped mountains, tropical and subtropical evergreen forest, and borders with India's Arunachal Pradesh State on its west, China's Yunnan Province on its east, and Tibet in the far north. Total population in Kachin State was 1,689,441, male 878,384 and 811,057 female (2014 census, Census Report Volume 3– A (Kachin). Urban population was **1,642,841** and rural population was 1,050,473 in Kachin State (census 2014). The headwaters of the Irrawaddy River and ice capped are unique landscape of Asian countries, are found in Kachin State. The N'Mai Hka and Mali Hka give birth to the Ayeyawady River. A wide range of ecosystems, through to high alpine areas a diversity of wildlife and numerous extraordinary species of plants, some of great medicinal value (Seng Aung, 2006). Appropriate levels of properly regulated mining and hydroelectric development could provide an important lift to the economy, though hydroelectric investment often involves the importation of workers rather than jobs for the local labor force. Amber, gold, precious stones, jade and other minerals are extracting. The mining sector is a major source of economic activity in Kachin State. The mining operations have been criticized for the extensive environmental damage they cause, as well as for the working and social conditions of mine workers and the affected neighboring communities. Many social problems such as alcoholism, drug addiction and gambling result among migrant workers separated from their families.

2. Method

The data obtain is based on a variety of sources, including interviews, field works, internet search, social medias and literature reviewed of mining-related documents. The interviews were carried out with knowledgeable people from Kachin State over a time. Interviewees were local miners, mining developers, local leaders and people working in mine areas. Research in Kachin State was conducted all time. There are many questions and answers concern with environmental observing and health studies, and from people who are willing to participate.

Field observation and interviewed aged old people and literature review are carried out. Documentary photographs are taken to be used qualitatively and descriptive research technique is used. Collective discussions at the community dialogues in the villages along with the face to face meetings with different stakeholders at the township level gold mines that included key persons from relevant goal mining and workers that provided information on how working in different gold mining areas.

3. Results

Gold mining

According to MIMU, 2020, organizations active in Kachin State were a total of 64 agencies reported activities in Kachin state: 42 are engaged in development-focused projects (273 village tracts/towns), 11 are engaged in support to other vulnerable groups. Some projects of each sector in Kachin were as follow -

s. No	Sector	No of project	No of Township
1	Agriculture	4	9
2	Environment	3	3
3	Mine action	2	2

Source: MIMU 2020, page 3.

Gold mining operate along all the major rivers, Mali Hka, NMai Hka, Chindwin and also on-land where virgin forest areas. The main mining centers appear to be along the Irrawaddy River north of the state capital Myitkyina and the areas Hukawng Valley/ Tanai Township and the Chindwin River, Dabi Hka and Nambyu Hka rivers.

Since the 1990s, transformed to Market Oriented Economy local small scale the artisanal mining has been replaced by companies' mechanized mining and more environmental destructive practices. These include riverbed mining with bucket and suction dredges as well as hydraulic mining of river banks and large open pits and shaft mines. Make way for mining and setting of necessary infrastructure on land more and more areas are major drivers of deforestation in Kachin State. Together with the mining activities, mercury utilization in the mining areas has increased. Unsustainable methods of mining that effect increasingly in large areas of land and are spreading, cyanide leaching, as the most easily accessible alluvial gold is depleted and deposits deeper in the ground and in hard rock are exploited.

Kachin State is well-known as rich areas of biological diversity. The natural resources conservation is local, regional and international level of importance.

The logging and gold mining has already caused incalculable loss of biodiversity in the rivers and forest ecosystems. Gold mining is taking place in the headwaters of the Irrawaddy. It threatens the ecosystem of the entire river basin and along with it the livelihoods of about 20 million local people (recited by PKDS, 2004). By its very nature gold mining is unsustainable and highly disruptive to the areas in which it takes place and of the downstream environment. Practically effective conservation and adequate environmental protection laws and proper law enforcement are needed.

Mining wastes is discharged directly into rivers and onto land including agricultural areas, the same time mercury used in the mining process are effected on spreading areas by mining operation moves on. Engine oil used to run machines and waste from mining flow to rivers and valley cause the pollution effect in agricultural lands. Mining chemicals will continue to take its toll on biodiversity and human health. Aside from the obvious pollution, mining causes physical and chemical structural changes to rivers which can cause ecological damage. Rivers are diverted for riverbed mining operations, while water blasting of sediments destroys riverbanks. These structural changes result in the loss of many riverine habitats for fish species. They also affect the direction and speed of the water erosion which has already led to unusually low water levels in flooded areas and increased flooding in others.

Planning for the short and long-term considerations in the Kachin State is desperately needed. The mining of gold in Kachin State is earning enormous profits - but at tremendous lost to the environment. Local communities do not benefit from the business but instead suffer from environmental degradation. They are frequently deprived of clean water and farm land, and of access to resources that formerly provided their livelihoods. The economic conditions that gold mining cause great inequality and poverty. The uneven development of ethnic areas and widespread corruption has exacerbated the situation.

The mining often deepens poverty and it creates numerous social problems, such as drug and alcohol abuse, prostitution, gambling, loss of community identity and ethnic conflicts. Mining areas are also breeding grounds for malaria and sexually transmitted diseases (PKDS 2004). The gold mining industry as it is operated in Kachin State exposes local people and migrant workers to serious long-term risks from mercury poisoning. According to PKDS 2004, miners and local people are often poorly educated to access information on the threats posed to their lives and health from pollution by mining agents, so dangerous handling of mining chemicals is commonplace. Working conditions for miners are not at all safe extremely difficult to improve. Poorly equipped divers work exceptionally long hours under water directing the hoses of suction dredges. The loose sides of current and abandoned mining pits constantly threatens to bury mine workers and locals under landslides and have already allegedly caused many deaths. Accidents on the turbulent rivers have become more frequent as the number of vessels has increased. The anchor cables of dredges and the dredges themselves are obstacles for traffic on the river. Mining activities in Kachin State have already taken an unacceptably high toll in lives of locals, workers and people traveling along the rivers.

Hukawng Valley: Hukawng, isolated valley in Kachin State. The abundant watershed rainforests of the upper Chindwin (Tanai Hka River) and gold mining activities gold containing sediments deposited by annual floodwaters can be found on the banks of all the tributaries of the Tanai Hka. There are Nam Byu, Shumbwi Yang, Kap Dup, Wanpala, Dalu, Daga,Ting Kok and Nam Gawn major gold mining areas. The natural deep forests are turned into denuded, muddy wastelands of tailings pools and rock piles. The miners are mostly migrant workers from other pleases of Myanmar.

The Mali Hka River is one of the main centers of mining activities in Kachin State. At some places the river is wide enough to allow river bank mining. Before the gold boom, the villagers along the Mali Hka made their living through rotational farming, forest cane (rattan) gathering, and some small scale gold panning. Now most locals work in mining related activities and thousands of outsiders have come as migrant workers. The numerous social and environmental problems these villages face are repeated in many other areas of Kachin State where mining for gems, gold, amber and illegal logging cause a temporary boom. As sustainable local livelihoods have changed to dependency on gold mining, communities have become less self sufficient, particularly in food. In this way, mining has caused communities to become less viable in the long term. Dependence on prostitution and drug dealing, drug abuse and the spread of HIV/AIDS and other diseases are part of the reality.

Deforestation is a major concern since the trees of the surrounding forests are being cut to clear land, for the construction of mining camps, fuel wood or simply to make space for mining. Sewage from the mining sites contaminates the rivers. Many people do not understand that the river is polluted, and continue to take their drinking water from the river (PKDS, 2004).

Gold mines on the N'Mai Hka River, around Chipwi Township are still being major mined. Magyeng Yang is a mining-affected village in the Chipwi region. The Chipwi region is severely deforested from gold mines abandoned over ten years ago.

Hpakant jade mine

The product of Kachin State is best known for is its jade and most of the jade extracted in Myanmar comes from Hpakant. The important jade mines are located in Hpakant township of Mohnyin District (Tawhmaw, Longkin and Houngpa). Annual production figures have exceeded 32,000 tons in recent years with a total value of some US$2 billion, most of it being exported to China (UNDP, 2015). Other important mineral products are amber, gold, copper, iron ore and gems.

Hpakant, is internationally famous jade mines which also produce gold as a secondary product. In the 1980s, the area surrounding Hpakant was destroyed rapidly after the period 1988 with the increase of mining. Hpakant has experienced massive expansion of roads, business activities, and migration. More than 500,000 people were living in Hpakant by 2001(PKDS, 2004). Most are migrants from the whole Myanmar and from China.

Gold and the environment

Mass containing acids, finely crushed rock material, toxic heavy metals, and chemicals like cyanide can be observed. It is difficult to store this harmful waste. Tailings of waste rock and sand mixed with leftover mercury are straight into the rivers and valleys. In addition to pollution from the dumping of tailings and chemical can cause acid mine drainage due to gold is mined from rock ore that often contains high levels of sulphur as contact with air and water and produces sulphuric acid. This acid then dissolves heavy metals like cadmium bound up inside the rock, which then pollutes the environment. There is no scientific research about pollution caused by acid mine drainage in Kachin State to any effort to clean up waste rock or restore water quality and clean environment. Many of the most massive deposits are depleted and the areas from whence the minerals extracted are poisoned wastelands (PKDS, 2004).

There is no land rehabilitation in evidence of gold mining areas that the rehabilitation of mined out areas is not taking place as required by environmental law. Companies often leave old dredges behind in order to save environment and massive disturbance of the natural landscape.

Gold and social impacts

In Kachin State mining is taking place suffer from a wide range of social problems at the jade mines of Hpakant and other mining areas and spreading throughout the state. The problems such as mercury poisoning or drug, lose identity, the village loses, loss of interested in agricultural practices. The gold mining economy often profits people for outsider rather than locals. Many people lose their land due to gold mining, when the companies to whom they have given concessions force villagers to give up their land.

Education is often neglected as many children are tempted to earn quick money in the gold mining areas. Rising commodity prices, increasing the migration and labour in mining areas. Local indigenous people who work in the mining related business may lack any knowledge of the disease or its prevention at special risk for health. There is an absence of decent medical care and health education. Varieties of narcotics drug abuse spread of HIV/AIDS and other infectious diseases. Hpakant also is one of the human Trafficking industry area in the Kachin State.

Biodiversity

Of about 600 species of rhododendron world wide, around 260 are to be found in Kachin State (PKDS 2004). Numerous plant species were described by Kingdon-Ward, one of the first western scientists to explore Kachin State (1921-1952), among them the black orchid (Paphiopedilum wardii) a species endemic to the area north of Putao. A World Conservation Society (WCS) sponsored expedition found 38 different orchid species during a short survey to the Naung Mun area, Putao district in 1998. The valleys contain some of the last remaining extensive tracts of primary evergreen lowland forests in the region. Centuries old teak trees that have been spared the chainsaws and axes due to geographical and political inaccessibility can still be found in some areas. 84.2% of Kachin State's total land area is covered with forest. Ecozones of Indo-Himalaya and Chino- Himalaya, is creating an environment of extremely high biodiversity. As part of the Mizoram-Manipur Kachin rainforest eco-region, the area is home to 149 mammal species, among them the threatened takin (Budorcas taxicolar), eld's deer (Cervus eldii), red panda (Ailurus fulgens), leopard (Panthera pardus), gaur (Bos gaurus), elephant (Elephas maximus) and Malayan sun bear (Helarctos malayanus). There are 580 birds species have been counted – which is more than for any other eco-region in Southeast Asia (MIMU, 2020).

The highest number of amphibian and reptile species, the Irrawaddy dolphin, Hukawng Valley, the biggest tiger populations in Asia. Pidaung Wildlife Sanctuary (1917/18), the Hkakabo Razi National Park (1996) and the Indawgyi Wetland Bird Sanctuary (1999), are an important step towards nature conservation. Unsustainable practices like gold mining and related logging and hunting continue in many protected areas are major problem.

Agriculture

Agriculture can certainly provide a living for farmers and people but at a relatively low level unless technology, farmer support, infrastructure and marketing improve. Tourism might provide some additional potential.

The main crop in Kachin state is rice/ paddy and about 660,000 acres in 2010/11, up from 431,000 acres in 2005 (Proximity Designs, Myanmar, 2016). Other crops with about a tenth as much area each are peanuts, fruits, vegetables and rubber. There are many other crops with much smaller areas planted. Some of these are grown on land not used for rice and some on rice land when monsoon rice crops are not being grown. There might altogether and generously be 900 thousand acres that are cultivated by smallholders.

A farm extension evaluation in Kachin state in 2003 found that paddy yields could be doubled from 40 to 80 baskets an acre at low cost, so net income could be 40 baskets an acre.

There are also gather fish or forest products and to work for wages when farm labor demands are less pressing. Increased jade mining have created more wage opportunities. Income is doubled from other crops, it was well below the income from nonfarm wages.

If farm sizes remain below five acres for most households, the income from farm operations alone is not enough and incomes from nonfarm activity.

Most people (65%) in Kachin state live in rural areas and most of these rely directly or indirectly on agriculture.

The deforestation is bound to cause environmental problems which are hampering smallholder agricultural progress. The presence of well-paid work in jade mines, gold mines and other nonfarm jobs makes agriculture and likely productivity levels less attractive, but it is essential. There are opportunities to improve farming methods, outputs and incomes at a reasonable cost and these needs to be implemented.

The economy of Kachin State is predominantly agricultural. Kachin's agriculture is much less intensively developed than in the Regions of the Ayeyarwady basin to its South. Nevertheless, Kachin produces considerable quantities of rice, corn, groundnuts, pulses and beans, sugarcane and vegetables. A number of eradication programmes has helped to replace opium-poppy as an important crop. There are also good conditions for freshwater fisheries and livestock, common in many areas. The forests produce teak and hardwood, as well as charcoal, bamboo and resin. A number of industries are associated with these products, such as sugar mills and rice mills. Weaving and blacksmithing are important cottage industries.

The river ecosystem

In the river ecosystems habitats having plenty of fertile and diverse, providing homes for birds, mammals, reptiles and amphibians as well as many types of fish, shellfish and other aquatic creatures. Gold mining associated pollution from mercury and cyanide, acid mine drainage, toxic tailings, diesel and engine oil is a severe threat to wild flora and fauna. The potential for mercury to have toxic effects on Irrawaddy dolphins may be high, metals probably settle in higher concentrations in the river channel. Analysis of mercury content in fish samples, areas with the highest mercury pollution were the confluence of the Mali Hka and the N'Mai Hka and the Irrawaddy downstream of the Chindwin confluence (recited by PKDS, 2004). These findings suggest that overall mercury levels are probably higher in Irrawaddy tributaries due to intensive gold mining activities and reduced dilution capacity in these smaller rivers. Ecological impacts, such as bioaccumulation of pollutants, directly in the mining areas as well as further downstream towards the delta area.

More research needs to be carried out. Gold mining brings about a complete structural environmental, social and economic change and affected rivers ecosystems. The pits and shafts of gold mining also cause erosion and again silting as the soil runs into streams and rivers. Landscape changes like river beds, shallow water levels, shift in sedimentation areas and increased riverbank erosion cause floods every rainy season. As mining techniques like sluicing and hydraulic mining in the natural river system have reportedly increased the danger of flooding and droughts. With around 84% forest cover, deforestation inevitably is a side effect of the gold mining process in Kachin State. Forest has to be cleared to make space for mining sites is bringing further deforestation and destruction local communities facing with rising commodity prices and increases the pressure on natural resources and climate change affects and poverty in areas. This cycle of goal mining is results in socioeconomic and environmental often depletion in Kachin State. The rubbish, spilt fuel and sewage from mining camps further pollutes the environment severely threatens Kachin State's river ecosystems and associated watersheds.

4. Discussion and Conclusion

4.1. Discussion

The result of this paper is an important study to gather information about how the lives of people living and working in Kachin State. The findings will provide key information for stakeholders in the government to plan for future local economic activities and environmental conservation and sustainable development in the state, and to address challenges and gaps. The importance of the study lies in the fact that the views expressed are from both sides of the positive and negative impacts.

The study expressed problems and recommendations focusing on the economic activities and environment. The findings share government officials at the State level to further understanding of their perceptions and experiences regarding the functioning of administration at the gold mining areas in township level and support to lower level mine workers.

The study is appreciation for increased environmental allocations particularly for education and health to the local level, and the resultant improvements. More decisions making in how methods are allocated and plan could make bottom up planning and local people centered development.

To prevent serious erosion and biodiversity lost need to be considered in virgin forest areas and in areas along riverbanks. Because of their remarkable qualities and large number unique species, the forests of Kachin State deserve world heritage protection status – including the N'Mai Hka old growth fir forests and the forests of the Hukawng Valley. Dredging operations should be strictly monitored. Dredging operators should be compelled to restore streambeds to their natural topography, not create waterway hazards. Anchor cables and dredges should not be placed where they endanger boats or rafts. Immediately stop the discharge of untreated mining wastes into rivers. Remedial and mitigation treatment should also be carried out. This should be strictly enforced by law, and with mining companies obliged to put up funds in advance to cover the full costs of clean-up in the event of toxic waste spills in mining areas.

Cyanide use should be either prohibited or strictly regulated, due to the impossibility of safe containment. The sale of mercury should be strictly regulated, and all sales should carry safe handlings and health advisory warnings in relevant local languages. Conduct research on specific effects of mercury pollution in Kachin State is important. This is urgently needed both in Kachin State and in downstream areas, concentrating on the human impacts already experienced in Kachin State. Testing should for contamination of shellfish, fish and weed species may also be necessary.

The large scale increase of illegal migration into mining areas should be managed.

The widespread hunting, electric fishing and consumption of wildlife by people especially by migrant gold miners and timber workers need to be ended.

Employ locals, transfer technology: Foreign-owned dredges allowed to remain in operation should be obliged to employ and train local people to ensure that local people have a fairer share of the economic benefits. Training should include minimizing environmental and social impacts. An environmental law on mining in particular is urgently needed in order to introduce effective legal measures to prevent and mitigate further environmental damage and social fallout and should effectively notified of the environmental protection laws.

Make environmental and social impact assessments by the implementation of laws that cover all potential significant impacts should be carried out.

4.2. Recommendations

To provide improved healthcare services for miners and the general population suffering from pollution effects require affordable, skilled medical treatment and specific medicines. A greater proportion of state revenues should be allocated to enough healthcares, including primary health education.

To provide information on health impacts of mining activities.

To inform local people about the impacts of mining and risk mitigation through the school and medical systems.

Warning signs and advisories in local languages need be put up in appropriate places in mining areas. Medical staff and community health workers need be trained.

Dialogue between all stakeholders, the ethnic nationalities will make possible the effective long-term protection of the environment and more sustainable use of natural resources in the country.

Develop and express clear conservation help research the environmental problems. More information needs to be collected on people need to know the reasons the damage is taking place. It is very important to know what local people think can be done to solve the problems.

Become more active on conservation issues and join all people and who have been taking steps to protect themselves from gold mining destruction.

Aim to increase environmental awareness amongst community, environmental education materials should be produced and distributed to locals suffering from impacts of mining and deforestation, climate change as well as to the decision makers on all levels. People in both the local and international level need to share information about to decreases in fish and wildlife numbers, the increase of water pollution, the spread of deforested and disturbed areas, the extent of fertility and topsoil loss, and resources.

Come up with development alternatives ways of right livelihood (e.g. agroforestry, herbal medicine research and production, food processing, cultivation of cash fruits and rattan cane, hardwood trees, orchids, etc.) are important.

Restore mining areas affected by their activities to their original condition for covering mined areas with layers of soil and topsoil, reforestation and permanent containment of heavy metal and acid contaminated water is needed.

Educate mine overseers and workers on safety: Training on basic and improved methods of handling toxic substances and the use of safety equipment should be compulsory for mining operations.

Research cooperation, development and transfer of new safety equipment and technical solutions to mitigate social and environmental impacts is needed from international environmental groups for those actively working to protect environment, sustainable livelihoods.

4.3. Conclusion

In summary, several examples of good work and good approaches that need to be acknowledgement. The township development planning process requires clear guidelines in the needs of participatory planning and a clear statement of selection criteria need to be linked to the annual planning cycle. The contact detail of the individual responsible for the project is also important to have institutional economic activities and environmental arrangements in gold mining areas of Kachin State. Research for local populations related to economic functions, environment, management, infrastructure, logistics, and private sector would be replaced on unsustainable gold mining economy and impacts on environment in Kachin State. Deeply studies on protection, livelihood, agricultural, seasonal flood and climate change, appropriate economic activities for urban population need to be explored in Kachin State.

All local people face similar kinds of challenges in their local economy and improving access to basic functions. Poor infrastructure, problems of resource allocation, awareness and public private participation to reforms for advancing development are needed in Kachin State. At the same time, an important start will make on developing the necessary management systems to support participatory development, as well as the creation of improvements in health, education, sustainable management on economic functions. The voices that need to be heard for development goal to solve problems and challenges that will the new directions and effective ways in the State.

Strengthening local economic activities and environmental awareness through the committees and administration to provide services and reduce poverty and improve socioeconomic functions for local people. The reestablishment for sustainable economic and environmental management in village level committees would go to the way to opportunities for people's participation in development.

5. References

1. Images Asia Environment Desk and Pan Kachin Development Society (2004), At What Price? Gold Mining in Kachin State, Burma, ISBN 974-92649-8-3

2. Department of Population, Ministry of Immigration and Population (2015), The 2014 Myanmar Population and Housing Census, Kachin State Report, Census Report Volume 3 – A

3. *Nigel Harris, January (1990), Urbanization. Economic development and policy in* Developing Countries, No. 19

4. Mohamed Arouri (2014), Effects of urbanization on economic growth and human capital formation in Africa.

5. Myanmar Information Management Unit(MIMU, 2020), Overview of the February 2020 3W Kachin

6. Proximity Designs, Myanmar (2016), Kachin State Development Prospects and Priorities.

7. Seng Aung (2006), Sustainable management on highland cultivation in Chiphwi Township, Kachin State.

8. UNDP (2015), Local governance mapping, The state of local governance: Trends in Kachin.

9. World Cities Report (2016), UN Habitat for a better Urban future, Urbanization and Development

COMMUNITY DEMAND TO PARTICIPATE IN ECOSYSTEM SERVICES SCHEME: A CASE STUDY OF BOLIKHAMSAY PROVINCE, LAO PDR

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Abstract

Payments for ecosystem services (PES), also known as payments for environmental services (or benefits), are incentives offered to farmers or landowners in exchange for managing their land to provide some sort of ecological service. They have been defined as a transparent system for the additional provision of environmental services through conditional payments to voluntary providers. These programmes promote the conservation of natural resources in the marketplace. This paper introduces PES scheme for local people at villages in Bolikhamxay Province, Lao PDR. It first gives an overal picture of PES at provincial level before going to details of local community willingness to pay to participate in PES schemes in the region.

Keyword: *payment for ecosystem services, contingent valuation method, community livelihood, willingness to pay*

1. Introduction

Ecosystem Services (ES) are benefits that humans obtain from natural and cultivated environments. For example, hydrological services can be obtained through river flow regulation, flood control or protection against soil erosion. ES are threatened worldwide, in a variety of ways, by human activities. In response to such threats, the concept of Payments for Ecosystem Services (PES) has been proposed as a simple scheme to reward land users who adopt practices that generate ES, hence promoting sustainable land use (Mayrand et al., 2004).

Lao DPR is currently undergoing a rapid increase in hydropower development. There is currently up to 3.800 Megawatts of generation in operation, and predictions are that generation capacity may increase to 12,500 Megawatts by 2020 (Ministry of Energy and Mines). Ecosystem intact upstream catchments are important for these hydropower projects as they provide a range of watershed services such as reduced sedimentation, water flow regulation, improved water quality, and reduced damage due to floods and associated debris.

Upland areas that make up hydropower catchments are often occupied and farmed by people who have lived in these areas for many years. While traditional widen farming practices have been largely sustainable, and conducted at low intensities in the past, increasing populations and demand for agricultural commodities, as well as road construction leading improved access for agricultural traders, is leading to reduced fallow lengths and deforestation through pioneering shifting cultivation, often for non-traditional species such as maize for export to international animal feed markets. Negative impacts of this trend include reduced farming land productivity, insecure livelihoods and reduced NTFP availability for local people, and a reduction in the watershed services that hydropower projects depend on. There is a need for mechanisms to ensure that catchments are managed sustainably for both watershed services for hydropower projects and for the needs of local communities. Payments for Environmental Services (PES) schemes have been suggested as one potential option.

This paper studies the demand for PES of local people at villages in Bolikhamxay Province. It first gives an overal picture of PES at provincial level before going to details of local community willingness to pay to participate in PES schemes in the region.

PES at study area – Bolikhamxay Province

Social - economic characteristics of study area

Bolikhamxay Province, situated in the central of the Lao PDR, is characterized by the Annamite Mountain Range stretching east to Vietnam, and the Mekong River and Thailand to the west. The Annamite Mountains in the east are blanketed by semi and wet evergreen forests and are home to a high number of endemic species. Western part of the province is largely covered by drier semi-evergreen forests of a type that is more widely distributed in Indochina and contains varied habitat including grasslands, wetlands, and limestone karst.

Bolikhamxay province is primarily covered with forest (57.9%) composed primarily of mixed deciduous forest and evergreen forests. The evergreen forest occurs primarily in the east of the province close to the Annamite range along the Vietnamese border. Plantation forest, mainly rubber and acacia, are found in the flatter areas and represent nearly 1% of the total forest cover. The Regenerating Vegetation describes fallow lands, both young and old, that can also be non-mature forest plantation areas or stable bamboo forest.

There are Protected Forest Areas such as; The Nam Kading NPA, Phou Sithone ESCA, Nhot Nam Mouand PPF and Nacheng PES are mostly covered by mixed deciduous forest in similar proportions (Figure 2.1). The Phou Chom Voy PPA has the highest forest cover of any of the protected areas; half of the protected area is covered in evergreen forest while an additional third is covered by mixed deciduous forest. The Nam Gnouang South Protection Forest Area is a combination of the THXP reservoir, agricultural land, perennial grassland and mixed deciduous forest on its west side. The Khamkhuna PES area has nearly 37% of its area covered by regenerating vegetation suggesting it may be the most disturbed of all the protected areas.

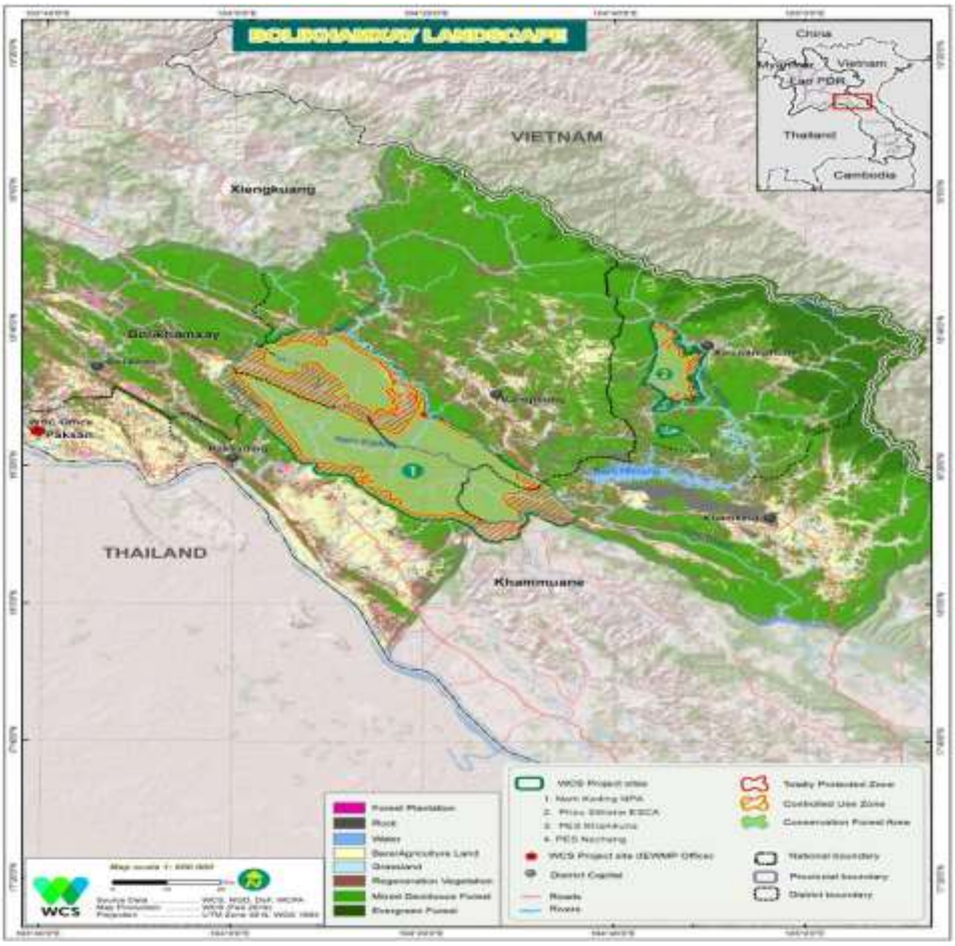


Figure 2.1. Location of the Study

The human population of Bolikhamxay is highly diverse, with several tribes from 3 major ethnic groups: Tai-kadai group, Khmuic group that encompasses Khamu and Pong, and Hmong group, totalling over 200,000 people. Population densities are, however, incredibly low with only 18 people/km^2. Around the protected areas where WCS is involved (Nam Kading and Phou sithone), community livelihoods rely on upland farming systems that are based on paddies, swidden agriculture, natural ecosystems and the services they offer, such as the provision of food, medicines, fuel, and non-timber forest products (NTFPs) that are both consumed and sold to help generate rural incomes.

Introduction to ecological services in the study area

Nam Kading NPA was created in 1993. With little villages located inside the NPA and given the difficult access to the core area, the forests remained in good state of conservation. In 2005, began support to the Nam Kading NPA Management Unit, providing technical assistance, intensive biodiversity monitoring, outreach to communities, ecotourism training and law enforcement. Nam Kading NPA is currently witnessing the development of the Nam theun 1 hydropower project, increasing pressure over land for agriculture, and significant hunting related threats. Although large fauna was present, it has disappeared or became scarce (Gaur, big cats, elephants and primates).

Since 2019, Provincial Authorities are engaged in the management of the NPA through integrated management of the Protected Area, that includes revision of the management plan, Spatial planning and land management, Law Enforcement and patrolling, capacity building of the personnel assigned, awareness campaign and Biodiversity monitoring. Approach adopted is to support rural communities in and around Nam KAding NPA to develop their livelihoods through ecotourism, non-timber forest products and village incentive funds. Finally, WCS is facilitating the Public Private Partnership between the Hydropower Company and the Government in order to sustain long term financing mechanism to the NPA.

2. Method

2.1. Models of non-market value evaluation

The parametric model is to calculate the willingness to participate for improving the forest environmental quality into the original state as if no degradation has occurred. In addition, the parametric model allows the integration of the socio-economic characteristics into the WTP function. Good understanding on how the WTP changes by individual characteristics allows surveyvers to understand the validity and reliability of the CVM method, then broaden the results of survey sample generally. Moreover, if the relationship between the independent and dependent variables in the WTP function complies with the theoretical models, the reliability of CVM will increase. The parametric model consists of two parts which are: estimating the WTP dominant function and from that function, calculating the WTP from the regression coefficients. Step 1 involves estimating the WTP function or Random Utility Model.

This model was initiated by Haneman (1984) and later developed by MacFaden. In the case of CV, there are two options. Indirect utility function of the j^{th} person is expressed by equation

$$u_{ij} = u_i(y_j, z_j, \varepsilon_{ij}) \qquad (1)$$

i = 1 is the post-improvement environmental condition (as before the degradation) or the final state, i = 0 is the current state (degradation after the incident or pollution or deforestation). The factors that affect the utility of jth person including: y_j, which is the income of jth household, z_j is the m-dimensional vector of the socio-economic characteristics of jth household, and ε_{ij} are other dominant factors but not observed. $u_{ij} = u_i(y_j, z_j, \varepsilon_{ij})$ shows the variation of utility from the current state to the improved state.

More specifically, when the environmental quality increases from q0 to q1 , the utility will change from $u_0(y_j, z_j, \varepsilon_{0j})$ to $u_1(y_j - t_j, z_j, \varepsilon_{1j})$

Based on this model, jth person has an "acceptable" answer with an X level tj if result of the utility of the improvement program minus the cost is over the utility of the current state:

$$u_1(y_j - t_j, z_j, \varepsilon_{1j}) > u_0(y_j, z_j, \varepsilon_{0j}) \qquad (2)$$

However, the surveyors will not be able to observe the random bias of the preference but can only predict the probability of acceptance. The probability of an acceptance is the probability that the person thinks he or she will be better with the proposed scenario, even with any X level, to u1> u0. For jth person, this probability is

$$\Pr(yes_j) = \Pr(u_1(y_j - t_J, z_J, \varepsilon_{1J}) > u_0(y_j, z_j, \varepsilon_{0j}) \qquad (3)$$

Equation 2.3 is the basis for analyzing selected behavior and can be used for non-parametric estimation but too wide for the parametric model. Two more models are required. Firstly, the function form of của $u_{ij} = u_i(y_j, z_j, \varepsilon_{ij})$ must be selected. Secondly, the distribution of ε_{ij} needs to be defined. Since then, the above equation can turn into:

$$u_i(y_i, z_j, \varepsilon_{ij}) = v_i(y_j, z_j) + \varepsilon_{\mathrm{IJ}} \qquad (4)$$

Indirect utility are the sum of deterministic parts and transformations.

$v_i(y_j, z_j) = v \ (y_j, z_{j,} q_{ij,})$ with the integration of environmental factors. Therefore, 2.4 can turn into:

$$\Pr(yes_j) = \Pr(v_1(y_j - t_j, z_J) + \varepsilon_{1j} > v_0(y_j, z_J) + \varepsilon_{0j} \qquad (5)$$

$$\Pr(yes_j) = 1 - F_\varepsilon[\,-(y_j - t_j, z_j) - (v_0(y_j, z_j))] \qquad (6)$$

Equation 2.5 is the starting point for the WTP function in which the most common form is linear.

In experimental terms, in order to estimate the parameter WTP function, it is necessary to use the method of estimating maximum likelihood. The sample size T and Ij = 1 if the answer is accepted. The likelihood function is turned into:

$$L(\alpha, \beta | y, z, t) = \prod_{J=1}^{T} [\emptyset\left(\frac{\alpha z_J}{\sigma} - \frac{\beta t_J}{\sigma}\right)]^{I_J} [1 - \emptyset\left(\frac{\alpha z_J}{\sigma} - \frac{\beta t_J}{\sigma}\right)]^{1-I_J} \qquad (2.16)$$

$$lnL(\alpha, \beta | y, z, t) = \sum_{j=1}^{T} I_j \ln\left[\emptyset\left(\frac{\alpha z_j}{\sigma} - \frac{\beta t_j}{\sigma}\right)\right] + (1 - I_j) \ln\left[1 - \emptyset\left(\frac{\alpha z_j}{\sigma} - \frac{\beta t_j}{\sigma}\right)\right] \qquad (7)$$

for probit.

$$lnL(\alpha,\beta|y,z,t) = \sum_{j=1}^{T} I_J \ln\left[\left(1+e^{-\left(\frac{\alpha x_J}{\sigma}-\frac{\beta t_J}{\sigma}\right)}\right)^{-1}\right] + (1-I_j)\ln\left[1-\left(1+e^{-\left(\frac{\alpha x_J}{\sigma}-\frac{\beta t_J}{\sigma}\right)}\right)^{-1}\right] \quad (8)$$

for logit.

$\ln\left(\frac{M_j - t_j}{M_j}\right)$ is standard income. Parameter vector {∝/σ,β/σ} can be estimated by running the binary model on the matrix data $\left\{z_j, \ln\left(\frac{M_j - t_j}{M_j}\right)\right\}$, thereby allowing to calculate the average value of WTP.

$$E_\varepsilon\left[WTP_j\right] = M_j\left[1-\exp\left(-\frac{\alpha}{\beta}z_j + \frac{1}{2}\frac{\sigma^2}{\beta^2}\right)\right] \quad (9)$$

2.2. Data collection

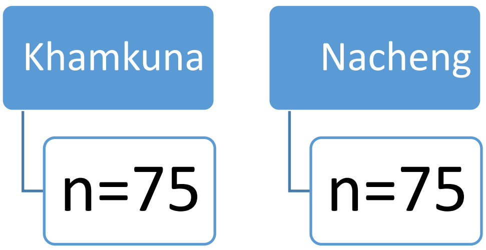
Selecting the survey sample

According to the General Statistics Office (2016), the population in the 2 villages in the study area is about 1,180 people (on average, each village has about 590 people). With an average population of 5 people / household, the total number of families is about 236 households. The study uses the following Moore formula (2003) to estimate the number of survey samples:

$$n = \frac{N}{1+N\times e^2}$$

In which: n is the sample size, N is the total number of households in the population, e is the accepted tolerance.

With e = 0.05 (the estimated error is 5%) and for a total of 236 households, the estimated number of samples to ensure reliability is n> 148. In this study, n = 150 households were chosen. To ensure the representation of each villages in the province, stratified samples were selected, in which the cluster was selected according to administrative units. N-There are 2 villages with relatively equal population so in each village, researchers will select 75 households for interview. The total number of research samples is therefore allocated as follows:



In each village, randomly selected 75 households were interviewed. Thus, each village will have 75 questionares, according to the structure below:

- At least 38 households are related to agriculture;
- There are 15 or at least 10 households involved in forests and forest-related activities;
- The rest households may be in other occupations such as office workers, civil servants, and small service traders.

Develop and test the questionnaire

When using the CVM method, the questionnaire is a key tool in collecting information and data for evaluation. In this study, the questionnaire was also built according to the standard procedure of Diamond (2000) including these steps:

Focus Group Discussion - FGD

In order to develop a questionnaire appropriate to the research conditions, two two group discussions were conducted during 2020 in the study area.

The first group discussion was conducted with state and professional management agencies in the province (Forest Protection Department, Provincial local goverment, commune and village staff, DONRE). The purpose of this group discussion is to provide a forum for managers and experts to discuss relevant issues to develop a questionnaire. The second group discussion was conducted with 150 households in Khamkuna village and Nacheng village.

Pre-test

Pre-test are an important step to gather information to complete content, format, structure of the questionare as well as enhance the skills of surveyvers. As for CVM, pre-test also plays an important role in deciding how to ask WTP questions (related to data processing model), determine the official received amount levels and participation methods

This study has conducted 02 pre-tests in Khamkuna and Nacheng. All surveyvers conducted interview to assess the actual conditions, advantages and disadvantages in the survey. Then, there are feedback to adjust the questionnaires on the format, questions, words and the order of the questions. A total of 50 local people in 3 provinces participated in the pre-test.

At the pre-test, open-ennded questions were used, in which people were informed about unused values and forest degradation were asked about WTP levels to prevent such degradation through a forest management and protection scheme. WTP levels are self-considered and stated by the people. The result was 9 levels (X): 1,000,000 kip, 1,500,000 kip, 1,700,000 kip, 2,000,000 kip, 2,500,000 kip, 3,000,000 kip, 3,500,000 kip, 4,000,000 kip, 5,000,000 kip / household.

Selection of non-market values and X levels

After FDGs and pre-tests, the study identified the most important non-market values for people (mentioned, consciousness, emotions, knowledge, understanding and beliefs of the people), include:

- The values of forest and forest protection to villagers' living and livelihood
- The values of materials reduction due to forests degradation and environmental problems
- The value of mental harm caused by degradation of forest

From the results of surveys in FDGs and pre-test, the cumulative probability of 5 levels X is 1,500,000 kip, 2,000,000 kip, 2,500,000 kip, 3,000,000 kip and 3,500,000 kip is 87% of the total number of selection. Other levels, although some people are willing to accept them, are very few, and when considering the correlation between household income that is willing to accept this level, it is inappropriate because these households have moderate income but the project offers too high or too low X. X levels of 1,000,000 VND, 1,700,000 kip, 4,000,000 kip and 5,000,000 kip are not used.

3. Results

3.1. WTP estimation model

The level of participation of Khamkuna and Nacheng people for improving forest environmental quality is estimated through models corresponding to the type of binary questionnaire (Yes or No for WTP - dichotomous questions).

For the binary questionnaires, the thesis used two model to estimate the WTP level for PFES participation of households.

The first is a parametric model that analyzes the impact of socio-economic factors of the respondents on the probability of accepting a certain received amounts (X), from which calculate the average WTP level of samples.

The second is called a non-parametric model based on the probability distribution willing to participate with a value level series (X) to estimate the expected value of WTP in that distribution (Bateman 1998).

The second model was used to estimate WTP for auction-type questionnaires. The model estimates the individual's WTP level based on the probability distribution in the certainty of participation in a predetermined value chain selected by the individual (Mc Connell, 2002, Wang, 1997).

The distribution of questionnaire samples in each village is summarized in the table below:

Table 4.1: The sample distribution rate for each village

Village	Binary question	
	Amount	**%**
Khamkuna	75	50
Nacheng	75	20
Total	**150**	**100**

Source: Processing from survey sample (2020)

3.2. WTP estimation in parametric model

The paper used a Random Utility Model (RUM) to estimate household WTP (called parametric model). The theoretical and economic basis of this model is presented in the previous section. Empirically, the thesis uses the Binary Logistic regression model and the Maximum Likelihood estimation to estimate the expected value of the WTP levels to improve the quality of forest (non-market value loss turned to the previous level, before degradation). At the same time, thesis analyzes the factors affecting the ability to participate at different levels of X.

03 models were estimated corresponding to three different sample data groups to find the range of WTP expectations. Dividing into different models also allows consideration of the differences in willingness to participate between villagers in each village and the overall model.

Table 4.18: Describe the WTP estimation model

Number	**Model**	**Explaination**	**Sample size**
1	A	Overall model	150
2	B	Khamkuna model	75
3	C	Nacheng model	75

Source: Processing from survey sample (2020)

There are 150 survey samples in this model of which 127 are used for estimation. Of the samples not used for estimation, 17 answered "not ready to participate", 6 answered unclear whether they were willing to participate or not. Carson (2003) identified these patterns as "objectionable". The investigated subjects did not agree to participate because they seemed to be opposed to a certain aspect of the investigation. These questionares were rejected for processing to estimate WTP. Thus, 127 questionnaires will be processed in the final.

The empirical model estimates WTP as a probability function of household participation to improve the quality of forest environment and preserve forest values. The probability of being willing to participate at a given X level of any observation takes the form:

$$\textbf{Pr (Yes)} = a + \boldsymbol{\beta 1} * \mathbf{Xi} + \boldsymbol{\beta 2} * \mathbf{SEXi} + \boldsymbol{\beta 3} * \mathbf{AGEi} + \boldsymbol{\beta 4} * \mathbf{MARRIEDi} + \boldsymbol{\beta 5} * \mathbf{EDUi} + \boldsymbol{\beta 6} * \mathbf{MEMBERi} + \mathbf{b7} * \mathbf{INCOMEi} + \boldsymbol{\epsilon}\mathbf{i}$$

- a is blocking factor
- βi is the regression coefficient of the independent variables (including X and other

household socio-economic characteristics)

- ϵi is the impact of other variables not listed in the model on the probability of participating at a given X level

Table 4.3: The variables in the WTP estimation model

Variables	Explaination	Coding
Pr (Yes)	Probability to participate at a certain level X to improve the quality of forest as before the deforestation and degradation	Willing to participate = 1 Not willing to participate = 0
X	The X level is set in the questionnaire and asked if people are willing to participate at that level (1000 kip / year).	Set at these valus: 1.500, 2.000, 2.500, 3.000 và 3.500 (1000 kip)
SEX	Gender of respondents	Male = 1 Female = 0
AGE	Age of interviewees (years old)	Continuous variable
MARRIED	Marital status	Married =1 Not married=0
EDU	Education level (years of schooling)	Continuous variable
MEMBER	Number of members in household (person)	Continuous variable
INCOME	Household income (thousand kip / month)	Continuous variable

Source: Processing from survey sample (2020)

The following two tables present the results of estimating WTP models by the maximum likelihood method. The parameters are estimated in the following models.

Table 4.4: Estimate the WTP model with parameters for the overall

Variable	Coefficient	Standard deviation	p-value
X	417.33	318.140	
AGE	48.54	12.450	
SEX	.32	.468	
MARRIED	.99	.115	
EDU	10.02	3.550	
MEMBER	5.10	2.021	
INCOME	12.5211	27.20	
Parametric model			
X	.003***	.000	.000
AGE	-.002	.010	.853
SEX	-.165	.247	.505
MARRIED	.624	.948	.511
EDU	.080**	.035	.023
MEMBER	.129**	.065	.047
INCOME	.022*	.017	.084
Intercept	0,73	1.195	.955

Source: Processing from survey sample (2020)

Note: ***: significant at the error of 1%. **: significant at the error of 5%. *: significant at the error of 10%.

Table 4.5: Estimate the WTP model with parameters for Khamkuna village

Variable	**Coefficient**	**Standard deviation**	**p-value**
X	420.00	319.748	
AGE	45.82	12.660	
SEX	.45	.499	
MARRIED	.98	.157	
EDU	9.91	3.210	
MEMBER	4.68	1.588	
INCOME	12.9188	34.62240	
Parametric model			
X	.002***	.001	.000
AGE	.015	.017	.369
SEX	.414	.387	.284
MARRIED	1.769	1.133	.118
EDU	.177**	.069	.011
MEMBER	.071	.117	.545
INCOME	.014**	0.58	0.021
Intercept	0.465	1.804	.090

Source: Processing from survey sample (2020)

Note: ***: significant at the error of 1%. **: significant at the error of 5%. *: significant at the error of 10%.

Table 4.6: Estimate the WTP model with parameters for Nacheng village

Variable	**Coefficient**	**Standard deviation**	**p-value**
X	415.86	317.794	
AGE	50.03	12.096	
SEX	.25	.435	
MARRIED	.99	.083	
EDU	10.07	3.728	
MEMBER	5.33	2.192	
INCOME	12.3017	22.14	
Parametric model			
X	.003***	.000	.000
AGE	-.009	.013	.010
SEX	-.513	.333	.247
MARRIED	-19.749	27503.9	.0948
EDU	.045**	.041	.035
MEMBER	.148*	.082	.065
INCOME	.023**	.021	.017
Intercept	0.756	27503.912	1.195

Source: Processing from survey sample (2020)

Note: ***: significant at the error of 1% . **: significant at the error of 5%. *: significant at error of 10%.

- Thus, in all models, the coefficient of the variable X is positive and significant at the error of 1%. This is in line with the theory that the higher the level of X is, the higher the probability of being willing to participate.

- INCOME variable in the models are positive but only significant at 5% error in all three models for overall and Khamkuna, Nacheng. Thus, in all these models, household income affects the willingness to participate in order to improve the quality of forest. Specifically, when the household income increases by 1 million kip / month, the probability of participating at a given X level increases to 2.2; 1.4 and 2.3% respectively in the overall model and research villages.

- EDU variable is also significant and positively correlated in all three models at 5% error. This means that as the level of education increases, the probability of being willing to participate and accepting a given X level also increases to improve non-market values from the latter to the pre-deforested level. When the level of education or the number of schooling increases by 1 year, the probability of participating at a given X level increases by 8% in the overall model.

- MEMBER is significant at the 5% error in the overall model. In this model, the number of people in the household affects their willingness to participate to improve the quality of the forest environment. When families have more people benefiting from better forest environmental quality, they are more willing to participate to improve and maintain the living and livelihood of their family.

- The remaining variables such as SEX, AGE, and MARRIED are not statistically significant and have no significant effect on the probability of accepting given X levels.

The average WTP was estimated from the results of the regression model following the procedure proposed by Haab and McConnell (2000). The average value of WTP for improving forest quality from the level after a deforestation and degradation to the initial level as before that of each parametric model is calculated according to the theoretical formula in the previous section and presented in the following table.

$$E_{\varepsilon}\left[WTP_j\right] = M_j\left[1-\exp\left(-\frac{\alpha}{\beta}z_j+\frac{1}{2}\frac{\sigma^2}{\beta^2}\right)\right]$$

Table 4.7: WTP Estimation from the parameter regression model

No.	**Model**	**WTP expected value (1000 kip)**
1	A	2.427
2	B	2.309
3	C	2.545

Source: Processing from survey sample (2020)

According to the estimation results, the average value of WTP in the overall model (for all observations) is 2,427,000 kip/ household. This value is different for each different model. In particular, the average WTP in Khamkuna is 2,309,000 kip (in model A) and in Nacheng village is 2,545,000 kip (in model B).

4. Discussion and Conclusion

This report aims to review PES implementation in Lao PDR and estimate the willingness topay of local community to participate in PES schemes in Bolikhamxay province. The Government of Lao PDR has shown strong interest in the PES mechanism. The main constraint in Lao PDR is not the legal issue itself, but rather the lack of human and financial capacity to implement PES. Thus, payment coming from local communities is of much critical. According to the estimation results, the average value of WTP in the overall model (for all observations) is 2,427,000 kip/ household. This value is different for each different model. In particular, the average WTP in Khamkuna is 2,309,000 kip (in model A) and in Nacheng village is 2,545,000 kip (in model B).

Understanding local people's decision processes is an essential precondition for designing effective and efficient PES programmes. The model used here show the willingness-to-consider decision from the subsequent enrolment decision, providing fresh insights into how tiered policies can facilitate participation in PES programmes. For farmers willing to consider PES, the model reveals factors deterring enrolment that can be overcome with higher payments. A small boost in compensation to farms with these traits could increase the total acreage enrolment from participants and some non-participants who will consider enrolling in PES.

5. References

1. Ministry of Agriculture and Forestry, *Forestry Strategy to the Year 2020 of the Lao PDR,* Vientiane, 2005.

2. Japan's Programme Grant Aid for Environment and Climate Change FPPTA6, Ministry of Agriculture and Forestry, Vientiane, Lao PDR.

3. Bernard Gay, *La République Démocratique Populaire Lao*, Ministry of Information and Culture, Vientiane, 1985.

4. Water Resources and Environment Agency, *National Water Policy,* Vientiane, Lao PDR, 2012.

5. Ministry of Natural Resources and Environment, MONRE *National Biodiversity Strategy and Action Plan for Lao PDR 2016-205,* Vientiane, Lao PDR, 2015.

6. International Institute for Environment and Development - IIED, *Markets and Payments for Environmental Services, 2014*

7. UNDP, *50 Years, Financing Solutions for Sustainable Development: Payments for Ecosystem Services,2016.*

8. Michael Esbach, Mike Hedemark, *Payments for Ecosystem Services (PES): An Introduction and Case Study on Lao PDR,* Center for Biodiversity and Conservation of the American Museum of Natural History, Washington DC. USA, 2012.

9. Minister of Natural Resources and Environment Resolution, Vientiane, Laos PDR, 2018.

10. Sharachchandra Lel, Oliver Springnate-Baginski, Roan Lakerveld, Déballer Deb, Prada Dash, *Ecosystem Services: Origins, Contribution, Pitfalls, and Alternatives,* Conservat Soc 2013; 11:343-58.

11. Erik Gomez-Baggethun, Rudolf de Groot, Pedro L. Lima's, Carlos Montes, *The History of Ecosystem Services in Economic Theory and Practice: From Early Notions to Markets and Payment Schemes,* Elsevier B.V, 2009.

12. Sharachchandra Lel, Oliver Springnate-Baginski, Roan Lakerveld, Déballer Deb, Prada Dash, *Ecosystem Services: Origins, Contribution, Pitfalls, and Alternatives*, Conservat Soc 2013; 11:343-58.

ASSOCIATING WITH DEVELOPED PURPOSE NETWORK OF COMMUNITY-BASED TOURISM OF THE DAO PEOPLE IN NORTHWEST VIETNAM

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Abstract

In the economic market expansion of Dao People in the Nothwestern Vietnam, the Community-Based Tourism plays an important role for that. Dao People in several local fields have joined the tourism market. Inside, Dao People in Sa Pa district of Lao Cai province is the earliest participating community-based tourism development and archives the most positive results. By the long-term field survey in Tả Phìn Village, Sa Pa district, this article is not only the depth of analysis of social network roles in community-based tourism, but also it provides more holistic view of Dao People who have used their cultural capital to economic market expansion.

Keywords: *Economic anthropology ; Social Network ; Dao People ; Community-Based Tourism ; Cultural Capital.*

1. Introduction

Community-Based Tourism is commonly understood as a type of tourism that travelers are experiened "ba cùng”: eating , staying , and activity together with native’s family. Community - based tourism create a close-knit relationship between tourists and local communities, in the other hand, the indigene who are not only eligible object for passive visiting, they are also the part of the tourism process, from market access, organization provides tourism service and tourism management in region and closely associated with community-based tourism” (Nguyen Thi Huong 2011, 3). Community-based tourism is broadly understood as a type of cultural ecotourism, it takes "flora, fauna and cultural heritage of local people as attractive points" (Nguyễn Duy Thuy 2019). As analysis of the role of cultural capital in community-based tourism or cultural ecotourism development, (Hà Hữu Nga 2020, 6) has emphasized both aspects of the cultural community capital, individual cultural capital, institutional culture capital and social networks. And considered it is a form of "exploitation and use of the cultural capital responsible for decrease in negative aspects of ordinary tourism to the environment and cultural integrity enhancement of local people.

Tourism in Sa Pa had over one century of development. The 1903 milestone opened for tourism, in 2003, Sa Pa district organized a celebration "100 years of sa pa". However, according to jean michaud and sarah turner (2006), tourism appeared later in sa pa, at least after 1909. Sa pa tourism grew strongly in the 1920s, 1930s and early 1940s but this trend was interupted by the Resistance war against France (1946 - 1954). In the early 1990s, it started returning after vietnam decided to allow international visitors to sa pa (1992). Sa pa tourist tourism has been actually "explosive" and has helped Sa Pa to rehabilitate dramatic economic success since 1993. Sa pa became as "little Da Lat" in the north and was the destination that the major of tourists desired to visit.

The Dao People involved in activities of community-based tourism was quite early, but only these activities flourished for over a decade when the number of visitors to villages grew and tourism services as well as some tourism products of The Dao were known by people. Among four The Dao's villages which are conducted the field survey by author. As result, there are three The Dao's villages that involved in the development of community-based tourism in different levels. The group of The Dao has 3 household take part in community-based tourism in Giang Ta Chai hamlet, Ta Van village; The group of The Dao has 7 households join community-based tourism in Can Ho A hamlet, Can Ho B hamlet, Suoi Thau of Ban Khoang village, The group of The Dao in Ta Phin village has 34 households participate in community-based tourism.

Ta Phin is the locality with the Dao who involved the most powerful economic development in Sa Pa. community-based tourism at Ta Phin appeared in the late 1990s, originally only one household to receive guests at home. And in the last decade, this number has increased rapidly. Currently (2020), the commune has 43 households involved in community-based tourism, including 34 Dao household, 6 Hmong households and 3 Kinh households. Ta Phin is admitted by Lao Cai province as one of the eight key tourist destinations of Sa Pa, this locality connected to numerous different routes to serve tourists. In 2018, Ta Phìn greeted around 19,000 tourists, including 8,000 international visitors. Revenue from activities of community-based tourism has increased. Specially, the expansion of community-based tourism created strong impacts on other professions in which are most crucial to make handicraft or pharmaceutical production activities a faster development.

Summary, other ethnic minority communities in Sa Pa, the Dao people has seized opportunities when tourism booming to participate in the local tourism market in its own way to focus on community-based tourism. The tourism activities of the Dao people are associated with their cultural capital, especially they have used social networks to effectively develope tourism . Thus the analysis of social networks in the development of community-based tourism is also a way to understand the use of the cultural capital and market economic development of this community.

2. Method

When it comes to community tourism development, cultural capital is an important theory to approach. According to Bourdieu (1986), cultural capital exists under three primary states:

1 - Embodied state, which are cultural elements that are embodied through its subject, i.e. people, are existing and lasting elements in the minds and bodies of cultural subject. In other words, cultural capital in the embodied state is the national potential of people and the ability to apply cultural elements to create value in the process progress. Cultural capital in the embodied state the state of expression is a system of cultural factors manifested through the human factor.

2 - The objectified state is a system of cultural elements in the form of objective existence outside of human, is the material form of cultural capital such as books, tools, houses, equipment, machinery ... or intellectual and spiritual products such as trace, the practice of realization of theories or criticism of theories ... is also cultural capital in an objectified state. Cultural capital in an objectified state can be the product of the visible individual or community that is used to exchange and rotate to create value.

3 - Institutionalized states are cultural elements that organize into stereotypes, shape the existence and functioning of cultural elements based on those stereotypes. Bourdieu's notion of cultural capital was later further developed by Robert Putnam (1993; 2000) and Francis Fukuyama (2001). According to these scholars, cultural capital is the physical and intangible assets involved in the production process to create material wealth for society. If Bourdieu considers cultural capital as the personal property of each person, Putnam and Fukuyama consider cultural capital as individual and collective assets. "Although there are differences in considering cultural capital is a personal (Bourdieu 1986) or collective asset (Putnam 2001), researchers have a consensus of viewing cultural capital as a resource. It is characterized by social networks, experience, skills, value systems, codes of conduct, beliefs, reciprocal relationships and a component constitutes the cultural context of a expansion program which can create conditions for creativity and changes " (Nguyen Van Chinh 2020, 6 - 7).

Previously, there have been several researchers who concerned cultural capital in Vietnam (Tran Dinh Dinh 1996, Tran Huu Dung 2002; Bui Hoai Son 2008). But most authors analyze the concept or participate in a few expert areas without setting the possibility of applying it to development research, which is understandable since imposing Bourdieu's concept of cultural capital on specific research in Vietnam needs to consider many issues. As Ha Huu Nga (2020, 3) emphasized: "In his theoretical projects, Bourdieu has exploited several economic terms to analyze the processes of cultural and social reproduction, in which different types of capital tend to be passed down from generation to generation. Bourdieu, however, has gathered all available cultural capital into individuals, and it is misleading to use his "cultural capital" conceptual heritage. In addition, in the context of personal-biased Western culture, the way of conceptualizing cultural capital associated with individuals can have certain analytical advantages. However, with community-rich Oriental cultures, the concept of "cultural capital" must be adapted to this new context. According to Ha Huu Nga (2020), the concept of cultural capital "basically associated with the concept of environments and habits" so as to be in line with the Vietnamese research context, it is necessary that "besides western personal cultural capital, we will supplement and seek to exploit more "cultural capital" heritage associated with the community".

To fit his goals, in this article, the concept of cultural capital is understood in a broad sense including the types of capital that Bourdieu has analyzed. This is also understandable when culture, understood in a broad sense, covers both economies, society, institutions, symbols, and human ... Accordingly, cultural capital is understood as physical and intangible resources, personal or community manifestations, which can rotate and participate directly or indirectly in economic processes to create benefits for humans. Thus, cultural capital in a broad sense can consist of 4 basic states: personal cultural capital, community cultural capital, socio-cultural capital, and social network. In particular, social networks play an extremely important role in the development of community-based tourism A social network is a concept created by JA Barnes, a British anthropologist in the mid-twentieth century and then this concept was applied and developed by several social scientists into an important concept and popular framework analysis in social research since the mid-1970s. Barnes considers relationships as friends, ancestry, and transitions of those relationships (It's mean that relationships always expand and people belong to the network will have a transitional relationship with each other) making the community become a network and govern many activities of the individuals as well as the community itself so he called it the social network (Barnes 1954). Another aspect, the social network is understood as a synthesis of relationships, connecting factors, and cohesive institutions of individuals, groups, organizations, and communities formed to share benefits as well as responsibilities in exploiting resources for economic development.

To approach research on social networks in community-based tourism development of the Dao people in Sa Pa, we have conducted a long-term field study for some communities in 3 communes including Ta Van commune, Ban Khoang commune, and Ta Phin commune.

In which, Ta Phin commune is the primary research area. The research process began at the end of 2007 and lasted for many years with many countryside trips. From 2016 to 2020, four long-term field surveys were conducted. Phase 1 in March 2016; phase 2 in September and October 2017; Phase 3 in March and April 2018, and phase 4 in October 2020. The heart of the countryside trips focused on understanding the role of social networks and, more broadly, cultural capital in the development of a market economy in general, with concetrating on the community-based tourism is essential. It is hypothesized that social networks play an essential role in the development of community-based tourism. The process of community-based tourism development of the Dao is also the process of building and applying social networks to economic progress.

The most crucial method in fieldwork for data gathering is in-depth interviews. We conducted 43 in-depth interviews to create a data system related to the research topic. Interviews focused on their gender relationships and perceptions, moreover, their thoughts about gender in specific family contexts and circumstances, at different ages and jobs. In addition, to have more multi-dimensional discussions, we conducted six group of discussions in the study area on topics related to gender, the market economy, and cultural capital. Each discussion usually has 6 - 8 people participating in wide dicussions on different topics set by the consultant. Besides, we pay much attention to the participatory observation method. Stories related to many of the problems that we experienced during our countryside research were recorded and discussed with each other through each countryside study (Bui Minh Hao, 2018).

3. Result

The above section mentions the social network as an element of personal cultural capital applied in the development of community tourism of households. This section focuses on further analysis of the Dao community-based tourism social network in Sapa. This network includes the production of spaces, social relations, and regulated institutions, affecting those relationships between Dao community tourism-related subjects. These social networks are between the Dao people doing community tourism together, between the community tourism workers and the Dao people who do not do community tourism, between the Dao people and other community members doing community tourism, between the Dao people doing community tourism with tourism companies and between the Dao people and the local tourists. And also the Dao's online social networks are related to the development of community tourism or sexual service networks, which are very discreet.

3.1. Social network in Dao community: support and competition in community tourism development

In the Dao community, there be two different networks of relations. First of all, there is a network of Dao people taking part in community-based tourism activities. Those who in the commune often have relationships with each other to varying degrees. They compete in both specialty activities but also support and share from experience to resources.

Between Dao people, there are rarely any criticisms of other families' services or conditions in tourism activities. They help each other when one family have large groups of guests that alone can hardly perform well the services. Families are still willing to support by sharing food when needed to serve tourism. And they also share some slight risks while running a business. On October 17th, 2020, a family in Sa Xeng village was ordered by a partner to prepare 5 sets of Red Dao Herbal Baths for 5 tourists. But after boiling the water and mixing the medicine, the partner contacted again to report because of bad weather, they could not bring guests in. At that moment, a nearby family of tourists shared 4 of their family's visitors for the one who had made bath pills to help not to waste their herbal mixture. Similar stories are also shared by many families. Recently, households doing community-based tourism have gathered together in cooperative to share resources and support each other in the development process. Particularly, Ta Phin commune currently has 3 cooperatives operating community-based tourism, which are Red Dao Community Cooperative, Giac Mo Do Cooperative and Community-based Tourism Cooperative. The largest concentration is the Community-based Tourism Cooperative, which was established in 2019 and currently has 40/43 households participating. This cooperative organizes training programs for individual members on tourism skills, expense management, seeking to approach tourism companies and diversify related activities. In cooperatives, the price of services shall be agreed upon and not to be auctioned for competition. Besides, it is divided into groups such as homestay group, transportation group, herbal bathing service group, tour guide group and traditional specialty group. The cooperative organizes for families to participate in activities when tourists arrived and deducts about 10% for the general fund. The Dao community in different localities still has some relationships to support each other. A family doing community tourism in Ta Phin is willing to introduce their visitors to a family doing community tourism in Ban Khoang or Ta Van, Ban Phung if visitors need to go to those localities. Naturally, it is not true to say that there is no competition among Dao people involved in community tourism. They are constantly improving the quality of their services and expanding their social network to attract more visitors than other families is a form of competition with each other.

The second strong relationship is between Dao households doing community tourism and Dao households that do not do community tourism. They have cooperation in several jobs related to community tourism development. Many families do not operate in community tourism but regularly provide food, sell bath medicines, medicinal plants to households doing community tourism. Households doing community tourism in addition to buying materials are also willing to accept the sale of brocade items to other households. This is a form of sales at different prices in the same community. With the same product, if they sell it to tourists, they would take a higher price when selling or sending to households as tourists to sell to guests. And these households usually sell at a higher price of 20-25%, even with foreign visitors can be 50% to 100% higher to make a profit. This not only appears in each Dao community but in many other communities, there is such a division. Because in the social network of a community, besides the price of goods and services, it is also added to some other values. People who trade for-profit and they try to maximize profits when meeting strangers outside the community, but do not seek profits or make very few words in their communities. This was also analyzed by Jean Michaud [2010] in the case of the commercial network of the Hmong community in Bac Ha district, Lao Cai province.

Thus, in the Dao community, whether participating in community tourism or not, there are certain relationships with each other. It is a relationship for the parties to have interests and share and support each other in the development process.

3.2. Social network outside the Dao community: access to information and connection of the tourism market

This is a network of relations between Dao people and partners as well as customers in community tourism.

It can be divided into the following social relationship groups: Dao people with other groups participating in community tourism activities; Dao people with travel businesses and tourism management agencies; The Dao people with the tourists.

The level of participation in community tourism activities of Dao people in the surveyed localities varies. In Ta Phin, the Dao people were the main force for community tourism activities alongside the Hmong and Kinh people. In Ta Van, the Giay people are the main force for community tourism activities, while the Dao people have only a few households participating. In Ban Khoang, the Dao and Hmong people began to enter community tourism activities and the Dao people had the advantage but not clearly. In Ban Phung, Thanh Kim, only a few households are remodeling their homes to participate in community tourism activities.

The relationship between the Dao people and the Kinh, Hmong, and Giay groups when taking part in community tourism activities shows both competitive and cooperative aspects. In Ta Phin, the Dao people were the first group to participate in community tourism and accounted for the largest proportion today. The Hmong and Kinh people have been involved in this field in recent years. The cooperation between the Dao and the Hmong, Kinh people in community tourism activities, although not as close as between the Dao people, but also has a certain connection. Dao and Hmong households buy bath medicines from other Dao households to serve the needs of visitors. The Dao also sent some goods such as brocade to the Hmong, the Kinh households to sell to visitors. The Kinh people sold to Dao households some other necessities from cooking oil, salt, some other types that they bought from the downstream. The Hmong also sell vegetables, chicken, fish to Dao households to serve visitors. Community tourism activists in these localities also work together on a price-homing basis. No household is priced out to compete on price. And that is also the foundation for them to work together in some other ways. Even if families welcome guests without a service, these groups can also support each other. Therefore, 6 Hmong households and 3 Kinh households in Ta Phin basically also have good relationships with 34 Dao households and community-based tourism activities. But that relationship is not as close as the relationship between Dao or Hmong households. If the cooperation is more dominant, the competition between these groups in community-based tourism development is more closed and implicit. The competition is mainly based on the investment as well as the development strategy of different families. Kinh people focus on receiving tourists who need to go to the countryside to eat, bathe but in the same style as the downstream people, they choose to stay in Kinh households. The dishes, the way of cooking or equipment, tools in the room are also modern, similar to the motels, hotels downstream.Meanwhile, the Dao and Hmong people focus on serving visitors who want to explore and experience the local culture. Households are also always looking for ways to access the market and expand investment to compete with other families on a consistent price basis. In other localities, this relationship is similar despite manifesting it to varying degrees depending on the development of tourism there. Relations with tour operators are an important issue in community tourism development. This is the original relationship to reach visitors of households. And almost every family involved in community tourism also has certain relationships with tour operators. However, the relationship with more or less business and how close they are depends on the social network of that family.

Table 1. The level of relations of Dao households in Ta Phin doing community tourism with tour operators

Level of relationship with tour operator	**Number of households**	**Percentage (%)**
None	3	8,9
1-2	18	52,9
3-5	8	23.5
Over 5	5	14,7
Total	**34**	**100,0**

Source: Author's Field Survey in October, 2020

Most of the participants in community tourism activities in Ta Phin have relationships with tour operators. Only 3 households have entered this field in nearly 3 years and are still being completed, so they have not created many relationships. They welcome guests mainly through the introduction of friends, relatives, the sharing of some households and also participation with community tourism cooperatives. The most effective families doing community tourism are often those who have the most relationships with tour operators. Although there are people who have been involved in community tourism for less than 4 years, there is a network of relationships with travel companies and regularly has 7-8 companies to cooperate and exchange to greet guests. There is a case of a woman who previously worked as a guide for several travel agencies. Then, when she came to investing in community tourism development, she was able to apply and expand relationships with travel companies to access the market. But such cases are not much. Most families also cooperate with 1-2 companies to pick up guests when conditions are available. And often a tour operator also has partnerships with many households doing community tourism to meet the needs of visitors. Maintaining good relationships with travel agencies or tour guides is an important issue, a skill that community travelers need to grasp to thrive. "If they introduce their guests to me, I also have to respond to them with many things. It's about being close, sharing, or giving them gifts that we have. Maybe even share with them a portion of the profits that we make. Because everyone's a business person. They feel happy and comfortable, new guests introduce themselves. Otherwise, they will introduce to other houses" [Women, Dao people, Ta Phin commune, interviewed on 23/10/2020].

And the last relationship in this network is of course the relationship between the Dao people and visitors, i.e. the relationship between the subject of community tourism development with its customers. The first one to do community tourism, of course, is friendliness. To receive guests, especially those who stay, participate in experiences, explore local culture, the host must be friendly and have regular interactions with visitors. The Dao people are relatively open-minded, even strangers from elsewhere. It is easy to meet, get acquainted and chat with visitors. Not passive as many people thought, the Dao people in Sapa also actively interact with guests. Whenever tourists come to the locality, many Dao people have picked up from the car door to sell hawkers. Maybe the number of goods they sell is not much, but they actively talk, share with visitors naturally. Many street vendors show their perseverance when they can spend the entire session going out, chatting with visitors but the goal of selling goods or not is still uns warranted. Most Dao families doing community tourism are interested in the strategy of developing social networks through visitors to their homes. Every time they welcome guests, after chatting, sharing, eating, staying, or participating in experiential activities, they also save visitors' information. From email address, phone number and now Facebook, Zalo address,... They make friends and are ready to take photos to share with each other. Thereby, on the one hand, they create prestige with visitors through an increasingly close relationship, on the other hand, they also take that image and relationship to promote themselves. They chose visitors as an important link in the "oil slick" campaign to expand their social network and access to the tourism market.

3.3. Online exchange network and proactive access to the tourism market

Currently, to develop tourism, the use of information technology is an important factor. Technology information networks are increasingly playing an important role in the creation and operation and development of various social networks. The use of information technology networks to sell or develop brands and services is becoming a strong development trend. The era of online trade and exchange of goods and services is mentioned by many people.

Community tourism needs to spread with a large social network beyond separate cultures or social groups, so online social networks are of great value. In the past, almost all details related to a tour were often provided by tour operators. Nowadays, almost everyone when preparing for a trip takes to the internet to search for information about the place and services they need. From there they can actively contact the supplier directly or through the tour operator. Therefore, online social networks become an important meeting point between households doing community tourism and tourists.

Previously, Dao people doing community tourism in Sapa contacted tourists mainly through travel companies, by phone, or email. Currently, they can contact visitors directly through social networks such as Facebook, Zalo, or from information on websites, Fanpage that they participate in. The most important of which is probably facebook's social network. Facebook appeared in the Dao people in Ta Phin around 2010 and the first use of community tourists. Initially, they learned how to join facebook's social network thanks to a few people from tour operators, tourists, and children who went out to study for work on nick support as well as user guides. Initially, only a few families with computers could join. But increasingly, the more popular smartphones are, the more convenient it is to join social networks. The Dao people in Sapa mainly use smartphones of Vivo, Sam Sung, Oppo because these phones are quite soft, take beautiful photos and big machines are easy to use. Investing an amount of 3-5 million can buy a beautiful phone, take photos, and film well back into the internet conveniently so many people can use it. The main users are young men and women (from 16-30 years old), women participating in activities such as community tourism, sales, commune officials, or have gone out to work. Middle-aged and older men do not use these social networks, except for some who have time to go out to work. Of the 34 community-traveling households, all joined facebook's social network. And in families, children of youth also use. Dao people still mainly use according to personal pages, have not formed groups or fanpage to introduce products. Currently, some people are asking to find ways to form groups to promote tourism activities as well as online sales.

On the personal Facebook page of community travelers they also regularly take photos when there are visitors to stay or take medicine and eat. They took pictures with guests, put them on their page. Please both Facebook of guests to connect and tag them both to promote their home travel activities. They also regularly update their activity information, introducing some goods such as bath pills, dishes, cultural activities, or facilities to serve visitors. When someone needs it, they ask to text or call them directly to talk. Many people know how to design their Facebook's fanpage so that it is beautiful and highlight the phone number so that anyone in need can easily contact. People who are close to each other often share each other's posts to expand the connection to help each other. To better understand the Social Network of the Dao people in Sapa via Facebook, I surveyed the usage status of some specific cases.

The first was a 65-year-old woman who worked as a community tourism, trafficking in bath medicines and some medicines. She was a pioneer in the development of community tourism in Ta Phin. Since 2008, she has been using a computer and was set up a Facebook account by a student to make friends. But it wasn't until 2011, when she used her smartphone, that she was interested in the social network and applied it to economic business. Currently, her Facebook page has 1372 friends, including about 100 Dao friends in Ta Phin, 400 friends who are Dao people elsewhere, about 300 friends who are ethnic people in Lao Cai, the rest are people elsewhere, are acquaintances, customers used to have business relationships, researchers or people who work at travel companies (about 15 people make friends) and many who have never known. In her family of 10 people over the age of 16, 8 people are using Facebook social network. But she alone is used to contacting, message customers, and carry out business transactions. Others use it to play. She connects with others who work in community tourism or the drug trade to capture information, promote and support each other. They haven't formed groups yet, even though they know how to watch some fanpage, but it's for entertainment, not for product promotion or customer search. A few years ago, a film crew came up here to film an introduction to bath medicine, about Dao's travels, and they filmed many scenes about her. So she asked for the footage to be posted on her Facebook page. Thereby many people contacted her to buy bath pills, book travel services. And now, about 30% of the revenue from her family's travel activities with the sale of bath medicines is related to business relationships from this social network.

The second case was a 31-year-old woman, doing community tourism, selling bath pills and brocade. His Facebook now has 3745 friends, including more than 150 Dao friends in the commune, about 500 dao friends elsewhere, and about 500 friends who are ethnic minorities in Lao Cai. This person has many years of working as a tour guide, so he has wider social relations than others in the village. Every day, this person often posts on his Facebook page many activities related to business from welcoming guests, embroidery brocade, or going to get medicine. Images and clips, quite diverse should be of interest to many people. And through these activities, the social network of this person was expanded, making the family one of the families doing community tourism as well as selling brocade, the most effective bath medicine, and the highest turnover in Ta Phin commune.

Or SAPANAPRO also considers online social networks such as Facebook, Zalo as an important advertising information channels. The company also sets up its website to contact visitors to sell its products. Increasingly, online social networks are strongly impacting the development of Dao community tourism in Sapa.

3.4. Sexual service network: closed market but not closed

Talking about tourism development in Sapa, Jean Michaud and Sarah Turner (2006) were very interested in prostitution and considered this as a realist associated with tourism development in many places, not only in Sapa. The authors believe that the sexual services network has become an important factor in tourism development, that even though like it or not, we must accept when visitors are in need and there are people involved in sexual services in a variety of ways. The Love Market is considered by the authors as a method of organization of some indigenous people in relation to extramarital sexuality. Regarding this issue, Nguyen Thi Huong (2011: 125-127) also analyzed more about sexual issues in community tourism. Herein, this author analyzed activities related to sex tours as well as the locals' notions regarding sexual problems. And this author's field survey of the Dao community in Ta Phin also confirms that community-based tourism here has no sexual services. Although there are tourists who have sexual needs during local tourism, people do not accept it because it is contrary to the customs and marriage culture of the locals.

Indeed, travel is an activity that enjoys sightseeing and is also associated with eating, interaction. Therefore, sex becomes an issue that many people are interested in. Sexual needs in travel are always present to many people, especially men, although women are no exception. In Sapa, every time male tourists leave their cars, they are often have invited for sex services by motorbike taxi drivers or taxi drivers.This is relatively common at night, when the delegations have finished drinking and have needed something to entertain, they can actively seek supply thanks to the introduction of the receptionist at the hotel, or motorbike taxi drivers, taxi drivers. When asked about this issue, a male tourist is not afraid to say: "Having come up here to enjoy, not only eat and drink, you should experience more to see how the mountain girls are... The simplest way to find it is to ask the receptionist to show you a place or call a motorbike taxi driver to take you there. They have many acquaintances, so it is easy for them to make profits by collecting transportation and even tips from sexual services for each referral." [Men, Kinh people, working in Hanoi, interviewed on 03/4/2018]. According to those who work in saunas, massage areas in hotels, it is common for sexual needs to be men who go on group vacations or come up here working for a short time. They followed the group to the sauna, massage area, to relieve themselves after having some drinks. Here, they meet female employees and ask about sexual services. If both suppliers and demand meet and make a deal, then they will go elsewhere to trade. The subjects of sexual labor, in this case, are largely women from other localities who come here to work. There are some local women involved but limited. Besides groups seeking sex services, Sapa also has many sexual relationships in travel such as couples going on vacation, road trip groups,... In these groups, there are both men and women, so sex is mostly between the subjects who go together rather than with those who work on the spot.

Sexual services in Vietnam are considered illegal and severely sanctioned for women who work as prostitutes. So, almost everywhere, sexual services networks operate underground, very closed. Because if they're found out by the authorities, they'll be sanctioned. However, in that secrecy, it is very open to many objects. Because only when it open and is, there will have exchange and transaction. The network of motorbikes, taxis, or many hotel receptionists has an entire phone list of some sex workers to introduce visitors when they need it. Naturally, in order to get contact information or be led to a sexual service point, visitors also pay for these people an amount of money and their behavior has not been counted against the prostitution organization because they provide information and have not necessarily organized this activity. Currently, with the explosion of information technology, visitors can also find information and contact sex workers directly from websites provided or social networks such as Facebook, Zalospe, especially Zalo network with searching tools. Visitors can search, make friends, and communicate with each other. If they meet the right people and make a deal, they'll meet. It also proves that sexual services in Sapa are more common than the numbers that the authorities have to reckon. And although sexual services are inherently closed, with an underground network, it is also very open because travelers can search easily through different clues.

In that context, whether the Dao community-based tourism in Sapa has anything to do with sexual services and how relevant it will be an important question, but it is difficult to answer obviously. Because this is a sensitive issue and is not easy to research in the local culture still strictly extramarital sexuality behavior. In localities surveyed about Dao community-based tourism, sex-related services are not acceptable. Households that do community-based tourism have said they are neither involved nor accept such services. Several local visitors had asked about the issue and the host made it clear there were none. "They must go out to town for their need because we don't do that here and no one will accept it.", he said. In the past, heterosexual visitors to community tourism households were not allowed to sleep together, even if they were mates. If the landlord allowed them to share a room, they also do not accept sexual behavior in their home. Recently, however, community-based tourism homes have been prevented from making private rooms smaller and more discreet, with some couples still allowed to stay together. But basically, the Dao people do not accept the sexual behavior of visitors to his house. And perhaps this is also a reason that young couples in the down the country when going to Sapa often choose to stay in motels and hotels in the town rather than in homestays in the villages.

The group of people most likely to be involved in sexual services is the guide. It can be said that around the 2010s and earlier, the Dao people in Sapa took part in the tour guide quite a little. Compared to Hmong or Giay people, the number of Dao guides is quite modest. But over the past decade or so, the number of Dao women participating in the tour guide group has been increasing. Among those involved in tourism activities, guides are the ones who face the problem of sexual services the most because they are most exposed to visitors. And some have become the object of travelers contracting sexual needs. Although it is difficult to discuss this issue directly, in fact, there were some Dao women who, after joining as guides, then became single mothers. Some people have left the locality to go elsewhere to work and get married to live elsewhere. They were supposedly involved in sexual services by others and sometimes stigmatizing. “Being a guide is quite complicated, as visitors are also diverse. Some people are polite and kind, and some have money, so they have sexual enticements and demands. Both Westerners and Vietnamese. And many young girls who have not resisted money had fallen into the path of prostitution. By doing that, you will have money to shop and play, but if you let others know, you will be hated. Many people have had to leave elsewhere to get married and continue their life.” [Dao women, Ta Van commune, interviewed on March 27, 2018].

4. Discussions and conclusions

The wider social network is that cultural capital is an important and decisive factor in the community-based tourism progress. In the process of developing community-based tourism, the Dao people in Ta Phin have used their social network quite effectively. They promote the values of social networks in the community, social networks outside the community, and online social networks through scientific and technological means to develop tourism. The social networks have helped the Dao people access the tourism market and constantly promote their tourism image, thereby attracting more tourists. In addition, they also promote cultural capital sources into economic development in a more proactive, positive, and effective way.

Developing community tourism of the Dao people in Ta Phin and asking an crucial attack in the process of applying social networks, exploiting cultural capital for socio-economic development. It is limitation of cultural conflicts that occurs between groups with ties through the different network, which is the harmonization of the advantanges of participating in development social networks to develop. Besides, there is the interaction and promoting community cultural values, access to state-of-the-art development resources from the global process and information technology, especially, the development of human capital, but energy development, and access to community development sources. Thereby, developed community-based tourism in Ta Phin and for us learning how to use social networks, promoting cultural capital in socio-economic development. It evokes many methods and paths in economic development associated with promoting resources inherent in the traditional culture of communities.

5. References

1. Barnes, J. A. (1954), "Class and Committees in a Norvegian Island Parish," Human Relations, VII, 1, pp. 39-58.

2. Bourdieu, P. (1986), "The Forms of Capital", In: J. G. Richardson (ed.) Handbook of Theory and Research for the Sociology of Education, Greenwood Press, New York, pp. 241-258.

3. Nguyen Van Chinh (2020), "Cultural Resources and Community Development: An Approach To Anthropology", Speech at the International Scientific Seminar of Anthropology and Development in Contemporary Vietnam, Faculty of Anthropology, University of Science and Humanities, VNU, 16th December, 2020.

4. Christine Bonnin & Sarah Turner (2011), "Livelihood Vulnerability and Food Security among Upland Ethnic Minorities in Northern Vietnam", Kasarinlan: Philippine Journal of Third World Studies, 26(1-2), pp. 324-340.

5. Tran Huu Dung (2002), "Cultural Capital", Tia Sang Magazine, No. 1. Online version on http://www.viet-studies.info/THDung/VonVanHoa.htm.

6. Fukuyama, Francis (2001) "Social capital, civil ociety and development," Third World Quarterly, Vol. 22(1), pp. 7-20. Bui Minh Hao (2018a), "Positioning and Reflexive in The Qualitative Research: a Methodology Approach to Market Economic Research of the Dao People in Sa Pa District, Lao Cai Province", Journal of Ethnic Studies, No. 22, p.55-61.

7. Le Quoc Hong (2019), Research On The Sustainability Of Tourism Livelihoods in Ta Phin commune, Sa Pa district, Lao Cai province, Master's thesis on Sustainable Science, University of Social Sciences and Humanities, VNU, Hanoi.

8. Nguyen Thi Huong (2012), Community-based Tourism in the Northern Mountains of Vietnam (Case Study of Sa Seng Village, Ta Phin, Sa Pa, Lao Cai and Lac , Chieng Chau, Mai Chau, Hoa Binh), Master's Thesis on History, University of Social Sciences and Humanities, VNU, Hanoi.

9. Tran Dinh Huou (1996), "Some aspects of traditional cultural capital", Printed in *Modern From Tradition*, Culture Publishing House, Hanoi.

10. Ha Huu Nga (2020), "Capital of Culture and Tourism". The document is written for the Institute for Applied Research in Culture and Tourism. The document was shared by Dr. Tran Huu Son.

11. Putnam, Robert D. (1993), "The Prosperous Community," The American Prospect, 4(13), pp. 35-42.

12. Putnam, Robert D. (2000), Bowling Alone: The Collapse and Revival of

American Community, Simon and Schuster, New York, 48

13. Jean Michaud & Sarah Turner (2006), "Contending visions of hill-station in Vietnam", Annals of Tourism Research, Vol. 33(3), pp. 785-808.

14. Jean Michaud & Sarah Turner (2016), "Tonkin's uplands at the turn of the 20th century: Colonial military enclosure and local livelihood effects", Asia Pacific Viewpoint, Vol. 57(2), pp. 154-167.

15. Sarah Turner (2017), "A Fortuitous Frontier Opportunity Cardamom Livelihoods in the SinoVietnamese Borderlands", In: Dan Smyer Yü & Jean Michaud (eds.), Trans-Himalayan Borderlands. Livelihoods, Territorialities, Modernities, Amsterdam University Press, Amsterdam, pp. 263-283.

16. Bui Van Nam Son, Tran Huu Quang, Le Minh Tien,... (2014), Trust and Social Capital, Knowledge Publishing House, Hanoi.

17. Bui Hoai Son (2008), "Cultural Capital", printed in 30 terms of cultural research, Social Sciences Publishing House, Hanoi, p. 519-528.

18. Nguyen Duy Thuy (2019), "Building Tay Nguyen Ecological Zone: Potentials and Problems", Introductory speech in science seminar, in the Yearbook of the National Scientific Conference: Construction of Tourism Regions

CHINA'S ENERGY SAVING EXPERIENCE AND LESSONS CAN BE LEARNED FOR VIETNAM

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Abstract

DSM is a set of tools and practices taken by utilities to influence the amount and/or timing of customers' energy demand in order to use electricity most efficiently. DSM decreases the cost of meeting customers' energy needs through increased investment in end-use energy efficiency and load management. Demand-side resources can reduce or postpone investment in generation, transmission, and distribution capacity, and decrease fuel consumption, and improve environmental quality. DSM also reduces emissions of acid rain related pollutants and damaging greenhouse gases. DSM also has been demonstrated to be a fast, inexpensive, and effective way to address power shortages without hurting productivity. China's very large opportunity to increase energy efficiency is one of its most promising untapped optionsa. This experience lessons can be learned *for Vietnam.*

Keywords: *DSM programs, Energy efficiency, Fuel substitution, Load Management Experience, EVN.*

1. Introduction

By modifying the level and timing of electric consumption by end-use customers, DSM offers important tools to balance the operation of electric power systems. DSM can enhance the total social benefit of the power system, improve the safety and stability of electric grid operation, and ultimately lower the cost of electric service. China has substantial DSM experience and achievements, which have generated obvious social and economic results. DSM programs to date have focused on the following three goals:

Load management. Load management is one of China's main DSM programs. Load management's objective is to adjust the load curve by (a) clipping the peak load, (b) increasing the valley load, or (c) moving peak loads to off-peak hours. Load management has been pursued though pricing reform (mostly TOU and interruptible pricing), information, and the application of new technologies. It has reduced peak capacity demands and flattened the overall load curve in many locations. A major tool in load management has been TOU pricing: power prices have been increased in the peak period and reduced in the off-peak period. This guides consumers to adjust their production schedules and to employ off-peak storage techniques such as ice-storage air conditioners and heat-storage electric boilers. Large industries have been encouraged to modify their maintenance schedules and their daily and weekly work schedules. All of these steps have flattened the load curve.

Energy efficiency. Economic and environmental benefits have been achieved by adopting a number of policies and measures to encourage the use of efficient equipment such as energy-saving lamps, adjustable-speed motors and water pumps, and high- efficiency transformers, among others.

Fuel substitution. Local governments have formulated policies to replace coal-burning facilities with more efficient and less-polluting technologies such as heat-storage electric boilers, gas boilers, and electric furnaces in urban areas and at tourist attractions. Although these policies were pursued to improve local environmental conditions, significant efficiency improvements were achieved.

This discussion of China's DSM experience is divided into a load management section and an energy efficiency section. This is because China has much more experience with load management and because the barriers to load management and energy efficiency are very different, as are the needed policy responses.

Like China, Vietnam is experiencing unprecedented economic growth, which averaged 8.2 percent annually from 1992 to 1997. During this same period, energy demand grew 30 percent faster than GDP, and electricity 70 percent faster. The ability of Vietnam to continue to meet such an aggressive economic growth rate will require substantial expansion of the electric power sector as well as aggressive demand reduction efforts.

2. Method

Load Management Experience

China has a long history of experience with load management. Recent experience with load management to address the power shortage has been especially successful, and has reduced the number, severity, and duration of wider power outages while improving system load factors. Load management strategies have focused on rapid implementation of TOU pricing, adoption of interruptible tariffs, and deployment of energy storage (cooling and heating). Efforts have been aimed at reducing peak load and shifting use from on-peak periods to off-peak periods. In essence, the new concept of load management involves a kind of "cooperative partner" relationship between the electric power consumers and the electric power corporations.

As shown in Table 1, government action reduced peak load by over 10 GW in selected provinces in 2003. But, as discussed below, only about 30 percent of the peak load reduction, or 3 GW, was due to DSM. While this is a significant achievement, as described in more detail later, California and the Pacific Northwest in the United States achieved far greater savings in response to a less serious power shortage.

Table 1: ***2003 Peak Load Reductions***

Province	Peak load reduction (MW)
Jiangsu	2,800
Zhejiang	1,400
Shanghai	1,700
Guangdong	2,250
Hubei	1,000
Hunan	700
Hebei	250
Total	10,100

Source: Study Team

The remaining 7 GW of reduced demand was essentially rationing imposed by government orders, requests, or advice to enterprises to modify work schedules, maintenance schedules, and production schedules.

Over the past 10 years, China's DSM efforts have produced significant economic and environmental benefits. The savings are summarized in table 2.

Table 2: China's DSM Results (1990–2000)

Electricity savings (TWh)	130.4
Peak load shifting (GW)	3.8
Peak load reduction (GW)	36.5
Coal saving (millions of tons)	58.6
SO2 emission reduction (million of tons)	1.33

Source: Study Team

Note: The average investment of coal plant units is $605 per kW.

DSM experiences at the provincial and municipal level are described more fully below.

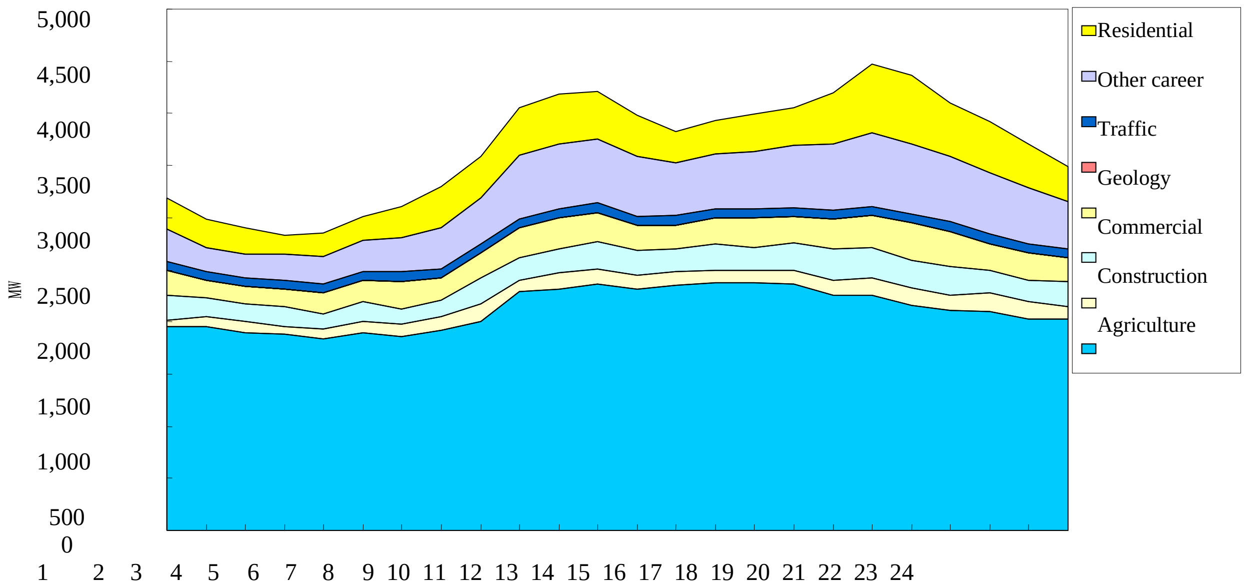
Beijig

In the past 10 years, the electric load of Beijing city has grown steadily and rapidly. The peak load increased from 3.01 GW in 1992 to 4.47 GW in 1996, a growth rate of 10.4 percent annually. Peak load has grown faster than electricity sales so the annual load factor decreased from 86.81 percent in 1992 to 82.31 percent in 1996. Much of Beijing's DSM efforts have been aimed at the declining load factor.

Before developing peak load management measures, Beijing carried out a survey to determine the customers' consumption patterns. The results are shown in figure 1. The survey revealed that in 1996, industrial consumption accounted for over 55.43 percent of the total power in Beijing (winter typical load curve). Industrial customers accounted for 51 percent of the system's morning peak load and around 50 percent of the evening peak load. Residential and commercial customers accounted for about 16 percent of total load and their load factor was about 60 percent. After 1996, Beijing was able to obtain substantial additional load shifting from these three customer classes.

Figure 2 shows the effect of load management on Beijing's load factor. The actual load factor has been maintained at about 81 percent from 1997 to 2003. The figure also shows what the load factor would have been without the load management activities. If DSM were not taken into account, the load factor would have decreased to 76.59 percent in 2003.

Figure 1: The Structure of the Load Curve of Beijing in 1996



Source: Study Team

In order to capture the peak-shifting potential, the following measures were used from 1997 to 2003:

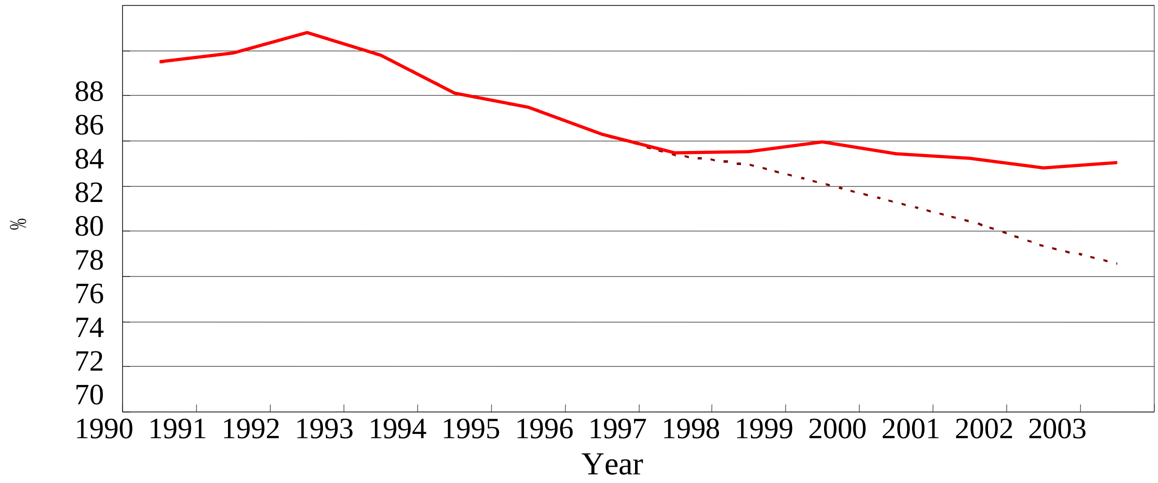
- widening the price difference between on- and off-peak periods

- helping enterprises arrange their production plans rationally (for example, maintaining and testing machines should be arranged in peak-load time)

- setting interruptible load protocols with industry customers, first on a pilot basis, then on a more widespread basis

- implementing special policies for energy-storing equipment such as ice-storage air conditioners and heat-storage electric boilers.

Figure 2: Beijing Actual and Forecasted (Excluding DSM) Load Factor



Source: Study Team

After implementing the above measures, more than 50 MW of peak load was shifted to off-peak periods in 1997, and another 50 MW in 1998. Valley-period sales increased by more than 150 GWh in the two years.

The investment in the peak-load shifting was $1.46 million in 1997 and $0.69 million in 1998. The benefits were about $3 million in saved generation capacity costs per year.

Other DSM accomplishments in Beijing include:

- **TOU.** By the end of 2003, 77,431 consumers representing 61.69 percent of total consumption were on TOU prices. Compared to 2002, the proportion of valley consumption increased 0.75, and the proportion of peak consumption dropped 0.81. About 700 MW was shifted by TOU prices. In April 2004, the Beijing Development and Reform Commission decided to widen the difference between the peak and valley tariff. During the summer, the off-peak price will fall 11 percent, and the on-peak price will increase between 5.5 percent and 20 percent.

- **Energy storage.** Beijing has now added 443 ice-storage air conditioning units and heat-storage boilers. These devices have reduced peak load by more than 300 MW.

- **Promoting electric heating.** Beijing encourages the use of electric-storage space heating to reduce the direct consumption of coal in the city. By the end of 2003, 23,175 residential customers had installed storage heat units in more than 9 million square meters of living space. These units consumed 221 GWh, of which 149 GWh or 67.36 percent was off-peak.

- **Using interruptible tariffs.** Beijing Distribution Company has interruptible load protocols with major enterprises such as Capital Steel Corporation, Special Steel Corporation, and Yanshan Chemical Industry Corporation. About 100 MW of peak load may be shifted per year.

- Load control at Electric Load Management Center. The Wireless Electric Load Management Center in the Beijing Grid has been playing an important role in balancing power supply and demand. The facility has the potential of connecting over 5,000 locations. In 2003, 1,600 locations with 2,800 MW of load were connected, and about 500 MW, or about 6 percent, of Beijing's total load could be directly controlled.

The Beijing DSM projects were successful primarily because they focused on peak load management, which is generally easier to implement than other DSM programs. In many cases, load management can be accomplished with properly designed and progressive tariffs, such as TOU and interruptible tariffs. Yet load management programs are largely short-term responses that do not exhaust the cost-effective demand- side potential. Beijing may now turn its practical experience with load management towards developing DSM programs that result in long-term reductions in demand through efficient end-use technologies.

Jiangsu

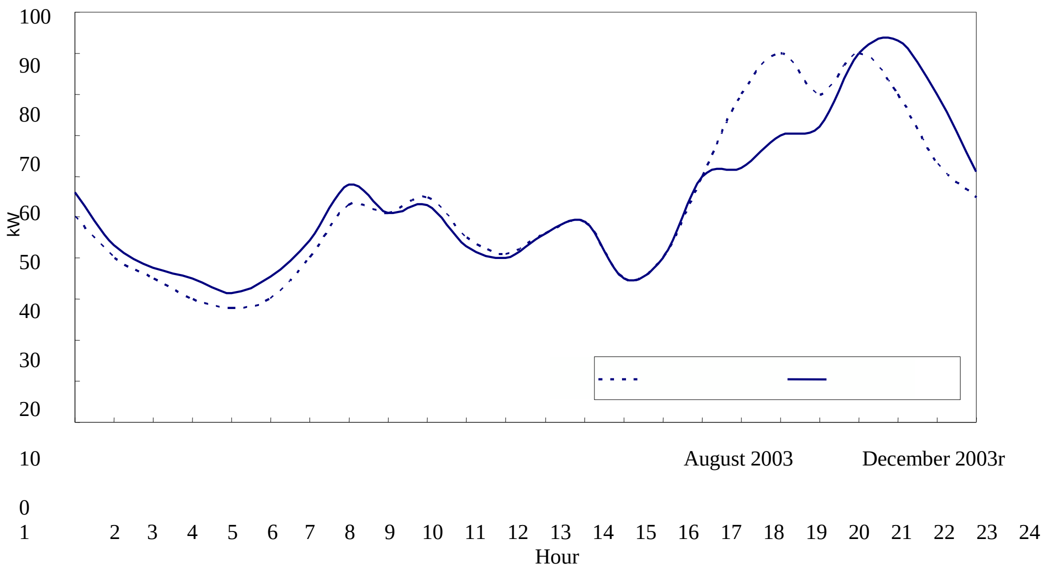
Jiangsu Province has gained a great deal of DSM experience in the past two years. As a result, DSM is now playing an important role in addressing the power shortage. In 2003, the gap between demand and supply in Jiangsu was 3,890 MW. To address this shortage, the government and power corporation implemented the following DSM measures:

- industrial facility maintenance scheduled to reduce peak period use
- business shut-downs and vacations rotated (956 MW)
- interruptible tariffs (780 MW)
- voluntary shifted load (592 MW)
- TOU prices (see figure 3)
- load control system—Electric Load Management Center (475 MW).

Beginning in August 2003, TOU prices were offered to residential consumers on a voluntary basis. The price for the residents who do not use TOU is $62.88 per MWh. TOU prices are $66.51 per MWh on-peak (8:00–21:00 Beijing time), with a valley price of $36.28 per MWh (21:00–8:00 Beijing time).

The utility incurs the cost of a new TOU meter, about $30. By the end of 2003, about 750,000 families selected TOU. The proportion of peak consumption and valley consumption has been changed to 55:45 from 64:36. Figure 3 shows how the load curve of these customers has changed. The time of peak load was deferred about 2.5–3 hours, and about 20 percent of peak load was shifted (about 100 MW) to off-peak periods.

Figure 3: Load Curve Changed By Using TOU —Summer 2003



Source: Study Team

Together these measures reduced peak load by 2,800 MW. Demand, however, still exceeded supply by about 1,090 MW, so the load control center imposed curtailments on some customers.

Additional experience in Jiangsu includes the following:

- From October 1999, industrial TOU prices were applied to six large industries representing 83.12 percent of the total industrial consumption in 2002. The on/off-peak price difference was 3:1. (The difference was widened to 5:1 in July 2003). The peak load reduction from this action was about 600 MW. The load factor in Jiangsu increased 0.18, 1.57, 1.12, 1.00, and 1.47 percent from 1999 to 2003 respectively (The load factors were 79.19, 79.37, 80.94, 82.06, 83.06, and 84.53 from 1998 to 2003 respectively).

- About 30 percent of the total peak load in Jiangsu in these years is due to air conditioners. Jiangsu Power Company has invested about $7.2 million to spread the use of ice-storing air conditioning. The ice-storing cooling reduced peak load by about 70 MW per day in 2003. For example, Nanjing Yuhua Distribution Company has installed ice-storing air conditioning and heat-storing boilers. The result is that 750 kW can be shifted from peak to off-peak periods. This has saved the company $37,850 in power costs.

- Interruptible tariffs have been made available to some industrial consumers, mainly the steel corporations. Customers are compensated $0.12 per kWh for interruptions. In 2002, 5 steel corporations took part in the program. Consumers were interrupted 15 times in 10 days for a total of 28 hours. The power corporation paid them $950,000 for these interruptions, and peak load was reduced by about 400 MW. In 2003, 12 steel corporations took part in this project, and peak load was reduced by about 800 MW. This program could be considered a buy-back program where the utility buys back the energy at a given or negotiated price. Wholesale markets are not yet operational but the price paid here may be a proxy for the market price.

- In 2002, Jiangsu implemented about 65 DSM projects, including ice-storage air conditioners, heat-storage boilers, green lighting, and variable-frequency speed controls at high-consumption industries. The enterprises invested $75 million, with government providing about $5 million as an incentive. The projects reduced peak demand by 100 MW and reduced energy use by 280 GWh. Industrial power costs were cut by $25 million per year.

- Communication with about 237 industrial customers (in steel, chemical fertilizer, and electrolysis industries) resulted in rescheduling industrial maintenance schedules. Peak load was reduced by 66 MW. In addition, some customers agreed to reschedule their day off from Sunday to Saturday or from weekend to weekday.

- By the end of 2003, each city had built an Electric Load Management Center.

These centers monitor and can control the use of about 20,000 industrial machines with a total monitored load of about 11,230 MW and 4,590 MW of demand under control. For example, the Electric Load Management Center of Nanjing Distribution Bureau was built in 1997 at a cost of $8.6 million. The annual operating cost of the center is $240,000 per year. The Center allows Nanjing to monitor 2,430 MW, or 71 percent of the district's total load. The Center has direct control over 600 MW, or 18 percent of the maximum load. In 2003, the Center shifted enough demand to avoid serious outages.

- Energy-intensive consumers pay a capacity charge and an energy charge. The capacity charge is either based on actual demand or the transformer capacity. If the customer chooses to be charged on the basis of actual demand they will have an incentive to control peak use. For example, Nanjing Steel Corporation used a computer control system to limit their maximum demand to 50–70 MW (the transformer capacity is 90 millivolt-amps). Their power cost was reduced by about $500,000 per year.

In total, Jiangsu's DSM efforts reduced peak demand by about 2,000 MW in 2002 and 3,000 MW in 2003. These efforts saved about $1.21–$1.81 billion of investment in new coal plants. Annual energy savings are about 2,300 GWh, equal to about 1 million tons of coal and 23,000 tons of sulfur dioxide.

3. Results

China has a great deal of experience with energy efficiency, although most of this experience is not directly within the utility sector. For example, from 1981 to 1990, China spent 4.5–6.5 percent of the total energy investment budget on energy conservation each year. Significant energy savings have been achieved through these investments, which began in 1981 and were aimed mainly at industrial boilers and energy-intensive industries such as steel, cement, and chemicals.

China also has gained some excellent experience with energy efficiency from working with private energy efficiency services. China, with assistance from the World Bank, has been involved in developing the energy service company (ESCO) model of delivering energy efficiency services. As of June 2004, the three ESCOs have entered into 315 energy performance contracts with aggregate investments of over 95 million USD. Their businesses are successful and growing rapidly.

These ESCO projects have demonstrated that, like other countries, China has large amounts of cost-effective energy efficiency potential, but also that China has similar barriers to energy efficiency. Other countries have found many remaining barriers to ESCO-led efficiency programs, and that power utility and government support has been necessary for broad ESCO success.

China's utility-related energy efficiency experience is much more limited than its experience with load management. In the early 1990s, China conducted a number of studies aimed at energy efficiency but the recommendations were not implemented. For example, a 1992 study found that the DSM programs alone could reduce electricity use in Hainan by 21 percent in 2000, with savings of $200–$400 million.

In recent years, several energy efficiency programs have been implemented, such as Green Lights in Hebei and Jiangsu and variable-speed drives in industrial applications in Jiangsu. But their deployment has generally been limited in scope.

It will be very difficult to implement DSM more broadly in Vietnam without the adoption of new policies. The critical task in Vietnam is to identify the policies that are needed to allow DSM to have a role in the reformed power system. This is especially important now because Vietnam's power sector is in the process of reform. In some respects, Vietnam's power sector is like a centrally planned industry where command-and-control approaches to increasing investment in DSM work best. In other respects, the power sector is becoming a market-driven industry where more market-oriented DSM policies will be needed. This paper identifies and recommends that the government of Vietnam consider a number of near- and long-term policy options to encourage DSM. Some of these policies rely on regulations, standards, and other measures that could be considered command-and-control mechanisms. Other policies rely on illuminating true costs and incentives so that the market will lead to the lowest-cost solution.

The generation business has been unbundled from the transmission and distribution business. However, if the reform process fails to accommodate the potential of demand-side resources in its structure and rules for power sector reform, Vietnam will overlook an important mechanism in the pursuit of efficient and sustainable economic development. The good news is that senior leaders in Vietnam are interested in DSM and as a result, new regulations on strengthening DSM have been issued.

Vietnam is facing a serious power shortage, which is making power sector reform even more difficult. The lesson learned by public officials and utility managers in other countries that have faced shortage conditions is that solving the shortage with a supply-side-only approach may be possible, but relying heavily on DSM can solve the problem faster, at a lower cost, and with less pollution.

As described in this paper, there are still some barriers to implementing DSM in Vietnam. Vietnam's power sector reform and reform plans must remove these barriers to DSM. The following policy recommendations would support reform efforts while reducing barriers to DSM.

4. Discussion and Conclusion

The World Bank estimates that in a business-as-usual scenario, the power utility, Electricity of Vietnam (EVN), will face a threefold increase in demand over the next 10 years, from 25,700 GWh in 2000 to more than 77,400 GWh by 2010, with annual demand growth of 10 to 13 percent. Generationlevel peak power demand is also projected to increase from the 1999 level of 5,700 MW to about 16,000 MW by 2010. Meeting this demand through supply-side resources alone would require a capital investment of about U.S.$18 billion (GEF 2003).

In the current context of our country, with the rapidly increasing demand for electricity along with socio-economic development, DSM plays an increasingly important role in the overall solution to ensure the balance of electricity supply and demand, contributing part to ensure sustainable economic growth and conservation of national fossil fuel resources. It should be affirmed that a basic tenet of DSM is that the cost to save one kWh of electricity will be cheaper than the cost to provide an additional 1 kWh of electricity by building a new plant. This is especially meaningful for our country when investment in electricity development is requiring huge annual capital needs that may exceed domestic investment capacity.

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5. References

1. Asano H., Sagai S. Imamura E., Ito K., Yokoyama R. (1992), "*Impacts of time-of-use rates on the optimal sizing and operation ofcogeneration systems*", IEEE Transactions, Volume 7, Issue 4, pp. 1444-1450.

2. Ashok.S, R. Banerjee (2001), "*An Optimisation model for Industrial Load management*", IEEE Transactions on Power Systems, Vol.16, No. 4, pp 879-884.

3. Andreas Korn (2001), *Review of Demand Side Management Experience in Selected Countries, Fichtner/Colenco's report*, Ministry of Industry, Hanoi.

4. Andreas Korn (2003), *Recommendations on Future Arrangements for DSM Policy and Implementation in Vietnam*, Fichtner/Colenco Consulting ltd., Hanoi.

5. Bhandari, Narad Muni; Burt, Graeme; Dahal, Keshav Prasad; Galloway, Stuart; and McDonald, Jim (2007) "*Dispatch Optimisation of Renewable Energy Generation Participating in a Liberalised Electricity Market*", International Journal of Emerging Electric Power Systems, Vol. 8, Issue 3, Article 1.

THE IMPACTS OF POWER SECTOR REFORM ON DEMAND-SIDE MANAGEMENT

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Abstract

Reform of the electric industry in other countries and states has had substantial impacts on investment in demand-side resources, both positive and negative. But only in those places where explicit policy care was given to DSM did the reforms have beneficial consequences for the electric system and its customers. A recent study by the IEA's Demand-Side Management Program examined how power sector reform affects DSM. The study found that typical power sector reforms do little if anything to reduce the barriers to DSM and that many reforms, such as Vietnam's separation of generation from the grid, actually increase the barriers to DSM. The IEA study also found that the "...overarching policy barrier that affects all electricity industry structures ...is the lack of regulatory or legislative attention and interest in energy-efficiency issues." This content lists seven major effects restructuring has had on DSM internationally, including energy efficiency.

Keywords: *DSM , IEA, Grid, Regulators and Policymakers, Restructuring.*

1. Introduction

In the electricity sector, more than 30 years of international experience shows that, under the right circumstances, electric utilities can effectively deliver large-scale, cost-effective energy efficiency programs. To assure that electric utilities have a major role in delivering DSM and energy efficiency, proven policies and practices must be adopted that make successful delivery of energy efficiency services a profitable part of the utilities' business.

In Vietnam, VECP and CEEP are both new agencies. Today, their DSM-related responsibilities are still evolving, and many are shared. Adoption of the policy recommendations contained in this report may be the responsibility of one or both agencies.

The DSM policy recommendations are divided into short term and long term options. There is no clear line between these two categories of actions. Judgment has to be used to focus on the short term recommendations that are aimed at the current power shortage. The longer-term recommendations, while not requiring immediate attention, are the important steps needed to assure sustainable power sector reform. Given the severity of Vietnam's current power shortage, long-term policies are less urgent. However, they are critical to the avoidance of a future shortage and therefore action on them should not be put off for long.

Because Vietnam's experience in implementing load management is already comparatively strong, only two major recommendations relating specifically to load management are made: (a) reforming prices and (b) incorporating demand response in spot-market design and market rules. These are both very powerful tools.

The creation of open and competitive markets for electricity will not reduce the historic barriers to efficiency investments, and some of Vietnam's planned power sector reforms will create new barriers. This is a special concern for Vietnam because the potential for cost-effective DSM including energy efficiency is so substantial. Without increased investment in energy efficiency, unconstrained and very rapid growth in electricity demand threatens Vietnam's environmental, economic, and social sustainability goals.

2. Method

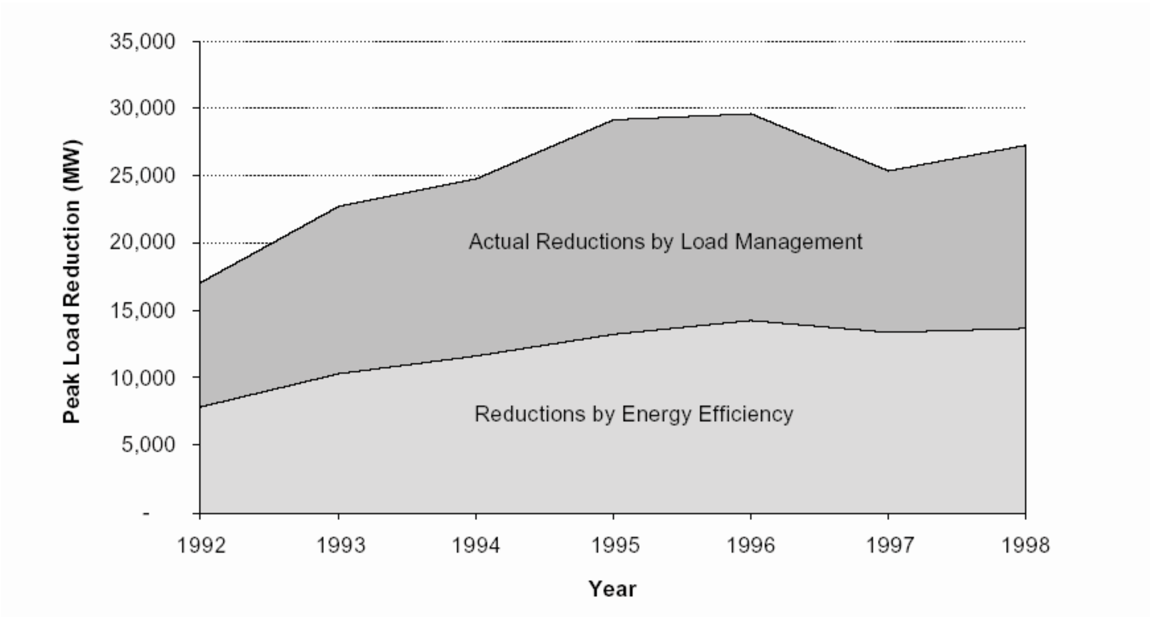
Regulators and Policymakers Shifted Attention and Focus from DSM to Restructuring

Prior to restructuring, interest in DSM was to a large extent driven by regulatory and policy-maker support for DSM. In the United States, Integrated Resource Planning (IRP) and the experience of a few leading states showed regulators and others that DSM could produce large economic and environmental benefits and could avoid the need to build unpopular and polluting generating plants. This focus yielded substantial policy support for DSM and led to steadily increasing utility investment in DSM and energy efficiency. When the nation's attention turned to restructuring, regulators and utilities focused on issues such as stranded cost recovery, retail access, and the rules for new investment. Uncertainty about who would make new investments and how the costs of new investments would be recovered led to a substantial drop in utility investment in all areas, including DSM and energy efficiency.

Total spending by utilities in the United States on DSM declined by nearly 50 percent between 1993 and 1998. In 1993, utility spending for all DSM (efficiency and load management) totaled \$2.7 billion. At that time, based on the utilities' announced plans, the U.S. Department of Energy projected a 20 percent increase in DSM spending to about \$3.5 billion by 1998. Instead, spending dropped to \$1.5 billion, a decline of 45 percent in four years, and a reduction of 57 percent when compared to the trend line of 1991–93.

Reduction of utility-sponsored DSM programs between 1994 and 1999 dramatically reduced the contribution such programs could have made to meeting both energy needs and peak demands since then. By 1993, DSM-related peak load reductions were growing by about 4,000 MW per year. However, after 1995, progress stalled and total peak load reductions remained virtually flat until 1999.

Figure 1: Peak Load Reductions from Efficiency and Load Management in the United States



Source: Cowart, 2001.

In 2000 and 2001, power crises mounted in California and the western United States, and reserve margins narrowed in the eastern United States. As a consequence, demand-side resources received renewed attention and policy makers restored much of the funding that had been cut back in prior years.

Focus Shifted from Planning To Markets and Choice

Proponents of restructuring worldwide believed that retail competition would include innovative offerings by retailers and ESCOs that would overcome the barriers to DSM and energy efficiency. It is important to understand that this has not been the case in any electricity market in any country. The market and regulatory barriers to DSM, especially to efficiency, still remain in restructured systems. In fact, by separating previously integrated utility functions, and exposing power suppliers to short-term price pressures, many restructuring plans have actually increased the barriers to DSM.

Unbundling the Utility Also Unbundled the Benefits of DSM

DSM programs produce generation, transmission, and distribution savings. Worldwide, prior to restructuring, utilities could compare these combined savings to the cost of DSM when deciding whether a DSM program was cost-effective. However, power sector reform in some countries and some U.S. states separated generation from transmission, distribution, and retailing in ways that dispersed the DSM cost savings among two or more separate entities. DSM that would have been cost-effective to a vertically integrated utility might now not be cost-effective to any single industry participant.

Resources such as energy efficiency (which produces savings in generation), distribution, and transmission are disadvantaged in restructured markets that do not allow participants to capture all those values simultaneously. The separation of generation from monopoly transmission and distribution service is necessary to create fair and competitive generation markets, but it has undermined DSM. The challenge has been to find restructuring options and mechanisms that will capture the benefits of both restructuring and DSM.

Restructuring Increased Disincentives for Power Supply Company Investment in DSM

Separation of generation from transmission and distribution creates smaller companies with lower earnings that magnify the disincentives for grid company investment in DSM. For grid companies net revenue losses (revenue loss minus variable cost reduction) resulting from DSM are essentially the same as was before restructuring. But after separation, the net revenue loss has to be absorbed by a smaller utility total level of revenues and earnings. The same net revenue loss on a smaller level of earnings accentuates the revenue-losing aspect of DSM.

One of the many DSM strategies implemented by regulators prior to restructuring was the increased use of sophisticated meters and pricing options. Many larger customers were required to install real-time or other advanced metering and were required to be on TOU prices. These prices reflected the cost of producing and delivering power at different times and different places. With restructuring and retail access, these customers were free to choose among competing suppliers, or (in most states) to choose a simplified "default service" plan. Customers were no longer required to be on any particular price structure. Many of these customers preferred the certainty of fixed prices to the more efficient TOU prices they were previously required to take. Thus, although the expectation of many was that restructuring would lead to innovative pricing, retail competition helped many customers avoid the price volatility of generation markets, and dampened their interest in load management options that could provide benefits to the grid as a whole.

Increased Price Volatility Encourages Load Management

Many restructured markets have experienced much higher levels of price volatility. Where restructured markets have exposed customers to this price volatility, customers have responded in a variety of ways. Some have changed to suppliers that offered stable prices and some have invested in load management options.

Retail Access Has Increased Prices for Some Industrial Customers

In many countries and some U.S. states, industrial customers were given preferential prices below market prices. Restructuring in some places resulted in the loss of these subsidized prices and industrial prices increased. Industrial customers' responses to higher energy prices have included increased investment in DSM and energy efficiency. It is thus important that restructuring plans provide for technical and financial assistance to energy-intensive industries, to lower their costs and improve their competitiveness.

3. Results

In order to effectively implement DSM programs as well as energy saving programs according to the set goals, it will not be possible to successfully implement them without the synchronous coordination between implementing agencies and management agencies. competent state management together with a clear DSM and energy saving legal framework. Therefore, in the coming period, the issues of policy and mechanism that need to be considered and implemented soon are:

- Completing the legal framework for DSM power demand management activities;

- Promulgating documents guiding current Laws and Decrees related to electricity demand management activities;

- Develop appropriate mechanisms, policies and energy tariffs to ensure the goal of energy conservation, and encourage economical, efficient and rational use of all forms of energy;

- Develop mechanisms and policies to gradually establish a financial fund to ensure the successful implementation of the contents of the DSM programs;

- Develop and issue energy efficiency standards for equipment used as a basis for the recognition of energy-saving products. Strict monitoring and inspection mechanisms for the quality and efficiency of energy use of equipment;

- Organize a network of energy saving and efficient management and use to provinces and centrally-run cities.

In order to implement DSM programs effectively and sustainably, it is necessary to conduct research towards the establishment of a Public Benefit Fund (PBF) including spending on DSM activities: The establishment of a Benefit Fund can be considered. public benefits in Vietnam on the basis of fees included in the electricity price. The PBF will spend a small part on DSM activities. Lessons learned on success in DSM activities and energy saving in countries around the world show that the allocation of capital from the PBF fund for DSM activities should be assigned to the Electricity Regulatory Authority to supervise the implementation.

The establishment of a Public Interest Fund will be an important basis to ensure the successful implementation of the DSM program and save energy because it must not only ensure adequate resource allocation, but also force agencies to establish and implement a rigorous project lifecycle management approach to keep DSM budget and energy efficient. International experience shows that regular energy efficiency assessments are the basis for recognizing the energy-saving achievements of DSM and energy-saving plans and the evidence against which key planners The policy further allocates resources for DSM activities and saves energy implementation.

If the peak cutting efficiency and energy savings of DSM and energy saving programs are a quantifiable resource, equivalent to the energy supply, it can help policymakers to devise incentives, regular control and quantification of program results. It is necessary to create a closer link between DSM programs and energy saving programs: In our country today, energy saving programs implemented by the Ministry of Industry focus more on construction and develop institutions to encourage mechanisms for energy saving implementation such as supporting energy audits, setting minimum energy efficiency standards and energy stamping regulations; promotion and public awareness raising.

The current DSM program implemented by EVN focuses mainly on equipment - mainly customer equipment such as lighting equipment and electrical appliances. The lack of synchronization between energy saving programs and DSM will likely create a “policy loophole” with many DSM and energy saving opportunities being missed.

Institutional setting up of DSM and energy saving programs in Vietnam: In the past, DSM programs were often implemented by power companies because of the financial benefits brought from the reduction of peak load demand. instead of having to add new supplies.

In the current period, when the electricity industry is in the process of reforming in the direction of strongly separating power generation, transmission and distribution functions along with the development of the electricity market, international experience has shown that found that an independent agency responsible for implementing DSM programs would be essential and highly effective.

There are several conclusions that can be drawn from international experience with restructuring and DSM:

- The expectation that the power sector will be reformed leads to significant reductions in existing DSM programs or makes it very difficult to implement such programs.

- Power sector reform will not address energy efficiency or DSM unless the government adopts specific policies that make them a part of the restructuring process.

- Separation of the grid from generation makes it more difficult for any one entity to see the full value of energy efficiency. A single buyer, however, retains the incentive to capture all of the generation, transmission, and distribution value of DSM, provided that buyer has the proper regulatory incentives and policy support to do so.

- Markets deliver what they are designed to deliver. If the market is designed to deliver energy efficiency, it will. If it is not designed to deliver energy efficiency, it won't.

- To solve these problems, explicit action will need to be taken by decision makers. In the final chapter, an integrated set of policies that will promote cost- effective DSM investment in a reformed Vietnames power sector is recommended.

4. Discussion and Conclusion

When applying DSM the revenue of Powers may be reduced and due to the investment cost for DSM, that will lead to electricity price increase. The DSM program usually saves customers electricity bills, but this only seems to be true for high-capacity customers as it is likely that the amount of electricity avoided due to reduced power consumption is higher than the amount paid due to an increase in electricity prices. . With regard to customer objections to the DSM program in terms of price effects, to address this issue Powers need to develop extensive proposals that address the needs of price-sensitive customers and try experience DSM programs where the customer pays the full cost of the program through loan mechanisms.

Power shortages can lead to poor decision making that has negative long-term economic and environmental consequences. For example, power shortages have led to decisions to delay or waive environmental rules and to the acceleration or construction of uneconomic power plants. Many countries, including the Philippines, India, and Indonesia, have entered into expensive long-term power contracts that caused lasting economic and political problems. Signing overly expensive contracts is not unique to developing countries. One of California's responses to the power crisis was to sign numerous long-term contracts, mostly with new gas-fired plants. As the crisis passed, the contracts were widely seen as being far too expensive.

DSM responses, on the other hand, can help meet electricity demands and provide reserve margins without adding to stresses on already-burdened transmission and distribution systems. By lowering demand at customer sites, rather than relying solely on new central-station generation, DSM allows grid companies to concentrate their capital resources on the most pressing grid upgrade requirements, while deferring other upgrades, lowering the cost of distribution, and improving reliability in many locations Energy efficiency investments can behighly targeted. For example, Commonwealth Edison, the utility serving the U.S. city of Chicago, targeted aggressive energy efficiency investments to neighborhoods where load growth was straining overloaded distribution systems. Other systems have put more emphasis on efficiency measures that have benefits for high peak load (targeting, for example, commercial lighting and air conditioning). In other cases, as in Brazil or the Pacific Northwest during drought conditions, the goal was to save energy in all hours, leading to a number of DSM resource choices. The lesson here is that there are many kinds of DSM resources and they can be strategically deployed to meet system needs in a variety of ways.

As the case examples above make clear, utilities and government agencies in California achieved dramatic savings from aggressive DSM efforts in 2001–02. Agencies in the Pacific Northwest and in New York also achieved significant savings and system improvements. In contrast, Brazil's response to the crisis was hampered critically by the relatively weak experience of utilities and government agencies in delivering efficiency services to customers.

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5. References

1. DoE and EPA (2000), *Carbon Dioxide Emissions from the Generation of Electric Power in the United States*, Department of Energy and Environmental Protection Agency, Washington DC.

2. Dortolina C.A., Bacalao N., Nadira R., De Arizon P. (2004), *Integrated resource planning in developing countries - a novel practical approach*, Power Engineering Society General Meeting.

3. Dube, I.; Beta, M.; Dihwa, S. (2005), *Opportunities for demand side management (DSM) in integrated energy resource planning and development in the power sector: the case of Zimbabwe*, Power Engineering Society Inaugural Conference and Exposition in Africa.

4. EIA (1995), *Evaluation and Verification of DSM Programs*, U.S. Electric Utility DSM 1993, DOE/EIA-0589(93), Energy Information Administration, Washington, DC.

5. EIA (1997), *US Electricity utility demand-side management, trends and analysis*, Energy Information Administration, Washington, DC.

ASSESSMENT OF SUSTAINABILITY IN ECONOMIC DEVELOPMENT OF PROVINCES IN MEKONG DELTA KEY ECONOMIC REGION OF VIET NAM

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Abstract

Mekong Delta key economic region (KER) was established in 2009, including 4 provinces and cities: Can Tho city, An Giang province, Kien Giang province and Ca Mau province. Mekong Delta KER has been assigned to the important role of a growth pole and development center of the big region of Mekong Delta. Using the method of calculating the component and aggregated sustainable development indicators, this study shows that the KER's development in general and the economic development in particular in recent years has only reached a relatively sustainable level, even less sustainable in terms of internal sustainability, spillover effects as well as regional connectivity. A number of recommendations for sustainable economic development and promote the role of the Mekong Delta KER in the coming years was proposed, focused in new mechanisms and policies to further improve the investment and business environment; human resources development; application of advanced science and technology in production; FDI attraction; building and upgrading infrastructure; promoting economic structure change; integrating climate change issues into development plans and strategies.

Key words: *sustainability, sustainable economic development (SED), Mekong Delta key economic region (KER)*

1. Introduction

Since 1997, in order to meet the actual needs of the country's development, Vietnam has selected a number of provinces and cities with favorable conditions for development which were capable of facilitating competitive advantages and become the leading growth for establishment of key economic region (KER) in order to promote the developing process for those regions, thus, it will play an important role in growth for the national economy (Prime Minister, 1997).

There are four KERs in Vietnam, they are: the Northern Vietnam, the Central Vietnam, the Southern Vietnam and the Mekong Delta KER. The Mekong Delta is the most recent KER of Vietnam which was established in 2009 according to the Decision of the Prime Minister, including 4 provinces and centrally-run cities: Can Tho City, An Giang Province, Kien Giang Province and Ca Mau Province. (Prime minister, 2009).

The Mekong Delta is located at the southernmost part of Vietnam. The Delta, consists of 12 provinces and 1 city directly under the central government, is a big region accounting for 12% of the area and 19% of the population of Vietnam (The Government, 2017). As the "nucleus" of the Mekong Delta, the Mekong Delta KER is determined to play as a major center in rice production, farming, fishing and seafood processing, making a great contribution to the export of agricultural and aquatic products of the whole country, playing an important role in biotechnology transfer, providing seeds, technical services, processing and exporting agricultural products for the whole Mekong Delta region. The KER is also a big center of energy and tourist service, a “bridge” for regional economic integration and an important location in national defense and security (Prime Minister, 2014). Thus, the sustainable development of the Mekong Delta KER in general and its sustainable economic development in particular, is very important not only to itself but also to the Mekong Delta region and other regions of the country due to its role as a growth pole with spillover effects.

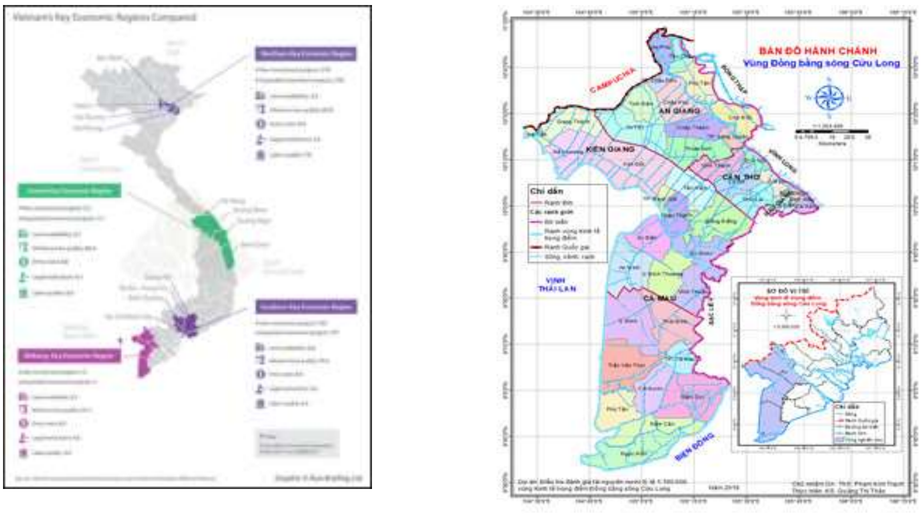

Figure 1: Vietnam’s Four Key Economic Regions and Location of Mekong Delta Key Economic Region

However, there are still questions that need to be studied on whether the economic development of the Mekong Delta KER has been really sustainable, whether or not the KER can promote its role as a growth pole and its impact on the Mekong Delta region as well as on the country's economy.

This research paper aims to assess the sustainability in economic development of Mekong Delta KER in the period 2016 – 2019, propose a number of recommendations for sustainable economic development and promote the role of the region in the coming years.

2. Research Method

Method to calculate the indices of sustainability

Being the important growth pole, the leading of economic development of the Mekong Delta region and the whole country, the sustainable economic development of the KER has to meet the requirements of internal sustainable development of the region, spillover effect and economic connectivity. Thus, assessment of the sustainability in economic development of the KER should be a combination of indicators which represent the above stated requirements.

In this research, we applied the aggregate index following the approach of UNDP (Charles Humana, 1991), and Nguyen Minh Thu (Thu, 2013). The indicators will be divided into three main groups: Internal sustainable development (I_{bvnt}); Spillover effect (I_{lt}) and Regional economic connectivity (I_{llk}). The procedure and method to calculate the indices follows the steps as showing in Figure 2, which are (1) Calculating individual indicator using the indicators of the statistic indicating system for sustainable development, (2) Calculating 3 component indicators correlating with 3 groups of statistic indicators for sustainable development, and (3) Calculating the aggregate index of sustainable development on the average basis.

Indicator 1	Indicator …	Indicator n	Indicator 1	Indicator ...	Indicator n	Indicator 1	Indicator ...	Indicator n
↓	↓	↓	↓	↓	↓	↓	↓	↓
Index 1	Index …	Index n	Index 1	Index ...	Index n	Index 1	Index ...	Index n

↓ I_{bvnt} : Component index of Internal Sustainability

↓ I_{lt} : Component index of Spillover Effect

↓ I_{llk} : Component index of Regional Connectivity

↓

Aggregate Index of sustainability in economic development of Mekong Delta KER

Figure 2. Procedure and method to calculate the indices of sustainability

The Aggregate Index of sustainability in economic development is calculated by the following formula:

$$i = \sqrt[3]{i_{bvnt} \times i_{lt} \times i_{llk}} \qquad (2.1)$$

Sustainability is assessed by a scale from 0 to 1 as follows:

$I \leq 0.2$: Very unsustainable development

$0.2 < I \leq 0.4$: Unsustainable development

$0.4 < I \leq 0.6$: Relatively sustainable development

$0.6 < I \leq 0.8$: Fairly sustainable development

$0.8 < I \leq 1.0$: Sustainable development

The indicators are selected from the sets of indicators of UNDP, CSD, "Set of indicators for assessment of local sustainable development from 2013 to 2020" and "Set of indicators of Vietnam's sustainable development statistics", which are appropriate for the objectives in "National Green Growth Strategy" and "National Strategy on Climate Change"; including the specific indicators as shown in Table 1.

Note that, in the indicator system, there are indicators that positively reflect the increase in the level of sustainability (social labor productivity, GRDP, contribution to the country's GRDP, etc.); On the contrary, there are indicators that reflect the negative/ opposite direction of sustainability (damages caused by natural disasters, poverty rate, etc.). Some indicators have radial values that represent sustainable optimal values (unemployment rate, etc.); In addition, there are a number of limiting indicators, that is, if a certain value is not reached, sustainability requirement is not meet (GRDP per capita compared to the country's GDP per capita, GRDP growth rate compared to the national average, economic density. etc.,).

For the positive, negative and radial indicators, we employed the min-max standardization method (used by the United Nations to calculate the HDI and by Vietnam to calculate the provincial PCI) to convert the values of the indicators into separate index that give values in the range (0÷1). The formulas for calculating the indicators are as in Nguyen Minh Thu's research (Thu, 2013), as follows:

$$I = \frac{\text{Real value} - \text{Minimum value}}{\text{Maximum value} - \text{Minimum value}} \qquad (2.2)$$

$$I = \frac{\text{Ln (Real value)} - \text{ln (Minimum value)}}{\text{Ln (Maximum value)} - \text{ln (Minimum value)}} \quad (2.3)$$

$$I = \frac{\text{Maximum value} - \text{Real value}}{\text{Maximum value} - \text{Minimum value}} \quad (2.4)$$

$$I = \frac{\text{Ln (Maximum value)} - \text{ln (Real value)}}{\text{Ln (Maximum value)} - \text{ln (Minimum value)}} \quad (2.5)$$

$$I = 1 - \frac{|\text{Real value}| - |\text{Median value}|}{|\text{Maximum value}| - |\text{Median value}|} \quad (2.6)$$

Where:

- Formula (2.2) applies to the positive indicators when the actual indicators usually just reach a certain level and there is no significant difference if compared by space and time. Relative value regularly have limited variation from 0 to 100%.

- Formula (2.3) applies to the positive indicators when the actual indicators usually increase without limitation and there is often a significant difference among the levels.

- Formula (2.4) applies to the negative indicators when the actual indicators usually just reach a certain level and there is no significant difference.

- Formula (2.5) applies to the negative indicators when there is a significant difference in the indicators of actual research.

- Formula (2.6) applies to the radial indicators.

The values will be determined respectively as follows:

- Maximum value: determining based on the maximum possible limit of the indicator. For indicators that are unknown or do not have any guidance on sustainability limits, the maximum value will be the trend value: the maximum value of the indicator in the research period.

- Minimum value: determining based on the minimum possible limit of the indicators. In other cases, the trend value is selected as the minimum value of the indicator in the research period.

- Median value: For the indicator that has information about the proclaimed optimal value, the median value is selected as that value. In the other cases, each indicator will be selected appropriately to its characteristics.

For other limiting indicators such as Gross Regional Domestic Product (GRDP) compared to the average country's GDP, the growth rate of GRDP compared to the national average, GRDP per capita compared to the national average. These indicators have to reach a limit value to be sustainable. Thus, if any indicator that have real value greater than the limit value, then I = 1, means sustainable development; if any indicator that have real value less than the limit value, then I = 0.2, means very unsustainable.

Table 1 presents the ways to define the indicators' values in this research.

Sources of Data

The data used in the analysis and calculation of the indices of sustainability is from statistics of the General Statistics Office of Viet Nam (GSO), Statistic Office of Can Tho, Kien Giang, Bac Lieu and Ca Mau Provinces; the reporting of Ministry of Agriculture and Rural Development, UNDP and Vietnam Chamber of Commerce and Industry (VCCI). The data is in the time period from 2016 to 2019.

Table 1: Indicators to assess the sustainability of economic development in the Mekong Delta KER

	Indicator	**Unit**	**Maximum value**	**Minimum value**	**Limit value**	**Formula**
	Internal sustainability					
1	GRDP	Billion dongs	Trend value	Trend value		(2.2)
2	GRDP growth rate/ national GDP growth rate	Times			1,5	Limit
3	GRDP per capita/ national GDP per capita	Times			1	Limit
4	Poverty rate (multidimensional approach)	%	Maximum value: 100	Minimum value: 0		(2.4)

5	Labor productivity	VND mil. per person	Trend value	Trend value		(2.3)
6	Trained workforce for aged 15 and over	%	Maximum value: 100	Minimum value: 0		(2.2)
7	Unemployment in the working age	%	Trend value	Median value: 3		(2.6)
8	Damage caused by natural disaster	VND bil.	Trend value	Minimum value: 0		(2.5)
9	State budget deficit / GRDP	%	Trend value	Trend value		(2.4)
10	Production value of scientific and technological activities	VND bil.	Trend value	Trend value		
	Spillover effects					
11	Working force	Person	Trend value	Trend value		(2.2)
12	FDI by registered capital	USD mil.	Trend value	Trend value		(2.3)
13	Economic density	VND mil./km^2	Trend value	Trend value		(2.2)
14	Net migration rate	%	Trend value	Minimum value: 0		(2.4)
	Regional connectivity					
15	Volume of goods transported	Thousand tons	Trend value	Trend value		(2.2)
16	Number of passengers carried	Thousand people	Trend value	Trend value		(2.2)

3. Results

In 2019, the population of Mekong Delta KER was 6,061,000 people, accounting for 36% of the Mekong Delta's population and 6.9% of the country's population. The population density of 367 people/km^2 which was lower than the average population density of the

Mekong Delta, but it was nearly 1.4 times higher than the national average. An Giang and Kien Giang were the provinces with the largest population, accounted for 31.4% and 28.4% of the Mekong Delta's population, respectively.

The statistics of 2019 have shown that the per capita income of provinces in the KER had increased over the years; However, Can Tho was the only province that had the per capita income of VND 4.713 millions/ month, higher than the average income per capita of the whole country which is VND 4.295 millions/ month. Other provinces’ income per capita were lower than the national average: An Giang (VND 3.841 millions), Kien Giang (VND 4.079 millions). Ca Mau province’s income per capita was even lower than the average of the whole Mekong Delta (VND 3.214 millions compared to VND 3.886 millions).

Provinces in the KER had annual contribution to the state budget increasing over the years. However, the contribution of provinces in the Mekong Delta KER was still very limited when compared to other KERs. In 2019, the Mekong Delta KER contributed only 4.71% to the total budget revenue from provinces of the country. For details, Kien Giang contributed 1.95%, Can Tho contributed 1.62%, An Giang contributed 0.77 % and Ca Mau only contributed 0.37% to the whole country’s state budget. The total budget revenue of the 4 provinces in Mekong Delta KER in 2019 reached VND 73,037 billions, it was just 17% compared to the contribution of Ho Chi Minh City and 27.7% compared to Hanoi City.

In the period of time from 2016 to 2019, although the region's labor productivity tended to increase rapidly, it did not meet the stated requirements. Statistics have shown that Can Tho was the only province that had a higher labor productivity than the national average (VND 133.42 millions/worker/year compared to VND 110.5 millions/worker/year). Other provinces’ labor productivity were lower than the national average: Kien Giang (VND 101.29 millions/worker/ year), Ca Mau (VND 91.01 millions/worker/ year), An Giang (VND 52.81 millions/worker/ year). It was reported that the standard of labor, science and technology of provinces in the region, except for Can Tho that still had many limitations which led to low labor efficiency and productivity compared to the national average.

In recent years, the economic development results of provinces in the Mekong Delta KER and the whole Mekong River Delta region have not met the requirements, the economic indicators of the KER are still lower than the national average and disproportionate to its economic potential and its role as the motivative region and the leading of the country's economic development.

The data on economic development - also be used to assess and calculate the sustainability in economic development of provinces in the Mekong Delta KER, are collected and summarized by the researchers as shown in Table 2.

Table 2. Statistics for economic development in the Mekong Delta KER

Items	2016	2017	2018	2019
GRDP, VND Billions				
Can Tho	67,270.78	73,448.88	83,215.97	91,471.49
An Giang	65,464.53	70,719.78	78,152.97	84,459.60
Kien Giang	71,543.43	79,245.61	87,734.19	93,375.70
Ca Mau	46,063.38	51,700.02	57,631.20	61,666.55
GRDP growth, %/ year				
Can Tho	7.82	6.28	8.15	7.73
An Giang	4.50	4.38	5.67	6.27
Kien Giang	6.26	6.04	6.34	5.92
Ca Mau	1.93	4.38	5.28	6.12
GRDP per capita, VND Millions				
Can Tho	55,385.59	60,084.97	67,779.57	74,008.82
An Giang	33,124.79	36,188.99	40,471.63	44,279.94
Kien Giang	40,902.18	45,419.81	49,952.04	54,117.16
Ca Mau	38,446.07	43,192.07	48,204.23	51,635.25
Poverty rate (multidimensional approach), %				
Can Tho	4.60	3.90	2.70	2.20
An Giang	6.75	5.24	3.67	2.63
Kien Giang	4.52	4.80	4.68	4.59
Ca Mau	7.96	5.96	4.04	2.52
Labor productivity, VND mil. / person/ year				
Can Tho	98.80	107.52	121.52	133.42
An Giang	58.98	66.30	73.92	86.88

Kien Giang	77.89	85.34	95.38	101.29
Ca Mau	68.92	77.76	85.68	91.01
Trained workforce for aged 15 and over, %				
Can Tho	20.40	21.10	24.20	16.40
An Giang	10.40	12.45	13.50	14.56
Kien Giang	12.40	10.80	15.20	13.60
Ca Mau	10.52	10.44	12.38	12.30
Unemployment in the working age, %				
Can Tho	3.19	3.21	3.54	3.76
An Giang	1.88	3.05	2.51	3.18
Kien Giang	3.36	2.98	3.04	3.56
Ca Mau	**2.60**	**3.12**	**2.54**	**2.10**
Damage caused by natural disaster, VND Billions				
Can Tho	5.62	4.00	33.30	8.40
An Giang	262.83	402.38	198.08	91.07
Kien Giang	7.75	1,342.30	5.59	10.85
Ca Mau	3.42	7.80	6.71	44,823.00
State budget deficit / GRDP, %				
Can Tho	(6.23)	(7.02)	(7.21)	(7.84)
An Giang	8.49	8.99	8.89	3.40
Kien Giang	(2.87)	(3.28)	(3.36)	(2.92)
Ca Mau	8.69	10.40	8.05	7.16
Production value of scientific and technological activities, VND Billions				
Can Tho	763.91	817.79	878.11	947.07

An Giang	470.80	527.50	579.70	637.80
Kien Giang	215.56	237.85	256.72	292.88
Ca Mau	104.61	115.43	368.72	393.68
Working force, Person				
Can Tho	680,845.00	683,115.00	684,811.00	685,611.00
An Giang	1,110,014.00	1,066,628.00	1,057,267.00	972,159.00
Kien Giang	918,530.00	928,533.00	919,814.00	921,843.00
Ca Mau	668,389.00	664,852.00	672,622.00	677,617.00
FDI by registered capital, USD Millions				
Can Tho	223.97	8.40	11.24	43.42
An Giang	0.02	7.35	3.02	58.00
Kien Giang	7.75	1,342.30	5.59	10.85
Ca Mau	12.41	12.32	314.12	393.62
Economic density, VND mil./km2				
Can Tho	46.75	51.04	57.83	63.57
An Giang	18.51	20.00	22.10	23.88
Kien Giang	11.27	12.48	13.82	14.71
Ca Mau	8.82	9.90	11.04	11.81
Net migration rate, %				
Can Tho	(2.70)	4.70	(1.80)	1.80
An Giang	(9.10)	(3.70)	(9.90)	(14.40)
Kien Giang	(9.10)	(8.70)	(5.90)	(8.50)
Ca Mau	(8.20)	(9.30)	(6.60)	(12.50)
Volume of goods transported, Thousand tons				

Can Tho	10,107.00	10,488.00	10,911.00	12,209.00
An Giang	30,745.00	33,069.00	35,208.69	38,955.00
Kien Giang	10,010.00	10,651.00	11,488.00	12,372.00
Ca Mau	2,275.00	2,384.00	2,501.00	2,627.00
Number of passengers carried, Thousand people				
Can Tho	15,026.00	16,190.00	17,621.00	19,225.00
An Giang	118,382.00	125,108.00	129,874.96	145,597.00
Kien Giang	71,570.00	75,220.00	81,139.00	87,386.00
Ca Mau	68,979.00	70,471.00	74,738.00	79,729.00

Source: Calculation from statistic of GSO and Provinces Statistical Office

The results of indicators and indices calculations and assessment are shown in Table 3, Figure 2, and Figure 3.

Table 3. Calculated indices of SED of provinces in Mekong Delta KER

Year / Indicator	**2016**	**2017**	**2018**	**2019**
Can Tho				
I_{bvnt}	0.57	0.59	0.59	0.62
I_{lt}	0.74	0.74	0.69	0.79
I_{lk}	0.57	0.63	0.69	0.76
Aggregate index of SED	**0.62**	**0.65**	**0.66**	**0.72**
An Giang				
I_{bvnt}	0.38	0.43	0.45	0.54
I_{lt}	0.44	0.61	0.50	0.32
I_{lk}	0.47	0.55	0.60	0.73
Aggregate index of SED	**0.43**	**0.52**	**0.51**	**0.50**

Kien Giang				
I_{bvnt}	0.51	0.50	0.57	0.56
I_{lt}	0.36	0.47	0.44	0.43
I_{lk}	0.54	0.58	0.64	0.70
Aggregate index of SED	**0.46**	**0.52**	**0.54**	**0.56**
Ca Mau				
I_{bvnt}	0.28	0.32	0.45	0.34
I_{lt}	0.28	0.32	0.45	0.35
I_{lk}	0.42	0.46	0.52	0.59
Aggregate index of SED	**0.32**	**0.36**	**0.47**	**0.41**
Mekong Delta KER				
I_{bvnt}	0.42	0.45	0.51	0.50
I_{lt}	0.42	0.51	0.51	0.44
I_{lk}	0.50	0.55	0.61	0.69
Aggregate index of SED	**0.44**	**0.50**	**0.54**	**0.53**

Source: Calculation from statistic of GSO and Provinces Statistical Office

4. Discussion and Conclusion

In the recent years, the assessment has shown that the development of Mekong Delta KER was impressive in general. The level of sustainable economic development of the whole region increased from 0.44 points in 2016 to 0.54 points in 2019. However, the economic development of each provinces in the region as well as the whole region was still not really sustainable, both in the internal aspect and leading role/ spillover and connectivity aspect in the development of the Mekong Delta region.

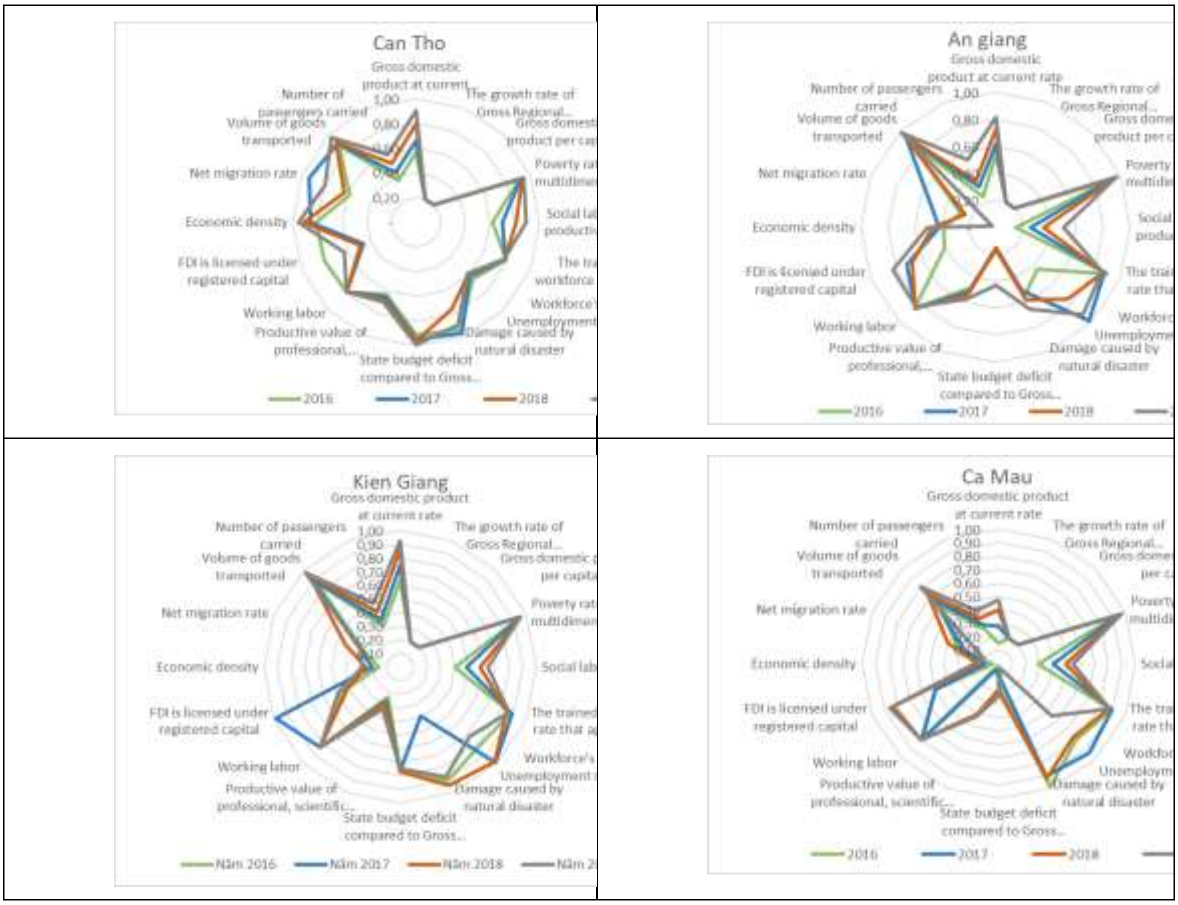

Figure 2. Assessment indices of SED of provinces in Mekong Delta KER

There is clear differentiation among provinces in the region, especially, Can Tho and Kien Giang cities always tend to lead in the general economic development of the region. From 2016 to 2019, Can Tho's economic development level towards sustainability has always remained at 0.6-0.8, which is at fairly sustainable development level. However, the development of other provinces could only have been maintained at a relatively sustainable level, especially, from 2016 to 2017, Ca Mau has just maintained at the level of unsustainable economic development (0.32 and 0.36 points). In this period, thus, the economic development of the region is relatively sustainable with 0.44 - 0.53 points at best.

In recent years, the internal sustainability indicator of Can Tho and An Giang have a steady increased; Kien Giang and Ca Mau, on the other hand, continue to slow down in 2019 – since Ca Mau was severely affected by natural disasters, salinization, and landslides in 2019. According to the General Statistics Office, in 2016, the whole region lost about VND 279.62 billions due to natural disasters. In 2019, it was up to VND 44,933 billions. Especially, Ca Mau suffered the loss of VND 44 trillions at least.

Can Tho was the only province with GRDP per capita and GRDP growth rate higher than the national average, otherwise, other provinces were lower. Especially, An Giang is only 70% of the country's GDP per capita. Similar to labor productivity indicators, only Can Tho had a slightly higher productivity than the national average (1.1 times), other provinces were lower. Number of trained labors has increased over the years in provinces, though they were lower than the national average. Especially, provincial statistics have shown that the number of trained labors in 2019 was lower than in 2018, thus, this index only reached the relatively sustainable level.

For the index of spillover effect, the assessment results have shown that Can Tho and Ca Mau are the provinces with the improving spillover effect in recent years. Mean while, other provinces were slow down. Especially, in An Giang, the component index of spillover effect decreased from 0.5 points to 0.32 points, from relatively to unsustainable development. During the research period, Can Tho was the only provinces with immigration rate higher than migration rate. This matter has partly shown the weak attraction of provinces in the region compared to others in the country.

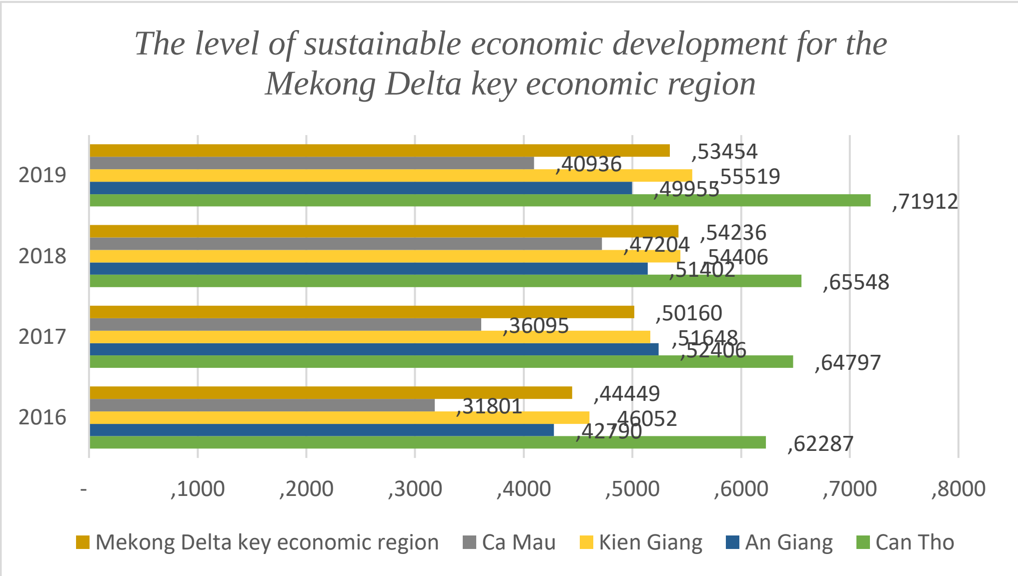

Figure 3. The level of SED for the Mekong Delta KER from 2016 to 2019

The index of regional connectivity also had a differentiation among provinces in the region. In recent years, Can Tho and Kien Giang had this index increased; on the other hand, An Giang's and Can Tho's index had decreased. Moreover, the index of regional connectivity was only calculated according to the number of people and goods transported, which did not fully reflect the connectivity among provinces in the region.

The imbalance has shown not only in provinces but also in interior of each provinces in the region. Figure 2 has shown the imbalance in sustainability among the separate indices in each provinces and their interior. In Can Tho, for example, a number of indicators have shown a high level of development that is fairly sustainable and sustainable, such as: the poverty rate (multidimensional approach), the labor productivity and the damage caused by natural disasters while indicators, the GRDP growth rate compared to the national average and GRDP per capita compared to the national average were low. In Ca Mau, the indicator of damage caused by natural disasters was at an extremely unsustainable level (loss of over VND 44 trillions in 2019 caused by natural disasters); or the net migration rate, the growth rate of GRDP compared to the national average, GRDP per capita compared to the national average was at a below/ very unsustainable level while the index of poverty rate (multidimensional approach) was high, accounting for 2.52%, that was just higher than Can Tho City (2.2%) and lower than An Giang (2.63%) and Kien Giang (4.59%).

Although the economic development of provinces in the Mekong Delta KER has achieved many important achievements, people's living standards have been increasingly improved, but there are still many inadequacies. Internal sustainability issues of each province tend to be precarious and differentiated. Can Tho city is a "symbol" in the economic development for the whole region but it has not really shown its important role. Moreover, the assessment has also shown that the economy of the region is not really sustainable, highly depended on external factors such as natural disasters and climate change and it lacks regional connectivity which has shown the indicators that are very high. Otherwise, in other provinces, they are very low and vice versa.

In the scope of the study, in order to ensure sustainable economic development of provinces in the KER in particular and the Mekong Delta in general, a number of solutions/ recommendations are proposed as follows:

(1) Solutions to ensure internal sustainable development:

- Review, supplement, adjust and develop new mechanisms and policies to further improve the investment and business environment;
- Enhance the investment to human resources development towards high-quality labor force;
- Promote investment in the application of advanced science and technology in production;
- Adjust the master plans and plans for sector development in line with climate change context;
- Take advantages of climate change financial and policy incentives, invest in technology improvement, process innovation in industrial production, reduce greenhouse gas emissions and protect the environment through NAMA, CDM, etc.
- Develop and update action plans to respond to climate change according to climate change and sea level rise scenarios announced and will be announced by MONRE in order to minimize and take measures to respond to climate change, sea level rise and other extreme

weather phenomena;

- Integrating climate change issues into development plans and strategies of sectors and localities in the region.

(2) Solutions to promote spillover effects

- Promote FDI attraction for suitable projects, especially rural infrastructure development projects;
- Continue to invest in upgrading infrastructure, creating favorable conditions for the development of trade, transportation and trade within and outside the region, increasing the level of regional connectivity;
- Continue to promote economic structure change in the direction of reducing the proportion of the agricultural, forestry and fishery sectors to the industrial, construction and service sectors;
- Strengthen training and development of trained human resources and high-quality human resources for economic sectors inside and outside the region, and at the same time adopt policies to attract and improve the quality of human resources in science and technology. policies for the technology application sector;

(3) Solutions to improve regional connectivity

- Strengthen cooperation in industrial development, training, healthcare, tourism, scientific research and technology and labor transfer between localities in the region and other localities in the country, especially Ho Chi Minh City;
- Build synchronous infrastructure, ensuring trade and regional linkages taking into account climate change issues;
- Upgrade and expand roads in districts with economic development potential and high volume of goods transport to provincial level roads. Upgrade and expand existing roads, upgrading inter-commune roads to district level roads…. to ensure smooth transportation/ circulation to all localities in the Mekong Delta;
- Develop and implement plans for economic cooperation for comprehensive socio-economic development among provinces, enterprises inside and outside the KER.

5. References

1. Charles Humana (1991), World human rights guide, Oxford University Press.

2. General Statistics Office (2020), The Statistical Yearbook of VietNam 2019.

3. Prime Minister (2012). Decision No. 432/QD-TTg dated April 12, 2012 Approving the Vietnam's Sustainable Development Strategy for the period 2011 - 2020.

4. Prime Minister (2014). No. 245/QD-TTg dated February 12, 2014, The master plan on socio-economic development of the Mekong Delta KER through 2020, with orientations toward 2030.

5. Statistical Office of An Giang, Kien Giang, Can Tho and Ca Mau Province (2020), Statistical Yearbook of provinces.

6. The Government (2017) Resolution No. 120/NQ-CP on Sustainable and Climate-resilient development of the Mekong Delta.

7. Thu, N. M. (2013). Statistic Research on Assessment of Sustainable Development in Vietnam (PhD Thesis), National Economics University.

AN OVERVIEW OF CLIMATE-SMART AGRICULTURE MODELS' REVIEW AND EVALUATION PROCESSES: A CASE STUDY IN THE SOUTH CENTRAL COAST

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Abtract

Adverse weather conditions and further climate change have had a strong impact on food production systems. Accordingly, the promotion of climate-smart agriculture (CSA) models is an approach to achieve sustainable development in agriculture, ensuring food security in the context of climate change. This study aims to (1) review the evaluation processes, categorize CSA models from different stakeholders to arrive at a common and appropriate consensus process; (2) indicate the basis for selecting suitable potential CSA models in each specific production condition; (3) applied to the review and identification of existing CSA models in the South-Central Coast. Research methods including desk research, field investigation, and expert consultation were used to achieve the research objectives. The results show that there are 18 potential CSA models in the South Central Coast that meet the requirements of a CSA model. However, in order to have a basis for proposing the replication of these models, detailed assessments are required to determine the effectiveness of the models and their suitability with local production conditions and resources.

Keywords: *assessment, climate change, CSA model, process, review, selection criteria*

1. Introduction

According to FAO (2010), an agricultural model is considered to be climate-smart (CSA) when it contributes to increasing the following three capabilities of agricultural production systems: (i) Adaptability respond to climate change (CC), ensuring productivity and income even under adverse climate change; (ii) Mitigation capacity: the ability to reduce the risk of CC occurrence and to reduce CC levels, by reducing or eliminating greenhouse gas emissions (GHGs), or recovering GHGs from the atmosphere; and (iii) The ability to increase productivity and economic efficiency, thereby contributing to food security in the long run. An agricultural model that meets all three of these goals is ideal. Because of the complexity of the CSA concept, in practice it is very difficult to achieve the three goals at the same time. In different contexts, the order of priority goals is also different. CC reduction is an important goal, but not a mandatory criterion; just practice that CSA does not emit more

GHGs, does not cause negative effects on the climate and the living environment. Therefore, the establishment of a decision support framework is necessary to facilitate the selection of a list of CSA models that are suitable for practice.

In Vietnam, in a series of important decisions such as Action Plan to Response to CC in agriculture and rural development (Decision No. 819/QD-BNN-KHCN) (MARD, 2016); Plan for the implementation of the Paris Agreement on climate change (Decision No. 2053/QD-TTg) (Prime Minister, 2016); Implementation plan of the Paris Agreement on CC of the Ministry of Agriculture and Rural Development (Decision No. 891/QD-BNN-KHCN) (MARD, 2020); The national plan to adapt to climate change for the period 2021 - 2030, with a vision to 2050 (Decision No. 1055/QD-TTg) (Prime Minister, 2020), all emphasize the importance of climate change adaptation. develop and replicate agricultural production models that are intelligently adaptable to CC.

In fact, there is a need of a common and most appropriate method to guide stakeholders to review and evaluate CSA models or potential CSAs;moreover, it is necessary to indicate the basis for selecting suitable potential CSA models in each specific production condition. This study aims to review all the different assessment methods which are available; thereby, consider the similarities and differences to propose a framework or a common review and evaluation process. This process will be applied to review the list of existing CSA models in the South-Central Coast.

2. Method

The methods used in this study include:

Data collection and synthesis method: This method is used to review and analyze different evaluation processes and methods of domestic and foreign agencies and organizations. This method is also applied to review all agricultural production models with CSA potential in Vietnam in general and the South-Central Coast in particular.

Field survey: This method is used to determine the presence or absence of CSA models in actual agricultural production in the study area, preliminary determination of the effectiveness and relevance of CSA models - the model that adapts to recent and future climate changes. Ninh Thuan and Binh Thuan are the two provinces selected for the field survey.

The method of consulting experts: This method is applied to select typical agricultural adaptation models according to 3 pillars (ensure food security, adaptability, and reduce climate change) and the feasibility of agricultural models that are highly adaptable to increasing drought conditions in the South-Central Coast.

Community consultation method: Community engagement for consultants is used to collect information from farmers who directly practice local production activities. The information is qualitative and may indicate the potential suitability of the solution for specific local conditions.

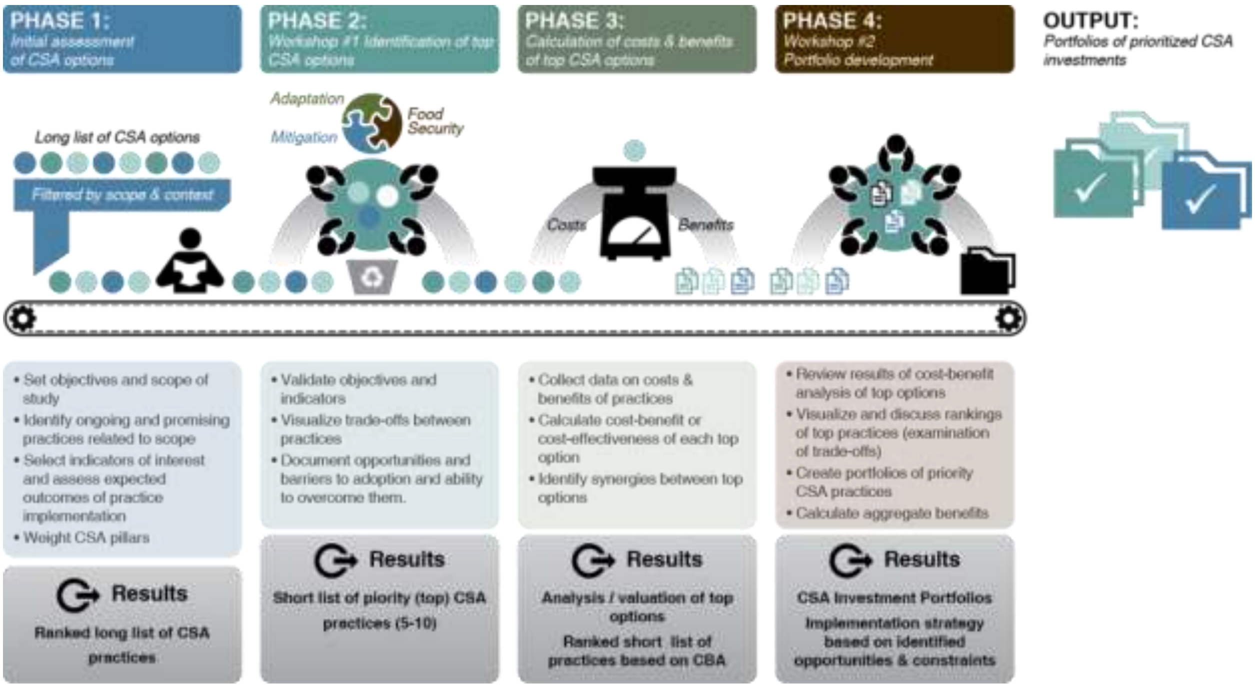
3. Results

3.1. Overview of processes for reviewing and evaluating potential CSA models

The inspection processes of different CSA models is mentioned below. Each given process represents different spatial levels from national, regional to local; for different audiences from policymakers, financial institutions to local managers.

In 2014, CIAT-CCAFS published the document "Climate-smart agriculture investment priority framework". The CSA prioritization framework is designed to meet the needs of managers at different levels (farm to policy, private and nonprofit organizations), and aims to identify determine the best cost to respond to climate change risks in the short and long term. In this document, the prioritization framework uses a four-phase approach to guide stakeholders through the process of filtering a long list of applicable CSA practices into portfolios of priority practices.

Figure 1. Description of the CSA Investment Prioritization Framework process



Source: CIAT, 2014

It can be seen that this process is more suitable for agencies, international organizations, national and regional policy makers, and financial institutions to consider and make decisions. Applying the above process, in 2015, the Institute for Agricultural Environment (IAE) in collaboration with CIAT conducted a review of CSA models in Vietnam (CIAT & IAE, 2015).

In order to have a more specific basis for selecting appropriate CSA models for each context as well as for replication, a study by MARD (2015) proposed a process (steps) for rapid review of The CSA model is as follows:

Step 1: Establish a list of models that are likely to be CSA models, or temporarily called CSA-oriented models based on analysis of secondary information including project reports, related programs related to CC mitigation/adaptive agricultural development, reports from DARDs, scientific reports, research results (both published and unpublished).

Step 2: Based on the CSA Basic Criteria to determine which models are CSA models, exclude non-CSA models. The result of this step is to make a list of CSA models that are being implemented in practice *(Table 1).*

Table 1: List of CSA models in practice

No.	Model name and main features	Project/ Program	Location, scale of application (starting year, area, number of households …)	The main benefits and impacts of the model				Advantages and disadvantages in model implementation	Policies related to model development and replication
				Increase productivity and ensure food security	Climate change adaptation	GHG reduction	impacts of the model		
	…	…	…	…	…	…	…	…	…

Source: MARD, 2015

Step 3: Make a list of CSA models suitable to the local practical needs for food security, CC adaptation, and CC mitigation. To compile this list, additional information should be collected through expert consultation and consultation with the local community. The purpose is to build the bases for the suitability and non-conformity of the model with local practical needs.

Step 4: Identify suitable potential CSA models for replication based on the characteristics of natural conditions; infrastructure conditions; household characteristics; policy mechanisms related to the CSA model.

On a smaller scale, in the study of Duong MT et al (2016), the research team conducted a quick inventory and assessment of the "climate-smart" of the existing farming systems in practice at (Climate-Smart Village - CSV), My Loi village, Ky Son commune, Ky Anh district, Ha Tinh province). The process includes the following steps: (1) Inventory of CSA models that consider CSA performance indicators that have been adapted to the context; (2) Evaluate the effectiveness of CSA indicators based on high or low-performance indicators for each indicator; while considering the potential to improve and further extend the model.

Thus, through the above overview, it can be concluded that the process of reviewing CSA models is very diverse. The common point in these processes is that the inventory implementation, aggregation of all potential CSA models is based on the synthesis of primary and secondary documents. The next step is to use the preliminary evaluation criteria to establish a list of CSA models. Based on specific local conditions, a further set of criteria is used to assess the relevance and replicability of these models. The difference between the processes depends on: what is the purpose of the review; who is the subject of the review; the national, regional, or local level. Accordingly, for each process, the number of criteria and the level of detail used to evaluate each process is also different.

3.2. Overview of criteria for reviewing and evaluating potential CSA models

3.2.1. Criteria for review and evaluation from international organizations

In 2013, FAO published the document "Climate-Smart Agriculture - Sourcebook", which includes Module 18 - Impact Assessment, Monitoring, and Evaluation. This module lays out the CSA assessment criteria, but mainly at the national, regional, and project levels; Evaluation criteria at the model level are few and non-specific. At the model level, FAO (2013) provides 7 general criteria for evaluation as follows: (i) Reduce soil erosion and improve nitrogen fertilizer use efficiency from the application of tillage, cover crop and crop rotation techniques; (ii) Improve the availability of irrigation water from soil and water conservation activities; (iii) Improve crop productivity by using new varieties, changing care regimes (fertilizer, irrigation), or by providing and using early weather and climate forecasting information; (iv) Improved livestock productivity from the use of new breeds and improved breeding techniques; (v) Balancing output, market price, and household income through fertilizer support programs; (vi) Improved economic resilience from diversification of income sources; and (vii) Reduce greenhouse gas emissions (GHGs) or increase the carbon accumulation capacity of the soil by applying better crop management and care techniques..

In 2014, CIAT-CCAFS published the document "Climate-Smart Agriculture Investment Priority Framework". This document does not provide a specific set of criteria to evaluate CSA models/practices.

In 2015, a group of experts from the World Bank (WB) in association with the International Food Policy Research Institute (IFPRI) developed a draft of the CSA evaluation criteria and indicators. The draft results were presented at the 2015 Global Scientific Conference on CSA in Montpellier, France. In 2016, WB officially published the document "Climate-Smart Agriculture Indicators". Accordingly, the World Bank divides CSA evaluation criteria into 3 main groups:

(i) Criteria on policy and institutions - CSA-Pol Index (assessment of the policy environment in facilitating and supporting CSA promotion), including policies to support CSA; improve infrastructure to support CSA; how to coordinate and implement CSA.

(ii) Group of criteria on technology/engineering - CSA-Tech Index (used to measure changes in productivity, adaptation, and mitigation to CC when applying technology); Evaluation is based on a baseline, that is, when no technique is applied.

(iii) Criteria for successful outcomes - CSA-Results Index (to measure application or non-applicability), including curricula indicators of direct results of CSA intervention implementation; CSA-allowed environmental metrics; indicators measuring the medium and long-term consequences of implementing a CSA intervention)

CCAFS has created a database of more than 378 CSA-related indicators collected from several international development agencies (FAO, DFID, GIZ, IFAD-ASAP, World Bank, USAID) to develop the CCAFS. CSA counter-programming and indicator tool (Quinney et al., 2016) for the purpose of monitoring outcomes and impacts. The tool proposes a shared framework/framework for agricultural programs to i) review current or planned levels of intervention for each CSA pillar, ii) compare the scope and intentions of the CSA between different project designs to program a climate-smarter future, and iii) assist in the identification and selection of an appropriate set of indicators to measure and track outcomes related to CSA..

3.2.2. Criteria for review and evaluation from organizations in Vietnam

a. Criteria for reviewing, evaluating, and ranking agricultural models adapting to climate change in general

In Vietnam, a number of research projects and projects have developed sets of criteria for evaluating and reviewing CC adaptation models such as CCWG, VNGO&CC, and SRD (2011); CARE (2013); Le Van Thang (2015), Truong Quang Hoc, et al (2018).

According to research by CCWG, VNGO&CC and SRD (2011) released in the report "Models to respond to climate change: experience of NGOs in Vietnam", there are 5 criteria for selection. climate change adaptation models, including (1) The effectiveness of the practice/model's response (adaptation and mitigation) to CC; (2) Involvement of the local community; (3) Sustainability (Economic, social and environmental performance); (4) Originality/creativity; and (5) Scalability.

Research by CARE (2013) proposed a set of criteria to identify and select livelihoods that can adapt to climate changes, including 5 groups of criteria (i) Economic compatibility, (ii) Institutional compatibility, (iii) Socio-cultural compatibility; (iV) Climate compatibility and (v) Environmental compatibility with a total of 18 criteria. As a result, there are 11 potential livelihood models to adapt to climate change. These models are classified according to the livelihood quadrilateral framework, then scored and ranked according to CC adaptation criteria.

In order to provide a scientific basis for the selection of climate change adaptation models in the central provinces, Le Van Thang (2015) proposed a set of criteria for assessing the adaptability to CC. including 4 criteria with 14 indicators. On the basis of survey results in 14 provinces (Thanh Hoa to Binh Thuan) on models with potential to adapt to CC, 16 models have been selected, evaluated, scored and classified the level of adaptation by each factor. In which, 03 models have high adaptability to CC, 08 models are quite adaptive and 05 models are moderately adaptive, none of which is low or less adaptive.

In a recent study, Truong Quang Hoc et al (2018) proposed a set of criteria for assessing climate change adaptation models (including 7 criteria with 29 criteria). These criteria are then scored and ranked for adaptability according to 5 levels: very low adaptability, low adaptability, medium adaptation, high adaptability and very high adaptability. Seven evaluation criteria include: (1) Adaptation to CC (5 indicators/40 points); (2) Reducing greenhouse gas emissions (4 indicators/10 points); (3) Economic efficiency and sustainability (4 indicators/10 points); (4) Social efficiency and sustainability (4 indicators/10 points); (5) Environmental efficiency and sustainability (4 indicators/10 points); (6) Conformity with local institutions and policies on CC and natural disasters (4 indicators/10 points); and (7) Scalability (4 indicators/10 points). The adaptability of the models is divided according to the score levels: less than 50 points - very low adaptability; 50 - 70 points - low adaptation; 71 - 80 points - highly adaptive; 81 - 90 points - highly adaptive; 91 - 100 points - very adaptive. After reviewing and evaluating, this study has shown a list of 33 climate change adaptation models.

b. Criteria for reviewing, evaluating and ranking climate-smart agriculture (CSA) models

In the report "*National prioritization of climate-smart agriculture practices in Viet Nam*", CIAT & IAE (2015) used the CSA Index to score according to the 3 CSA pillars below to screen out 19 representative CSA models for 3 agro-ecological regions (Red River Delta, South Central Coast, and Mekong River Delta).

Pillar 1 emphasizes productivity (including the ability to increase productivity, improve food security; ability to improve economic efficiency; suitability with farmers' ability to invest in CSA and with existing infrastructure) to help local managers and farmers understand the benefits of CSA. Considered the importance of this production pillar with other pillars in Vietnam, the expert's committee agreed to allocate 40 points shared in 100 points in the total for this pillar.

Pillar 2 focuses on adaptation capacity (including the adopted capacity to climate and weather, ecological conditions, natural resources exploitation and use; environmental protection. The expert's committee agreed to allocate 30 points.

Pillar 3 focuses on mitigation potential (including saving input in use, potential mitigation from a technical aspect, potential GHG emission reduction). GHG emission could not be quantified hence, experts based on the knowledge and potential footprint of carbon to give the points at a maximum of 30 points in remaining.

To rank the priority order of 19 models, the study uses the method of scoring by experts. The scoring criteria are as shown in Table 2.

Table 2. Set up the criteria for ranking comprehensive list of ongoing CSA practices

No	Selected criteria	Maximum points
1.	**Production pillar**	**25**
	Adopted capacity of relevant ecology	5
	Saving input in use	10
	Marketable output	10
2.	**Climate change adaptation pillar**	**30**
	Adaptation capacity to climate change	10
	Impact of gender balance	10
	Environmental effectiveness	5
	Social effectiveness	5
	Food security ensure	5
3.	**Climate change mitigation pillar**	**30**
	Mitigation potential	15
	Mitigation economic effectiveness (cost efficiency)	15
4.	**In line with local and sectoral plans/strategies**	**15**
	TOTAL	**100**

Source: CIAT & IAE (2015)

For the project of MARD (2015), in step 2, to determine which model is the CSA model, the project used the following basic set of criteria (Table 3):

Table 3: Basic set of criteria to evaluate the CSA model

Objectives of the CSA	Evaluation criteria
1. Increasing productivity, contribute to ensuring food security	1.1. Increased income per unit area compared to the control model (*) 1.2. Increased economic efficiency compared to the control model (*)
2. Adaptation to Climate Change	2.1. Increased stability (in terms of income) across seasons and years compared to the control model (*) 2.2. Increased resilience of crops/animals after being impacted by extreme weather events compared to control model (*) 2.3. Increased diversity of revenue sources compared to the control model (*) 2.4. Increased biodiversity compared to the control model (*) 2.5. Positive impact on restoring natural resources (soil fertility, reducing soil erosion, restoring biodiversity, etc.)
3. GHG emission reduction	3.1. Reduces GHG emissions compared to the control model (*) 3.2. Increased carbon capture/accumulation compared to the control model (*)
(*): The control model is a model where no new techniques are applied	

Source: MARD, 2015

In step 4, to identify CSA models with potential for replication, the study used a 1 to 5 scoring method by experts, local managers, and farmer communities. Evaluation criteria to consider the fit of the model with the characteristics of natural conditions; infrastructure conditions; household characteristics; policy mechanisms related to the CSA model (Table 4).

Table 4: Evaluation of the suitability of CSA models for manufacturers to apply in local conditions

No.	CSA model	In line with infrastructure	In line with soil conditions, irrigation water	In line with farmer's condition	In line with local policies to promote the model	Total
	(1)	(2)	(3)	(4)	(5)	(6)
	…	…	…	…	…	…

Source: MARD, 2015

Columns 2, 3, 4: Score on a scale of 1 to 5

Column 5: Score with 3 points as follows: Point 1: if there is a policy that hinders the application of the model; Point 2: if no policy hinders; no policy promotes the model; Point 3: if there is no policy to hinder; there is a policy to promote the model.

Research by Duong MT et al (2016) has established high or low-high indicators for each indicator. Specific criteria and indicators include (1) Economic criteria (Total output; Income; Labor input; Food security); (2) Adaptability (sensitivity to the effects of weather); (3) Mitigation potential (carbon accumulation; GHG emissions; Fertilizers; Energy); (4) Environmental impacts (Application of farming techniques on sloping land; Soil erosion; Ecosystem functions).

3.3. Review and evaluation

3.3.1. In term of the process of reviewing CSA models

Although there are differences in the subject and scope of implementation, in general, the process of reviewing CSA models for a particular region includes a number of general steps. Based on the synthesis of review procedures and other evaluation criteria for each step, the process of reviewing CSA models in the South-Central Coast region applies the following steps and evaluation criteria:

Step 1: Inventorying and listing all models with potential CSA (Desk research)

Step 2: Using the CSA model evaluation criteria to identify the model as a CSA model and re-establish the list of CSA models (desk research). The study used the set of criteria in Table 3 of MARD (2015).

Step 3: Conducting field survey to identify existing CSA models in production and collect information on models and local production conditions.

Step 4: Evaluating the effectiveness of the models according to the 3 CSA pillars, and at the same time assess the suitability to local production conditions. In this step, the study proposes to use a combination of methods to quickly evaluate the effectiveness of the models in Table 2 (CIAT & IAE, 2015) and the criteria for assessing the suitability of CSA models in the context of conditions. localities in Table 4 (MARD, 2015)

Step 5: Ranking the order of priority CSA models to propose development and replication.

3.3.2. In term of evaluation criteria of CSA models

There are two groups of criteria used for the review process, including:

(1) use preliminary evaluation criteria to determine which model is a CSA model (Table 3);

(2) using CSA's three-pillar performance evaluation criteria (Table 2); criteria to evaluate the ability to replicate and be suitable for specific local conditions (Table 4).

3.4. Results of reviewing CSA models in the South-Central Coast region

3.4.1. South Central Coast in the context of climate change

The South-Central Coast region includes the provinces located along the South-Central Coast extending from Da Nang to Binh Thuan. According to Pham Quang Ha et al. (2013), the South-Central Coast has a vulnerability index (0.536) is the third-highest in the country after the Mekong Delta (0.679) and the Southeast (0.602). This is an important indicator for identifying agricultural areas vulnerable to climate change. In fact, every year, the South-Central Coast is affected by many natural disasters and unfavorable weather conditions. Besides natural disasters such as storms and floods, the risk of drought is also assessed at a serious level (SRVN, 2004). Although it is a coastal area, in fact, the situation of prolonged drought and water shortage for agricultural production is happening in many provinces due to the characteristics of topography and other climatic factors. Research by Nguyen Lap Dan (2010) and Truong Duc Tri (2015) have shown the drought situation as well as predicted the trend of drought change in the South-Central Coast in the coming years. Under the impact of climate change, drought is likely to occur with more frequency and severity. Therefore, the implementation and application of CSA models have a very important role and significance in responding to increasingly adverse weather conditions and future climate change in South Central Coast.

3.4.2. Results of reviewing CSA models in the South-Central Coast region

Within the framework of this paper, the research has only focused and stopped at steps 1 to3 for the purpose of reviewing and defining a list of existing CSA models in the South-Central Coast.

Through reviewing and synthesizing from different data sources, a long list of potential CSA models is listed in the South Central Coast. Based on the set of evaluation criteria in Table 3 for preliminary assessment and selection of CSA models. The results of the review determined that the whole region has 18 models/technologies with 68 places being implemented in actual production. (Table 5)

Table 5. List of 18 CSA models/technologies in the South Central Coast region

No.	Code	Names of CSA	No.	Code	Names of CSA
1	TTK	Saving water irrigation	10	LC	Rotating green beans/corn on rice land
2	CDC	Shifting rice to upland crop	11	QLBV	Community-based sustainable forest management model
3	CTDC	Cultivation on sandy soil	12	SRI	System of rice intensification
4	1P5G	Applying “One must and Five reductions”	13	TC	Sugarcane Intensification
5	3G3T	Applying “3 reductions and 3gains”	14	DL	Biomat in animal husbandry
6	CS	Using LED light to off season dragon tree	15	BIO	Biogas

7	XC	Intercropping	16	XD	Growing and processing coconut fiber
8	VG	Vietgap	17	CPSH	Using Bioproducts
9	GTN	Drought tolerant rice varieties	18	TH	Mixed models

Source: Authors' synthesized, 2018

The above review results are just the first steps; therefore, in order to evaluate and prioritize CSA models, further studies need to clearly show the effectiveness of the models; co-benefits; scalability; technically feasible; inline with local and sectoral plans and strategies, in line with available local resources (financial, human, farming qualifications, institutional arrangements, and infrastructure); even further can meet the implementation of MRV and monitoring and evaluation (M&E).

4. Discussion and Conclusion

In the context of increasingly erratic weather events, the impact of CC is becoming more and more obvious. It is important to identify suitable livelihood models that are able to adapt to adverse weather conditions. However, to do this, it is necessary to have a suitable process, the criteria for evaluation and screening must be consistent and clear not only on the national level but also in accordance with local production conditions.

This study has contributed to an overview of the review processes, evaluation criteria, and classification of CSA models that have been implemented in Vietnam. Thereby, inherit and apply to the review of existing CSA models in the South Central Coast. This result is the basis for the author to continue to carry out further studies to evaluate the effectiveness of the models according to the CSA's pillars while ensuring the suitability and availability of resources. and natural, socio-economic and policy characteristics at the local level. With a no-regret approach, the application of climate-smart agriculture (CSA) models will contribute to minimizing risks if it occurs in the future.

5. References

1. Central Steering Committee on Disaster Prevention (2016), *Report on the situation of drought, salinity intrusion and response solutions.*

2. CARE International in Vietnam (2013), *Action Research on Climate-resilient Livelihoods for Land-poor and Landless people*. Avaiable at: https://careclimatechange.org/wp-content/uploads/2013/08/Action-Research-on-Climate-resilient-Livelihoods-for-Land-poor-and-Land-less-People-Vietnamese.pdf

3. CIAT (2014), *Climate-Smart Agriculture Investment Prioritization Framework*. Cali, Colombia: CIAT.

4. CIAT, IAE (2015), *Report: National Prioritization of Climate-Smart Agriculture Practices in Viet Nam,* Hanoi, Vietnam.

5. Nguyen Lap Dan (2010), Zone 08-23/06-10: *"Study on the scientific basis of drought and desertification management to build a management system and propose proposals strategic solutions and overall harm reduction: a case study for the Red River Delta and the South Central Coast*" conducted by the Institute of Geography, Vietnam Academy of Science and Technology 2008-2010, chairperson Nguyen Lap Dan.

6. Duong MT, Simelton E and Le VH (2016), *Prefer participatory climate-smart agricultural practices*. CCAFS Technical Report No. 175. Wageningen, Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Available at: www.ccafs.cgiar.org

7. Embassy of Finland, CCWG, VNGO&CC, SRD (2011), *Climate change adaptation models - Experiences of NGOs in Vietnam*, under the project "Building CC capacity for Vietnamese civil society organizations".Ijeoma, E., Rawlins, Maurice Andres, Christine Heumesser, Yuxuan Zhao, Ademola Braimoh (2015) *Developing Indicators for Climate-Smart Agriculture (CSA)*. The World Bank Group. Paper presented at the Global Science Conference on Climate Smart Agriculture 2015, Montpellie, France.

8. FAO (2010) *"Climate-Smart" Agriculture: Policies, Practices and Financing for Food Security, Adaptation and Mitigation*. Rome: Food and Agriculture Organization (FAO).

9. FAO (2013), *Climate-smart agriculture - Sourcebook*. Page 570. Food and Agriculture Organization of the United Nations, Rome.

10. Le Van Thang (2015), *Scientific evidence for the selection and completion of community-based climate change adaptation models in the Central region and proposed replication*, Science and Technology Program for the Target Program national response to climate change, Code KHCN-CC/11-15, Institute of Natural Resources, Environment and Biotechnology - Hue University.

11. Le Trung Tuan (2009), *Research and application of scientific and technological solutions to drought prevention for sustainable agricultural development in central provinces*, 2007 - 2009 by Le Trung Tuan, Institute Water, Irrigation and Environment, Vietnam Institute of Irrigation Science is in charge.

12. Ministry of Agriculture and Rural Development (2015), *Criteria for evaluating CSA model (climate-smart agriculture) in Vietnam*, under the Project of Capacity Building for the Implementation of the National Strategy on Climate Change - the Ministry Agriculture and Rural Development (CBICS-MARD) package "Support to review and evaluate smart agricultural models adapting to climate change in Vietnam, from which to select and propose suitable models for replication" .

13. Ministry of Agriculture and Rural Development (2016), *Decision No. 819/QD-BNN-KHCN on approving the Action Plan to respond to climate change in agriculture and rural development for the period 2016-2020, with a vision to year 2050.*

14. Pham Thi Sen et al (2017), *Climate-Smart Agricultural Practices In Vietnam*. CGIAR Climate Change, Agriculture and Food Security Program (CCAFS), Wageningen, The Netherlands. Available at: www.ccafs.cgiar.org

15. Pham Quang Ha et al (2013), *Impact assessment, identification of response solutions and implementation of action plans in the fields of agriculture and fisheries*.

16. Truong Quang Hoc et al (2018), *Report on reviewing and evaluating CC adaptation models supported by social organizations and GEF-SGP*, under the Project "Strengthening the role of social organizations" National Plan on Climate Change Adaptation (NAP-CORE3)" funded by the Global Environment Facility (GEF-SGP), UNDP, Final Report.

17. Nguyen Quang Kim (2005), State-level project*: "Study and forecast drought in the South Central Coast and Central Highlands and develop prevention solutions",* code KC.08.22, done in 2003 - 2005.

18. Tran Chan Nam (2014), Research on the impact of climate change on drought in the South Central region, Master thesis.Quinney M, Bonilla-Findji O, Jarvis A. (2016), *CSA Programming and Indicator Tool: 3 Steps for increasing programming effectiveness and outcome tracking of CSA interventions.* CCAFS Tool Beta version. Copenhagen, Denmark: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).

19. Truong Duc Tri (2015), *Research on drought in the South Central region in terms of climate change, estimated results and response solutions,* LATS.

20. Socialist Republic of Viet Nam (SRVN), (2004). *National Report on Disaster Reduction in Viet Nam* (For the World Conference on Disaster Reduction, Kobe-Hyogo, Japan, 18-22 January 2005), Hanoi.

SUSTAINABLE AGRICULTURAL DEVELOPMENT IN AN GIANG PROVINCE: SITUATION AND SOLUTIONS

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Abstract

An Giang province identifies agriculture as a key economic sector and aims to become an agricultural center of the Mekong Delta. In order to promote the economic strengths, An Giang has been implementing the development of the agricultural economy in the direction of a sustainable growth. In this article, the author mentioned about the Sustainable Agricultural Development in An Giang province the situation and the solution to indicate the remaining situation and difficulties in agricultural development, at the same time, bringing devise practical solutions to develop the province's agriculture sector increasingly.

Keywords: *agriculture, An Giang, development, sustainability, sustainable agriculture*

1. Introduction

Taking advantage of the strengths of agriculture, An Giang province has focused on improving agricultural development towards sustainability. An Giang agriculture plays a key role in the process of its economic development. Therefore, the province focused on manufacturing and restructuring agriculture towards modernization and high-tech and identified that this is an important task. At the same time, An Giang agriculture improves the value of cultivation, growths agricultural products associated with the innovation of growth model in depth. Since then, it improves the value of agricultural goods production, increasing the competitiveness of agricultural products, contributing to poverty reduction, increasing farmers' income, ensuring social security by creating jobs and stable incomes for people, promoting socio-economic development. It is the orientations of An Giang province to develop a sustainable agricultural economy that has brought to greater achievements in recent years. However, there are still backlogs that need to be overcome. Therefore, in this article, the author focuses on researching situation of sustainable agricultural development in An Giang province, and clearly states the achievements and backlogs of the agricultural economy in An Giang province, thereby to specify appropriate recommendations to promote the agricultural economy of An Giang province towards sustainability.

2. Methods

A number of research methods have been applied in this study to clarify the issues of sustainable agricultural development in An Giang province.

Firstly, the methods of analysis and synthesis are applied to analyze documents related to research issues.

Secondly, the historical method is applied to describe the research problem according to the process, namely over the years to clearly see the agricultural economic development of An Giang province.

Finally, the logical methods helps to identify appropriate research issues.

3. Results

3.1. Theoretical basis

3.1.1. Sustainable Development

Sustainable development is an important goal in many areas, countries and regions. To achieve sustainable development, each country will rely on specific political, economic, cultural, social, geographic, ... characteristics to plan the most appropriate strategy for that country.

The term “sustainable development” was first used in the "World Conservation Strategy" proposed by IUCN (International Union for Conservation of Nature and Natural Resources - IUCN) in 1980. The overall objective of the Strategy is "achieving sustainable development by protecting biological resources" and emphasizing the effective use of natural resources, ensuring the living environment for human beings during the development process.

In 1987, the World Commission on Environment and Development (WCED) in the Our Common Future report introduced the concept of sustainable development as "Development that meets the needs of the present day without compromising the ability to meet the needs of future generations" (WCED, 1987, 43).

By 1992, the concept of sustainable development was reaffirmed at the Earth Summit Conference on Environment and Development taking place in Rio de Janeiro (Brazil), which confirmed: "sustainable development" in three important areas of the economy, society, environment, with practices and guidelines to achieve sustainable development goals in agenda 21 (UNCED, 1992).

In 2002, at the World Summit Conference on Sustainable Development taken place in Johannesburg (Republic of South Africa), the concept of sustainable development was further improved: "Sustainable development" is a process of development with close, reasonable and harmonious combination between three aspects of development, including economic development, social development, and environmental protection. Attention is paid to issues of economic growth, progress, and social justice; poverty reduction and job creation; handling, remedying pollution, restoring and improving environmental quality;

forest fire prevention and deforestation; rational exploitation and economical use of natural resources.

Thus, sustainable development in the most general sense is the combination of economic, social, and ecological fields into a unified whole. Economic efficiency must go hand in hand with social justice and environmental protection. To achieve sustainable development, first of all, the economic development issues must be addressed in a harmonious manner in three aspects: economic, social, and environmental. Economic sustainability means fast and safe economic development. Therefore, the healthy growth and development of the economy must meet the requirements of life and improve people's lives.

3.1.2. Sustainable agricultural development

Sustainable agriculture is a subject of great interest and lively debate in many segments of the world. Sustainable agriculture is defined as a system that, "over the long term, enhances environmentalquality and the resource base on which agriculture depends; provides for basic human food and fibreneeds; is economically viable; and enhances the quality of life for farmers and society as a whole"[T. Crews, 1991].

Sustainable agricultural development is an issue needed to be concerned, this is an objective requirement and needs to be well addressed such as the relationship between the natural environment system, social environment and human environment.

Sustainable agriculture firstly is crop and livestock on the same land that must be stable and tend to be increasingly improved, economic efficiency must be strengthened, nurture more people and the income level is also increasingly improved without destroying the environment of nature and the community.

Sustainable agricultural development is development that ensures the nature of the eco-agricultural economy with its own goals, structure and functions. Sustainable agriculture development is a development model that has a link between agricultural growth and general economic growth, with the natural environment, the poverty and the people in rural areas. Sustainable agricultural development is the development that meets the general growth needs of the economy but does not degrade the natural environment - people and ensure sustainable livelihoods above the poverty line for the people.

Thus, sustainable agricultural development is also based on three aspects: economic, social and environmental. Economic development must focus on environment and social security. Based on mentioned, we recognize that the sustainable development of agricultural economy in An Giang province also needs to pay attention to the following aspects: economy, society, environment in locality, region, nation and internation. The three factors: economy, society and environment always interact and complement each other in the process of sustainable agricultural development.

3.2. Policies on sustainable agricultural development of An Giang province

In order to develop sustainabl agriculture, the role of policy makers and development orientations of the agricultural sector is extremely important. Whether An Giang's agriculture really develops sustainably and effectively depends on the orientations and policies suitable to the actual situation of the province. In recent years, An Giang agriculture has achieved high results and developed in a sustainable manner. From 2012, the An Giang Provincial Party Committee issued Resolution No. 09-NQ / TU dated June 27, 2012 on agricultural development with high- tech application, stage 2012 – 2020 and vision to 2030. On that basis, An Giang Provincial Party Committee focused on leading to mobilize many resources for agricultural development in depth, constantly increasing productivity, quality, efficiency, competitiveness of agricultural products, improving material and spiritual life of farmers ... Next, the Provincial People's Committee issued policies to actively support the development of high-tech agriculture in An Giang province in the period of 2012-2020 and a vision to 2030 (Nguyen Hanh, 2019).

In 2016, under new pressures in the context of climate change, food security and international integration, the goal was to develop agriculture and rural areas comprehensively and sustainably. Recognizing this, the Resolution of the 12th National Congress of the Communist Party of Vietnam from January 20, 2016 to January 28, 2016, in Hanoi Capital, stated: " Accelerate restructuring of agriculture, build comprehensive ecological agriculture including agriculture, forestry and fishery towards modernization and sustainability, on the basis of promoting comparative advantages and reorganizing agricultural production, to promote and widely apply science - technology, especially biotechnology, information technology to agricultural production and management, and accelerate agricultural and rural industrialization and modernization to increase productivity, quality, efficiency and competitiveness, firmly ensuring national food security both in the short and long term; improve farmers' income and life” (Hoang Anh Tuan, 2019).

Implementing the Resolution of the Party and the Resolution of An Giang Provincial Party Congress for the term 2015-2020 also identified: "Agriculture is a key economic sector, making An Giang become an agricultural center of the Cuu Long Delta; strive to increase the average value of agricultural production to 192 million VND / ha by 2020, effectively using capital, resources, labor, technology... "(Nguyen Hanh, 2019). In 2016, An Giang province implemented the Sustainable Agriculture Transformation Project (VnSAT) with many positive activities, contributing to promoting agricultural restructuring.

An Giang Provincial People's Committee has just issued Decision No. 44/2018 / QD-UBND, providing for the management, exploitation and protection of irrigation works in the province.

Accordingly, the Department of Natural Resources and Environment shall assume the prime responsibility and coordinate with the Department of Agriculture and Rural Development in advising the provincial People's Committee in guiding the formulation of exploitation plans; licensing exploitation and use of water resources and discharging sewage into water sources as prescribed; carry out evaluation and submit to the provincial People's Committee for approval the plan of calculating charge for granting water right for exploitation and use of water to the concerned individuals and organizations.

The remarkable point in Decision 44 is that An Giang strictly prohibits acts such as drilling, digging soil, illegal construction within the protection area of irrigation works; Illegally occupying and using land within the area of protection of irrigation works; activities that hinder the management and repair of works.

Particularly strictly prohibited acts of causing pollution of water sources of irrigation works, such as discharging toxic substances, garbage, dead animals, bottles and pesticides; waste water from industrial production establishments or industrial parks, wastewater from production and aquaculture zones, daily-life waste water from residential and business areas (the above-said types of wastewater have not yet been treated or treated but not up to the permissible standards) into irrigation works. Acts of encroaching on the river surface, obstructing flood drainage, changing the flow, leading to local erosion phenomena in front of and after the project (Nguyen Hanh, 2018).

3.3. Situation of sustainable agricultural economic development in An Giang province

3.3.1. Achievements in sustainable agricultural economic development in An Giang province

Agriculture in An Giang province has achieved important results in the past years, paving the way for the process of agricultural development towards sustainability in the subsequent years.

An Giang province is aiming at the goal of developing a sustainable agricultural economy, strictly implementing the planning of rice and crop production areas, etc. In rice production, the trend of forming a production link between businesses and farmers, from the supply of high quality rice seeds to the stage of harvesting, product consumption, milling processing and export ... are implemented and most people choose. In the processing stage, the factory focuses on handling all waste products during the operation of the factory such as taking advantage of rice husks to milling rice husk firewood to serve as fuel, creating electrical energy to serve the re-operating the factory. The production process from rice to grain for export is practiced synchronously, safely, and this trend is developing.

The province has also focused on safe rice production, improving the quality and efficiency of rice cultivation. The An Giang agriculture sector promotes crop restructuring such as reducing rice acreage to shifting to fruit and other aquaculture, bringing higher economic benefits to farmers. Form cooperatives to grow fruit trees, combine with the construction of planting areas meeting VietGap standards, strongly apply technical advances to production; including drip irrigation to save water.

Implementing Resolution No. 09-NQ / TU of the Provincial Party Committee, the science and technology sector coordinates with departments, branches and local authorities to develop and plan high-tech agricultural production, specialized production areas comes into practice. Many models and scientific and technological projects are aimed at applying mechanization in agricultural cultivation, such as laser leveling machines, straw rollers; mechanization of agricultural harvest,...

The implementation of the National Target Program on building a new countryside in the period of 2016-2020 has contributed significantly to the development of the province's agricultural economy. To focus on building An Giang agriculture in association with building a new countryside towards modernization, sustainable development and proactively coping with climate change. Focus on developing smart agriculture, organic agriculture, clean agriculture and high value-added, branded and competitive agricultural products (Huu Huynh, 2020). At the same time, the province has applied the model of linking four houses (the State, farmers, scientists, entrepreneurs), developing agricultural cooperatives and implementing projects on reorganizing production and linking associated with processing and consumption markets.

The province has implemented the Restructuring project of agriculture sector; to prioritize the development of key products to recognize four new hi-tech agricultural regions: Phu Tan sticky rice area, Loc Troi rice-growing region, Kien An vegetable-growing area, Cho Moi fruit tree area. In order to improve productivity and profitability for people, An Giang province expanded to apply Global GAP, Viet GAP; focus on changing the structure of cultivated rice varieties in the direction of increasing the branded high-quality rice varieties which are bought by businesses with pre-set purchase prices. Instructing enterprises of Vietnam-Australia Group and some other typical enterprises in the province to apply for recognition of high-tech agricultural enterprises. Cooperating with businesses such as Angimex-Kitoku, Trung Thanh, Vuong Dinh, Tan Vuong, Tan Long, Loc Troi, Sunrice... on developing linkages of production and consumption of agricultural products. The companies engage with farmers through cooperatives, new type cooperatives associated with the company's material areas in the districts of Tri Ton, Thoai Son, Tinh Bien and Chau Phu. These companies will contribute capital and send personnel to participate in executive management. The province has provided farmers with good rice varieties, applying safe and high-quality production processes to meet the requirements of exporting rice products to foreign markets.

Enhancing the deployment and expansion of the Large Field to build the value chain of the rice industry, prioritizing reducing losses during and after harvest, while promoting mechanization investment in the field. Deploying financial, technical and market support package for rice products to develop the province's hulled rice-rice products. Increasing support for businesses in accordance with policies to encourage businesses to invest in agriculture.

Rice production

In 2017, the total area of rice cultivation in An Giang province reached nearly 649,200 ha. The total rice output of the whole year was approximately 4 million tons, the value of production increased, the estimated value of agricultural production reached 160 million VND / ha. (Vuong Thoai Trung, 2017).

In 2018, the cultivated area was 677.8 thousand hectares, accounting for 97.6%. In particular, 624,000 hectares of rice, crops reached nearly 54,000 hectares, 450.95 hectares of newly planted forestry trees. (Nguyen Hanh, 2018). In 2018, the association of large field production was maintained and improved, currently 31 food enterprises and 10 seed enterprises have signed contracts to link rice production and consumption.

In 2019, the rice production area of An Giang province will be about 639,000 hectares, the annual rice output will reach 3.92 million tons. Agriculture in An Giang province spends over 70% of the area using high-quality rice seeds for export, reducing the use of excess nitrogen fertilizer, reducing the use of pesticides, aiming to expand the production of rice varieties, clean rice and organic rice, developing a brand of safe rice, focusing on investment in soil and irrigation improvement.

Fisheries

In 2018, the province's fishery industry has many advantages, and the seafood export market is also expanded. Ensuring the area for raising and harvesting aquatic products according to the scheduled time, taking advantage of rising flood water to exploit natural aquatic resources.

In 2018, the harvested aquatic products will be about 1,726 hectares, the whole year harvested aquaculture output will be around 444,000 tons, with the total tra fish farming area being 900 hectares. An Giang is the leading province in implementing the Project of linking 3-pangasius seed production to facilitate the production of about 2.7 billion fish to the market (Nguyen Hanh, 2018).

Breeding industry

The province's animal husbandry has made a positive move, many businesses have been investing heavily in animal husbandry in An Giang province, with breeding techniques to ensure sustainable development, protect the breeding environment well, safe livestock products, and traceability, reducing small scale animal husbandry.

The agriculture and rural development sector of An Giang province is also implementing a plan to improve the quality of live cows to meet market requirements and increase profits for farmers, the province has supported the development of beef cattle and breeding cows high quality reproduction for farmers.

Paying attention to developing high-tech cow raising model will have a 3-fold profit increase compared to traditional cow raising, changing cow raising practices under small grazing to farms, ensuring the environment for grazing farming and living environment of farmers.

Cultivation

In 2017, the province's agricultural sector continued to shift its tree structure towards quality and high economic value. The total area of crops is over 60,000 hectares. The total area of fruit trees in An Giang province is over 15,800 hectares, up 19.2% (equivalent to an increase of 2,552 hectares over the same period). Promote production linkages under the model of large fields, the chain of production and consumption of vegetables, banana transplanted tissues, abalone mushrooms,... focusing on items of production organization, training, model building, developing consumer markets (Vu Dam, 2017).

Focusing on infrastructure construction and building links for raw material production areas such as Cat Chu mango, tricolor mango, green grapefruit production areas ... Agricultural construction work New villages have been implemented regularly and continuously, speeding up the recognition of pilot communes to complete the plan of 43 communes in 2018.

In 2019, the province's output of fruit trees reached 241,000 tons equal to 113.87%, Tra products exceeded 400,000 tons for the first time. (Le Hoang Vu, 2019). In 2020, An Giang develops agriculture towards a modern sustainable and rational growth, products associated with innovation of the growth model in depth. Besides improving the competitiveness of agricultural products, raising farming values and farmers' income.

Environment

Focusing on environmental protection in agricultural production towards sustainable development, An Giang aims at the GAP model with three increases and three reductions (increasing rice productivity, increasing rice quality, increasing efficiency economic, reducing the number of seed sowing, reducing the amount of pesticides, reducing the amount of nitrogen fertilizer) and saving water, using agricultural wastes as microbiological fertilizer have brought high efficiency. Combine flower planting on the banks of the fields to balance the ecosystem and protect the environment. Closely combining economic development, environment, social security, towards sustainable agricultural economic development.

Aiming at clean agriculture to protect the living environment and create products that are safe for public health, this is a production model in line with the current national and international development trends.

3.3.2. The backlogs in sustainable agricultural development in An Giang province

Besides the above advantages, there are still some difficulties and disadvantages. In terms of provincial management of agriculture and rural areas, there are still some shortcomings: issuing provincial policies on sustainable agricultural development, but most people have not grasped the mainstream of the issue, they do not fully understand their roles and responsibilities in the province's sustainable agricultural development. Besides, the basic solutions to effectively prevent and respond to climate change such as drought, salinity ... with the environment are not really thorough. This is a core issue for all levels of government to focus on and deploy to the people better to bring the Party's policy of the local government to each people to implement.

The land policy is also unstable, in which the regulations on the duration of land use rights is not for long term, making investment in agriculture limited, especially investment in sustainable development for the future. Many areas of agricultural production have developed well, but the short time of land use rights has prevented farmers and businesses from making long-term investment, leading to the problem that agricultural production will be less sustainable.

The competitiveness of agricultural products is still weak, mainly developing in width, increasing the area and output, but the product quality is low, production costs are high. This leads to farmers not being active in agricultural production, because of the high costs that will lead to farmers' losses, so they will not be associated with fields but can do non-agricultural jobs or leaving homeland.

Output of products and prices are always a concern and make farmers lack of salinity for agricultural production. Some agricultural cooperatives have not accessed loans, lack of human resources, lack of consumption links with businesses to ensure the output of products. The capacity of many businesses is limited when participating in production links under the model of large fields, production, modern agricultural development ... (Le Hoang Vu, 2019).

The level of social investment in agriculture is low, although a number of large enterprises have begun to invest in agriculture but in general there is still very few. The construction of high-tech agriculture is slow to change and has not created a breakthrough to increase added value.

Agricultural growth is mainly based on natural resource use. Intensive agriculture follows productivity and quantity, using a lot of inorganic fertilizers and agrochemicals (pesticides, herbicides, stimulants, and waste). This has an adverse impact on the environment, increasing pollution levels and weakening natural resources. Environment, water sources are polluted with industrial wastewater, emissions in industrial parks and trade villages are directly degrading the environment from crops to shrimps, fish, air,... causing danger to people.

The training of human resources for science and technology to serve agriculture is not yet high, and there is a shortage of experts and researchers in agricultural development. Agricultural production is still in a small state of production, the land is fragmented and not thorough in the implementation of large fields. As a result, it is difficult to apply science and technology to agriculture, once the field is too small, and it is not possible to change crops towards modern development.

The causes of these shortcomings and limitations for sustainable agricultural development include many factors, but the key issue is that people are not fully aware of their special position and role in the province's sustainable agricultural economic development Because of their unclear role and responsibility in sustainable development, the people involved have not been active, have a dependency, rely on the government's investment. At the same time, not fully grasping and implementing the motto that farmers are the subjects in agricultural economic development. There are still many limitations in propaganda and mobilizing people to participate in sustainable agricultural economic development in the province.

4. Discussion and Conclusion

Solutions for sustainable agricultural economic development in An Giang province

In order for An Giang province's agriculture to develop sustainably, it is necessary to have synchronous solutions and mechanisms from all levels of leadership, in which some following objectives should be attached:

Firstly, the province needs to make policies, timely and consistent with sustainable agricultural development. Implement synchronously regulations on agriculture, environment, social issues; attaching importance to agricultural extension, promoting investment attraction of enterprises into agriculture.

Secondly, further promote the implementation of agricultural restructuring towards sustainable development associated with building new cooperatives and new rural areas. Strengthening associates, developing cooperative groups and cooperatives, with the participation of businesses, providing input and consuming output products in production. This will be a driving force for An Giang province to increase added value and develop sustainable agriculture in the future. At the same time, renovating production organization in the direction of close association from production to product consumption between farmers and businesses. Guide and support farmers in implementing agricultural development and create an enabling environment to encourage businesses to invest in agriculture and rural areas, and join in cooperation for development.

Thirdly, in agricultural economy, it is necessary to create conditions for land users to decide the appropriate mode of land use. Continue to restructure crops, switch from rice land to grow crops of high economic value. Proactively in directing production in order to have timely plans and solutions with developments affecting agricultural production.

Fourthly, strengthening the mobilization of farmers to apply scientific and technological advances to production in order to save costs and improve economic efficiency. It is necessary to focus on scientific and technological research and application in agricultural production and processing, focusing on developing products with competitive advantages and consumption markets; diversify markets, invest in developing human resources in agriculture. Science and technology are considered as solutions that directly affect the productivity and quality of agricultural products; ensuring the improvement of productivity, quality and competitiveness of agricultural products and goods, and services on the market.

Fifthly, apply science and technology in agricultural development, in order to bring about efficiency, productivity, and quality of agricultural products, to compete with domestic and foreign markets.

Sixthly, promoting activities to raise awareness about environmental protection; apply measures to reduce environmental pollution in production; implement green, clean and energy-saving production programs. Encourage people to plant flowers on the banks of the fields in order to build large, sustainable commodity-producing areas, replicate models of vegetable growing in net houses, grow organic vegetables... Waste treatment from agricultural production and waste toxic (pesticide packaging) and domestic waste of people. (Le Hoang Vu, 2019).

It is necessary to focus on managing and coping with risks related to the environment; mitigating the impact of climate change on agricultural economy; implementing cultivation methods and selecting varieties suitable to the soil conditions to be able to solve the emerging environmental challenges; the province should have a timely response plan and appropriate agricultural production. Paying attention to the prevention of natural disasters, reducing adverse environmental impacts, strengthening the management of agricultural wastewater,... for the province's agricultural economy to develop sustainably (Ta Dinh Doan, 2017).

Seventhly, sustainable agricultural development requires solving social issues and farmers' lives, so sustainable agricultural development needs to pay attention to rural development. Building a contingent of professional, organized and qualified farmers will determine the formation and development of sustainable agriculture, since farmers and businesses are the subjects of this economy.

Concentrate on investing in developing agricultural economy, building rural areas, solving problems so that farmers become necessary and urgent with the goal of bringing rural agriculture modernization. Promote the role of farmers, protect the rights of farmers. Create favorable conditions for farmers to flexibly use agricultural land, create jobs and income for rural people, while increasing revenues for the provincial budget. Improving the position, role and life of the people, in association with building a modern agriculture, need to create conditions for farmers to change their jobs through programs and forms of vocational training for farmers in countryside.

5. Conclusion

Up to this time, An Giang has been developing a relatively complete agriculture, focusing on developing agricultural economy towards sustainability. Agriculture is considered as one of the key economic sectors and plays an important role in the economic development of the province.

In order for An Giang province's agriculture to develop in a sustainable manner, it is indispensable to strengthen the leadership of the Party and the Party committees at all levels in order to make timely and suitable policies to the provincial situation so that people can feel secure in production, businesses are assured of investment and cooperation in the field of agriculture. Therefore, the role of policies and orientations for agricultural development of leaders is very important and urgent. Agriculture sustainable development is really effective through the right orientation, consistent with the reality of the province.

In recent years, the agricultural sector of An Giang province has achieved important achievements, but some problems still need to be overcome. In particular, it is necessary to pay more attention to the orientation of developing a modern, sustainable agriculture and building a new countryside and new cooperatives with the common goal of developing a smart agriculture. Restructuring the agricultural sector in association with renewing the growth model, in order to create a breakthrough in agricultural development, agricultural products must be associated with renewing the growth model in depth, improve gray matter content and high competitiveness in domestic and foreign markets. Pay attention to the income of the people, in order to improve the quality, improve the life of farmers, contribute to poverty reduction and social stability.

Promote the application of science and technology in agricultural economics for sustainable and modern development. On the basis of concentrated production areas for key crops, to gradually shift to a model of safe agriculture and organic agriculture to create high-quality agricultural products. Replace the use of chemicals with biological and natural products. Since then, the requirements for good resolution have been raised: rational exploitation and use of resources, the application of sustainable ecological farming methods, prevention of environmental pollution and conservation of natural resources. It is necessary to have a close link between economic, social and environmental development towards sustainable agricultural development in An Giang province.

5. References

1. Do Binh (2019), Developing agriculture in the direction of modernity and sustainability, 06/11/2019, https://bnews.vn/phat-trien-nen-nong-nghiep-theo-huong-hien-dai-ben-vung/139383.html.

2. Do Kim Chung (2009), Curriculums of Agricultural economic principles, Publisher Agriculture, Ha Noi.

3. Ha Van (2018), Restructuring, developing smart, sustainable and safe agriculture, 09/01/2018, https://baocantho.com.vn/chuyen-doi-co-cau-phat-trien-nong-nghiep-thong-minh-ben-vung-va-an-toan-a94162.html.

4. Hoang Anh Tuan (2019), Sustainable agriculture development in the spirit of the Resolution of the 12th Party Congress, 05/07/2019, https://www.quanlynhanuoc.vn/2019/07/05/phat-trien-nong-nghiep-ben-vung-theo-tinh-than-nghi-quyet-dai-hoi-xii-cua-dang/.

5. Hong Diep, Phan Phuong (2018), Strong agriculture - a factor to ensure the sustainable development process, 27-11-2018, https://dantocmiennui.vn/nen-nong-nghiep-vung-manh-yeu-to-dam-bao-qua-trinh-phat-trien-ben-vung/203797.html.

6. Hong Van (2020), For a sustainable agriculture, ngày 10/6/2020,https://vovworld.vn/vi-VN/binh-luan/vi-mot-nen-nong-nghiep-phat-trien-ben-vung-869391.vov.

7. Huu Huynh (2020), Application of science and technology for sustainable development, 09/07/2020, https://baoangiang.com.vn/ung-dung-khoa-hoc-cong-nghe-de-phat-trien-ben-vung-a277778.html.

8. Le Hoang Vu (2019), An Giang agriculture innovates in depth, 11/09/2019, https://nongnghiep.vn/nong-nghiep-an-giang-doi-moi-theo-chieu-sau-d244777.html.

9. Ngo Chuan (2020), Sustainable agricultural development, 17/07/2020, https://baoangiang.com.vn/phat-trien-nong-nghiep-ben-vung-a278469.html.

10. Nguyen Hanh (2019) An Giang: Agricultural production in the direction of modernity and sustainability, 14/11/2019, https://dantri.com.vn/kinh-doanh/an-giang-san-xuat-nong-nghiep-theo-huong-hien-dai-ben-vung-20191114084954607.htm.

11. Pham Tat Thang (2017), Climate change and economic growth, 25/5/2017, http://www.tapchicongsan.org.vn/Home/Nghiencuu-Traodoi/2017/42846/Bien-doi-khi-hau-va-tang-truong-kinh-te.aspx.

12. Phi Van Hanh (2016), Sustainable agricultural development during the period of international integration, 15/3/2016. https://www.qdnd.vn/chinh-tri/cac-van-de/phat-trien-nong-nghiep-ben-vung-trong-thoi-ky-hoi-nhap-quoc-te-469278.

13. Vu Dam (2017), An Giang agriculture is on the rise, 10/08/2017, https://nongnghiep.vn/nong-nghiep-an-giang-tren-da-tang-truong-d199979.html.

14. Vuong Thoai Trung (2017), Sustainable economic development: Taking advantage of agriculture, 21/10/2017, https://bnews.vn/phat-trien-kinh-te-ben-vung-khai-thac-the-manh-tu-nong-nghiep/64489.html.

15. T. Crews, C. Mohler, and A. Power, 1991, Energetics and Ecosystem Integrity: The DefiningPrinciples of Sustainable Agriculture , American Journal Alternative Agriculture, vol. 6, p. 146.

16. The Phuong, N. (2007), Sustainable development mechanism in Vietnam. In: Regional Workshop on National Sustainable Development Strategies in Asia, 7–8 November 2007, Bangkok. http://www.rrcap.unep.org/nsds/workshop/nsds RWS engppt MPIVN.pdf.

17. UNCED (1992), Agenda 21, Earth Summit, 18/6/2020, http://www.un.org/geninfo/bp/enviro.html

18. WCED (1987), Our Common Future, Oxford University Press. Oxford.

DEVELOPING CIRCULAR ECONOMY: THEORETICAL PERCEPTION AND CURRENT STATUS IN VIETNAM

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Abstract

The circular economy has been is a concept of interest to many scientists and governments. Circular economy development is gradually becoming a trend of countries, especially developed countries with few resources, especially when the world's resources are increasingly depleted. Vietnam is also facing an increasing amount of waste generated while raw materials and fossil fuels are increasingly depleted. Besides, most Vietnamese enterprises have outdated and outdated technology, small production scale and lack of investment resources for recycling technology. Faced with that fact, choosing a circular economy for Vietnam is an indispensable requirement in order to overcome the limitations of the traditional growth model, to help Vietnam avoid dependence on the external economy, to develope in a sustainable way economy. To promote the development of the circular economy in Vietnam, it is necessary to synchronously implement solutions from raising awareness to perfecting institutions and implementing organizations. This paper focus on clarifying the concept and content of the circular economy; clarify the role of circular economy for the national economy; analyze the current situation of circular economy development of Vietnam in recent years, thereby proposing some solutions to promote the development of circular economy in the coming time.

Keywords: *circular economy; sustainable development; linear economy*.

1. Introduction

Experiencing a process of development of the world economy from backward agricultural production to modern industry and industry and towards the digital economy, global economic growth has achieved great achievements.

However, along with that is the shortage of natural resources, increasing environmental pollution, changing ecosystems and climate change. To overcome these problems to ensure stable economic development, there is no shortage of input sources for the economic system, and to minimize waste released into the environment, towards an economy that is not waste, converted from a linear economy, based on the principle of exploiting natural resources from the natural environment as an input to the economic system, through the process of production and consumption and finally discharged into the environment into a circular economy, based on the principle that the output waste of economic activities will be recovered as input materials for the economic system and not generated. discharged into the environment.

In Vietnam, economic activity has so far been mainly based on the traditional approach that is linear economy, which is also the basic cause of the shortage of natural resources and especially the lack of natural resources. especially causing serious environmental pollution, in order to realize rapid and sustainable development, solve the relationship between economy and environment "without trade-off" between economic growth and environmental pollution and degradation, The transition to a circular economy is an appropriate direction. However, this transformation requires seizing the opportunities and accepting the challenges that need to be overcome.

2. Methods

The article is based on the general methods of the social sciences and published scientific works related to the research topic being sources of reference for the author to complete this article. In the research process, the author uses a combination of different methods such as analysis, synthesis, generalization, abstraction, statistics, comparison...

The data in the article are collected through official reports of the General Statistics Office; reports of the Ministry of Natural Resources and Environment, Reports of the Ministry of Industry and Trade and other scientists.

3. Results

3.1. Concept and role of circular economy

** Concepts and classifications*

The circular economy is fully understood as an economic model in which the design of operations, production and services aims to prolong the life of materials and eliminate negative activity on the environment. This is an economic model in which special attention is paid to the management and regeneration of resources in a closed loop, in order to avoid creating waste and polluting the environment.

According to Ellen MacArthur Foundation (2012), the circular economy is a system that restore and regenerate through devices proactive design. It replaces the concept of "end" end-of-life” of materials with the concept of concept of restoration, shifting towards use renewable energy, do not use harmful chemicals that damage the reuse and aim to reduce substances waste through the design of materials, products, products, technical systems and even models business model within the system that system. If the "linear economy" is only concerned with resource exploitation, production, consumption and discharge into the environment, it leads to the creation of a large amount of waste, as well as the maximum exploitation of natural resources. However, for socio-economic development, the concept economy focuses on the management and regeneration of resources in a closed loop to avoid creating waste. The transition to a private economy is also a great opportunity for rapid and sustainable development, not only achieving socio-economic and environmental goals but also effectively responding to climate change; raise people's awareness about reuse, waste recycling, and limit unnecessary consumption of single-use items. At the same time, extending manufacturer responsibilities to support 100% waste-to-material recycling is the shortest path to a low-carbon economy, especially in heavy industries...

This is a model of economic development in the world aimed at sustainable development, towards achieves 3 goals: (i) Responding to exhaustion of natural resources; (ii) Fix state cell environment in development in output; (iii) Harmoniously combine economic growth with a protective environment. In addition, the circular economy also brings many benefits to countries, helping to save costs, reduce price fluctuations and risks from suppliers, increase new calculations created by the technology eplacement of products.

The circular economy has many different approaches, divided into three levels by level:

At a low level, the circular economy focuses on the production process of businesses and the production of agricultural products, producers are encouraged and required to adopt cleaner production methods and equipment, ecological design.

At the medium level, the circular economy includes the development of eco-industrial parks and other agro-ecological systems; Designing to give your business the best chance of implementing a circular economy.

At a high level, all stages of the production process are designed, with no waste released into the environment. Waste is reduced to a minimum and reused.

Also a type of economy based on creative intelligence, the circular economy is the connection between economic activities in a reasonable and scientific manner, in which each of these economic activities forms a premise for other economic activities. another economic activity and into an economic cycle. Circular economy should be understood not as a closed, rigid, and at the same time circular economy has broad and narrow meanings. Broad meaning is in the whole country or a large area. With creativity, scientific calculation and the special support of technological achievements, several large manufacturing industries are logically arranged as a cycle, supporting each other to develop and create new products. quality products. In a narrow sense, it is a circular economy, where one product is an input for the production of another, including the reuse of waste as raw materials for further production activities.

* The role of the circular economy

The circular economy has a huge role to play in resource utilization taking on many forms, from redesign, reduce, repair, reuse, recycle, and geared towards sharing or leasing.

The circular economy describes an economic system based on business models that replace the concept of "end of life" with the reduction, reuse, recycling and recovery of materials in processes. production/distribution and consumption at the micro level (manufacturers, businesses, consumers), the intermediate level (eco-industrial parks), the macro level (cities, regions, countries and beyond), with the objective of achieving sustainable development, ensuring good environmental quality, economic prosperity and social justice, meeting present and future interests. While Linear Economy is only interested in the exploitation of resources, production, consumption and does not care much about discharging into the environment, it has maximized the exploitation of natural resources leading to the creation of natural resources. a huge amount of waste, while the circular economy focuses on the management and regeneration of resources in a closed loop, avoiding waste.

The transition to a circular economy is a great opportunity for rapid and sustainable development, not only achieving economic, social and environmental goals but also helping to respond to climate change. The transition to a circular economy helps meet the goals of the 2030 Agenda for Sustainable Development. Approaching the transition from a linear economy to a circular economy brings benefits in the context of resource scarcity and climate change. Besides, this approach is not only adjustments to mitigate the negative effects of the traditional economy - linear economy, but also a systemic change that creates long-term resilience. , business opportunities as well as environmental and social benefits.

At the same time, this is also a premise to realize the Sustainable Development Goals (SDGs 2030) through ensuring sustainable production and consumption, such as reducing the rate of "declining" resources, preserving meet the needs of future generations; raising people's awareness about reuse and recycling of waste, limiting unnecessary consumption of single-use items; extend manufacturer's responsibility to support 100% waste-to-material recycling. This is the path towards a low carbon economy, especially in heavy industries. Calculations of the European Union (EU) show that the circular economy through measuring and controlling activities from the demand side can help reduce emissions from industries by more than half. The circular economy is the best way to break the link between economic growth and negative environmental impacts.

Vietnam is a small country ranked 68th in the world in terms of area, 15th in the world in terms of population, but we are currently ranked 4th in the world in terms of plastic waste, with 1.83 million tons/year. Resource depletion, rapidly increasing energy consumption, pollution and land degradation, especially climate change are seriously affecting economic development.

According to the World Bank, air pollution alone cost Vietnam 5.18% of GDP in 2013. Water pollution can also cost Vietnam up to 3.5% of GDP. Along with that, resource depletion, rapidly increasing energy consumption, pollution and land degradation, especially climate change are seriously affecting Vietnam's economic development.

To address the risk of resource depletion, pollution and environmental degradation, we need to change our approach to transition from “traditional economic" models to “circular economy” This should be seen as a priority in the next stage of the country's development”

3.2. Current status of circular economy in Vietnam

According to the Ministry of Natural Resources and Environment, Environment, Vietnam's environment is under great pressure from domestic socio-economic development activities, international trade flows and cross-border impacts. The introduction of a large amount of waste (solid waste, wastewater, exhaust gas) into the environment, but the problem of waste control and management is still limited, leading to environmental pollution that continues to occur in many areas. where, many areas have been polluted quite seriously. The volume of solid waste generated has increased rapidly in quantity with increasingly complex composition. In addition, the import of scrap for use as raw materials for production or the import of used machinery, equipment, and vehicles also poses many risks to the environment. The management and treatment of solid waste in our country in the past time has not been applied according to the method of general management, solutions to reduce, reuse, recycle and recover energy from waste have not been applied yet. really focused. This leads to a high volume of solid waste that has to be buried. In some areas, waste buried in temporary and open-pit landfills has been a source of environmental pollution, affecting human health and human production. Linear economy causes resource depletion and waste increase. In Vietnam: solid waste increases by 10%/year, urban solid waste increases by 10-16%/year (the growth rate ranks 4th in Southeast Asia) (MONRE, 2017: 16); 11.6 million tons in 2016; 15.9 million tons in 2030 and 21.96 million tons in 2050, according to the World Bank.

Vietnam has sufficient conditions and has many favorable factors to apply circular economy. The socialist-oriented market economy institution is gradually being perfected towards modernity, synchronization and integration. The scale of human resources increased in all industries and fields, especially high-quality human resources in breakthrough industries and fields. Modern scientific and technological achievements are being rapidly and widely applied in many fields. Digital transformation of the economy is being strongly promoted. The national startup and innovation ecosystem is being formed. In particular, some models in the form of circular economy have worked remarkably effectively. All of the above expressions are a solid basis and an ideal environment for the application of the circular economy.

In Vietnam, although there are no official circular economic models, in fact there are some models close to circular economy in terms of industries, occupations and services. Typically in the field of industry, handicrafts in traditional craft villages have used scraps, by-products and wastes from industrial production processes to produce recycled steel, produce recycled paper, and produce recycled products. furniture export. plastic, nylon, recycled glass… However, these activities mainly bring financial benefits to producers and consumers without taking into account the overall economic benefits. This is also one of the main causes leading to environmental pollution and degradation in many localities today.

Although there are no official circular economic models, in fact there are some models close to circular economy in terms of industries, occupations and services. Typically in the field of industry, handicrafts in traditional craft villages have used scraps, by-products and wastes from industrial production processes to produce recycled steel, produce recycled paper, and produce recycled products. furniture export. plastic, nylon, recycled glass… However, these activities mainly bring financial benefits to producers and consumers without taking into account the overall economic benefits. This is also one of the main causes leading to environmental pollution and degradation in many localities today.

Recently, in Vietnam, there have appeared a number of new models moving closer to the circular economy such as the ecological industrial park model; model of processing aquatic by-products; Vietnam Packaging Recycling Alliance… However, businesses in Vietnam still have many limitations in terms of technological capacity and reuse. People and businesses still have an inherent habit in production and consumption of plastic bags and disposable plastic products. Meanwhile, Vietnam does not have a legal framework for circular economy development, this challenge needs to be overcome, otherwise the implementation of circular economy development will only be spontaneous and subject to regulation. market adjustment…

In Ben Tre, a province in the western part of Vietnam, models of reuse, recycling, and waste recovery have been established to bring financial benefits to production facilities and benefits to consumers and to the public. community. The most obvious in industrial and handicraft activities is the coconut flower cake made from copra ingredients with a mix of available ingredients into natural flavors unique to Ben Tre; After separating and removing all the coconut oil in the silk shell, the coconut residue will be discarded and become the input materials of animal feed processing facilities... Currently, Ben Tre has successfully researched and applied it. There are many models of organic waste treatment in agricultural production such as thanks to the application of tannin separation technology, which has turned coco peat waste into clean soil, applying biotechnology to turn coco peat into fertilizer. organic for clean and organic farming; turn cocoa pods into nutritious feed for livestock... In Can Tho city, there is an insect farm of Kim's Garden Can Tho Ecological Garden Co., Ltd. has successfully implemented insect solutions and probiotics into closed-loop agriculture, reducing 80% of feed costs. industrial food, especially minimizing waste from livestock to the environment. In Binh Duong province, since 2018, Binh Duong waste treatment complex has been put into operation, in addition to collecting and treating waste, the province's waste treatment complex is also invested with many new technologies. to turn waste into raw materials to create valuable products. In Tien Giang province, there are currently 26 establishments applying high technology in animal husbandry, which apply a closed cage breeding system, which can manage temperature, humidity and wind power in the barn. have a waste treatment system (biogas cellar, HDPE, biological buffer ...), limit odors, do not pollute the environment. Model of eco-industrial park in Ninh Binh and Da Nang saving 6.5 million USD/year.

According to the Ministry of Industry and Trade, Over the years, the cleaner production (CP) model has been promoted to widespread adoption. Up to now, nearly 350 enterprises and production facilities have been supported for rapid assessment, and 90 enterprises supported for CP application have become model points for CP application. After 10 years of implementing the CP Strategy in industry, by 2020, 68.5% of enterprises are aware of the benefits of CP application, an increase of 20.5% compared to 2010. 46.9% of production facilities production applied cleaner production, an increase of 35.9% compared to 2010, 12% of which achieved savings of 8% or more in reducing energy, raw materials per unit of product. In addition, 21% of medium and large enterprises have a department dedicated to cleaner production. In addition, the Strategy's activities in this period also have many advantages when integrated with other programs such as the National Industrial Promotion Program, the Sustainable Production and Consumption Program, the Savings Program, and the National Industrial Promotion Program. save energy and use energy efficiently... A number of typical models in the direction of circular economy in the field of economical and efficient use of energy have been actively deployed in recent times, typically: Building and implementing a model of using energy pilot use of alternative forms of energy and energy-saving household models; Applying the energy management model in industrial facilities; Building, disseminating and replicating successful demonstration models of alternative energy use in production and business establishments in many provinces and cities across the country; Develop, deploy and replicate demonstration models of households using renewable energy forms (such as solar, biogas, etc.) on an industrial scale.

Besides, the movement of Households to use energy economically and efficiently has been deployed on a large scale in the provinces, cities of Hanoi, Ho Chi Minh, Can Tho, Ba Ria - Vung Tau, Dong Thap, Binh Thuan, Can Tho, Tien Giang, Bac Ninh etc. The Ministry of Industry and Trade also organizes campaigns and competitions for energy-saving families with the goal of creating a popular movement and implementing solutions and using high-efficiency household appliances in each household. Currently, the National Program on economical and efficient use of energy for the period 2019-2030 has been promulgated by the Prime Minister with the aim of mobilizing all social resources to implement all solutions on energy use. effective savings to achieve the target by 2025. Specifically:

achieving energy savings of 5.0 to 7.0% of the total national energy consumption in the period from 2019 to 2025; reduce power loss to less than 6.5%; reduce the average energy consumption for industries/sub-industries compared to the period 2015 - 2018. The program also sets the goal of building 1 energy data center in Vietnam and at least 2 training centers. National Committee on economical and efficient use of energy together with the establishment of a fund to promote economical and efficient use of energy through socialization, sponsorship and cooperation of individuals and organizations at home and abroad.

Through these activities, businesses and production units are better defined and actively apply cleaner production solutions to reduce waste emissions, consume raw materials, energy and water, save money. production costs for the business. Thereby, enterprises and production units gradually actively implement fully the provisions of the law on environmental protection.

Overall though, Vietnam has just stopped at reuse and recycling of waste, bringing financial benefits to production and consumption establishments, but not bringing economic benefits, so the operation of those models has caused pollution. pollution and environmental degradation. Vietnam does not yet have a legal corridor to develop a circular economy, although there have been many initial transitions towards rapid and sustainable development, response to climate change and building a circular economy. Vietnam does not have a set of criteria to identify, evaluate, summarize and provide an accurate classification of the development level of the circular economy, which is a big challenge to know how the current economic development has continued. approach to circular economy development in sectors, fields and localities. Along with that is the decline in resources, energy, soil pollution and land degradation, especially climate change, which is seriously affecting the socio-economic development of Vietnam in recent years. Meanwhile, economic activities in Vietnam have so far been mainly based on the traditional approach, which is a linear economy, which is also the basic cause of the shortage of natural resources. nature, especially causing serious environmental pollution.

The development of the circular economy in Vietnam in general and the provinces and cities in particular is still mainly spontaneous, while the awareness of the circular economy and the need to switch to the development of an economic model circulation is limited. The circular economy requires new technological advances, but our country is a developing country, most of the technology is outdated, the production scale is small, this is a big challenge to overcome. Another important issue is the lack of good experts to solve well from the design stage to the final stage of reuse and recycling of waste.

3.3. Solutions to develop circular economy in Vietnam

In Vietnam, sustainable economic development is a matter of special concern to the

State with its determination to renew the growth model from width to depth associated with labor productivity, science and technology, and innovation, create. Circular economy is becoming an inevitable trend to meet the requirements of sustainable development in the context of increasingly degraded and depleted resources, polluted environment, and fierce climate change. Building a circular economy has been identified as one of the country's development orientations for the 2021-2030 period in the documents submitted to the 13th National Congress of the Communist Party of Vietnam. In particular, the Covid-19 pandemic has been affecting all aspects of global socio-economic life, deepening the demand for changing growth models towards sustainable development.

In the period of 2021 - 2030, it is necessary to focus on implementing many solutions to promote the circular economy in Vietnam in order to take advantage of cooperation opportunities in accessing and receiving technology transfer and digital transformation for development. sustainable development of the country. In particular, the State plays a leading and constructive role, businesses establish a management system, implement and comply with legal regulations, people must raise awareness, sense of responsibility, carry out supervision. community, promoting the role of mastery in building and developing circular economy in Vietnam. Specifically, it is necessary to implement a number of solutions to promote the development of the circular economy as follows:

First, strengthen communication work to raise awareness of the responsibility of the business community and people about the circular economy; on the responsibility of sorting waste at source for recycling and reuse; change consumer behavior towards environmentally friendly products.

Secondly, it is necessary to consider the development of the circular economy as an inevitable solution to renew the growth model, improve the quality of growth, improve the national competitiveness, ensure sustainable production and consumption, contribute to solving social problems, creating jobs, eradicating hunger and reducing poverty; allocate, manage and effectively use resources, protect the environment and respond to climate change.

Third, lead and direct the review, amendment, supplement and promulgation of new mechanisms, strategies, policies and laws to promote circular economy development, in line with the Party's guidelines and trends. In the new world, regulations and standards have been formed in the region and on a global scale.

Fourth, ministries, ministerial-level agencies, and provincial-level People's Committees shall integrate circular economy right from the stage of developing development strategies, master plans, plans, programs and projects; waste management, reuse and recycling. Considering natural resources as a source of natural capital that needs to be accounted for, monitored, evaluated and proportionately balanced with other capital sources in the process of policy making and administration at all levels, sectors and fields. Treat waste as a valuable resource that can be recycled, reused, created jobs and added value to the economy.

Fifth, bring into play the strength of the entire political system, thoroughly grasp the Party committees and authorities at all levels; strengthen propaganda widely throughout the society about the role, meaning, benefits and importance of circular economy development; integrate the requirements of circular economy development into the lives and practices of people, communities and the whole society.

Sixth, implement solutions to transform the economic model such as adjusting energy planning, gradually reducing dependence on forms of energy from fossil fuels, hydroelectricity; building a roadmap for technology and digital transformation based on energy efficiency and saving criteria, minimizing waste.

Seventh, specify the manufacturer's specific responsibilities for the recovery, recycling or disposal of discarded products based on the number of products sold in the market; develop environmental industry, market for environmental goods and services, environmentally friendly products...; project management according to the life cycle, establishing a roadmap for the development and application of environmental regulations and standards (emissions and technology) equivalent to the group of advanced countries in the region.

Eighth, focus right from the planning, planning, production design, product design to strengthen the connection of the circular production chain. Select a number of industries, fields of industry, agriculture and services to follow the circular economy model such as: paper industry, iron and steel production, thermal power, cycle water management. To develop urban centers, industrial parks, export processing zones and thermal power centers according to the circular model. Develop a set of indicators and criteria to monitor, evaluate and apply policies to encourage the transition to a circular economy at the national, regional and local levels, including contents on effective use of resources , resource consumption, waste utilization and emissions.

Ninth, building a market institution, promoting the application of market-based tools in the fields of resource management and environmental protection to encourage technological innovation, management methods, and consumer behavior. use of society in the direction of exploitation, rational and more efficient use of natural capital that nature bestows on the economy, avoiding the trap of resource curse; encourage better utilization of the economy's waste, preserve and protect the ecological environment, improve the resilience of natural systems and the resilience of the economy to natural shocks diseases, and climate change.

Tenth, promoting research and application of science and technology, taking digital transformation and applying achievements of the industrial revolution 4.0 as a driving force in circular economy development.

Effective management, allocation and use of natural resources, environmental protection, proactive response to climate change, and natural disaster prevention and control are urgent requirements to promote sustainable development of the country. The Party cares about leading and directing with many guidelines, strategies and policies of the era. The circular economy is identified by the world as a total solution towards sustainable development. The Resolution of the 13th National Congress of the Party has identified building a circular economy as one of the country's development orientations for the period of 2021-2030, a solid basis for us to believe in the development of the circular economy. successfully take advantage of opportunities and transform challenges to develop a circular economy, contributing to the management, allocation, exploitation and efficient use of natural resources, environmental protection and response effective with climate change, sustainable socio-economic development of the country until 2030, with a vision to 2045.

4. Discussion and Conclusion

The circular economy is a concept that has evolved over the decades to become a viable alternative to the current system of wasteful consumption. It is slowly taking shape and being adopted, requiring little sacrifice by the consumer or the industry. This system will pioneer long-term design, maintenance, repair, reuse, remanufacturing, refurbishment and recycling. As the world becomes more and more aware of the impact of humanity on the existence and development of our planet, the new economic system must not only address the finite nature of non-renewable resources, but also handle the large amount of waste generated… In the objective law of nature, there is no waste, because, everything is transformed, acting as raw material for new cycles.

Countries around the world as well as Vietnam are aiming to develop a circular economy to solve the challenge between economic growth and environmental protection, the shortage of natural resources. It is required to minimize exploitation and efficient use of raw resources, minimize waste as well as reuse and recycle waste as much as possible by industrial symbiosis. In order to develop a circular economy in Vietnam, it is necessary to understand the nature and rationale of this development in association with public-private cooperation and the support of the consumer community. Recognizing the challenges and key technologies of the Fourth Industrial Revolution to approach and apply for circular economy development.

Developing a circular economy in Vietnam requires a clear understanding of the nature and rationale of this development. To develop a circular economy, it is necessary to summarize and evaluate existing development models for agriculture, industry, service and tourism sectors, thereby identifying development methods close to approaching the circular economy as the basis for upgrading to development according to the criteria of the circular economy. Developing a circular economy, it is necessary to be aware of the opportunities to take advantage of these opportunities, on the other hand, must also see the challenges for the development of the circular economy that will be encountered in order to take measures to overcome. Developing a circular economy requires appropriate solutions based on Vietnam's practice and lessons learned from the world.

5. References

1. Communist Party of Vietnam (2021), Documents of the 13th National Congress of Deputies, National Political Publishing House of Truth, Hanoi.

2. Ministry of Natural Resources and Environment (2018), Report on the State of the National Environment in 2017: Solid Waste Management, Publishing House of Natural Resources and Environment;

3. Bui Xuan Dung (2020), Experience in implementing circular economy models in some countries and suggestions for Vietnam, Journal of Economics and Forecasting, 22 (740);

4. Nguyen Hoang Nam, Nguyen Trong Hanh (2019), Circular economy implementation: International experiences and policy suggestions for Vietnam, National University Science Review;

5. Truong Thi My Nhan (2019), Experience in building a circular economy and conditions for transformation in Vietnam, Financial Review, December 1, 2019

REALITY AND FACTORS AFFECTING THE HIGH-TECH APPLICATION BEHAVIOR OF HOUSEHOLDS IN SHUTCHI CATFISH FARMING IN CAN THO CITY

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AbstractL

The study aims to analyze the reality and factors impacting the high-tech application behaviors of households in shutchi catfish farming in Can Tho city. This is basis for proposals and recommendations to local authorities in order to enhance the effectiveness of promoting factors of high-tech application in the city's shutchi catfish farming.

Keywords: *Application, High technology, impacting factors, Can Tho city.*

1. Introduction

Can Tho city is one of the top provinces with largest farming area of shutchi catfish in the Mekong Delta. The areas with large farming scale of shutchi catfish of the City include Thot Not district; Co Do district; Vinh Thanh district; in which Thot Not district specially has 360 ha. By 2020, Can Tho city has applied new science and technology in the field of shutchi catfish farming; particularly in building a concentrated area of shutchi catfish rearing and farming in accordance with the farming planning; in processing stage; has continued to promote the development of shutchi catfish farming for export. This, thereby, contributes to rational and effective use of natural resources, increases the proportion of the fishery industry, and at the same time improves incomes of people involved in the industry.

However, in general, the application of high technology in shutchi catfish farming of households in Can Tho city has not been well implemented, still use manual labor in some stages while that can be replaced by mechanization to increase productivity. The question is, how to promote the application of high technology in shutchi catfish farming? This study aims to analyze and clarify the reality and elements affecting the application behavior of shutchi catfish farming households in Can Tho city.

2. Method

2.1. Data collection method

The study conducted a survey of 120 shutchi catfish farming households in some districts of the city, including Thot Not, Co Do, Vinh Thanh, in order to collect qualitative and quantitative information on the behavior of high technology application in shutchi catfish farming as well as effectiveness of the application (the survey took place from 15th

to 25th October, 2020). The farming households were randomly selected according to the list provided to the research team by the local government of the districts.

2.2. Analytical method

The study collected information from shutchi catfish farming households and analyzed, processed the survey results. The study applied the Independent-sample T-Test model to analyze the relationship between high-tech application behavior (dependant variable, with nominal scale) with independent variables such as number of years of experience, area, age, educational background (with proportion scale). On the basis of analyzing this relationship, the study established a logistic regression model to test the factors impacting high-tech application behavior in shutchi catfish farming of households in Can Tho city. Based on the analysis of qualitative data from in-depth interviews, the study determined a logistic regression model with the following independent variables:

Table 1. Logistic regression model with independent variables

Variables	Explanation	Sources
Age	Measured by age	Syntherized from qualitative research
Experience	Measured by number of farming years	
Area	Measured by farming area (m2)	
Social capital: + Local government support + Government training + Business training	+ Measured by local support (yes/no) + Measured by number of training sessions per year + Measured by number of training sessions per year	
Educational background	Measured by number of schooling years	

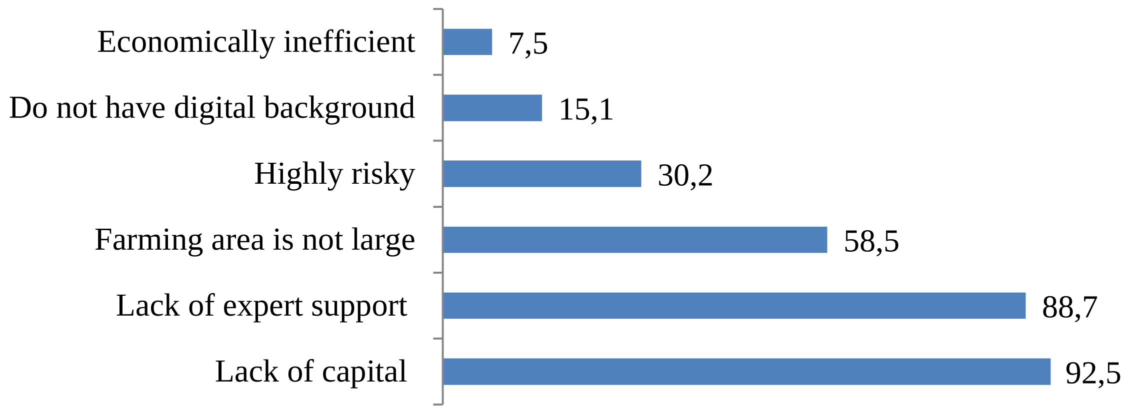
(Source: Author syntherized from in-depth interviews)

3. Result

3.1. Reality of farming households' high-tech application in shutchi catfish farming

The survey results of 120 shutchi catfish farming households in Can Tho city showed that 71 households, accounting for 59.2% of the total surveyed subjects, said that they have applied high technology in shutchi catfish farming while the 40,8% remaining said the opposite (the reason of not application is shown in Table 1; in which, the lack of capital and the support of experts accounts for the highest proportion and economically inefficient accounts for the lowest one).

Figure 1. Reason of not applying high technology in shutchi catfish farming (%)



(Source: Results of author's survey, 2020)

For households those apply high technology to the process of raising catfish, the survey result shows that the application of high technology to water treatment accounts for the highest proportion, followed by raising/caring techniques and the lowest is to stage of food processing. This proves that water plays an important role in shutchi catfish farming. Also, previous studies show that water management techniques for shutchi catfish farming have not been advanced while water demand changes with each period of farming.[106]

Table 2. Farming households apply high technology to stages of shutchi catfish farming

Stage	Number (out of 71)	Proportion (%)
Water treatment	69	97.2
Fish caring/raising	50	70.4
Preventice/cure diseases	46	64.8
Food processing	43	60.6
Harvest and storage	41	57.8

(Source: Results of author's survey, 2020)

[106] Nguyen Thanh Phuong and Nguyen Anh Tuan (2016), Shutchi catfish farming in the Mekong Delta: success and challenges for sustainable development, Agriculture Publishing House, Hanoi, p.78.

Previously, farmers took care of, processed food and prevented diseases for shutchi catfish mainly by traditional methods or through accumulated experience, but now, some farming households have applied high technology. This does not only help fish grow quickly but also reduce costs, increase productivity and ensure quality. The survey results show that the average productivity of shutchi catfish farming before applying high technology is 306.3 tons/ha/year and increase 50.87 tons/ha/year after applying high technology, making average productivity to 357tons/ha/year. Also, the cost of investments also decreased from 2.4 million VND/kg/crop of fish farming to 2 million VND/kg/crop.

Income is one of the criteria to evaluate the effectiveness of high-tech application in shutchi catfish farming. The average income of shutchi catfish farming households is about 34.4 million VND/ha/crop. In which, the households those apply high technology have an average income of about 45.9 million VND/crop/ha, much higher than those do not (17.6 million VND/crop/ha). In addition, the study also shows that the income gap is very clear between the 20% of the top income group and the 20% of the bottom income group, about 4.5 times. In which, 92% the lowest income group do not apply high technology in shutchi catfish farming and 8.0% of those do; meanwhile, 100% of households applying high technology belong to the highest income group (see table 3).

Table 3. Income distribution of households applying high technology in shutchi catfish farming (%)

	Apply	Not apply	Total
Group 1 (lowest)	92.0	8.0	100.0
Group 2	90.9	9.1	100.0
Group 3	27.3	72.7	100.0
Group 4	0.0	100.0	100.0
Group 5 (highest)	0,0	100	100.0
Total	40.8	59.2	100.0

(Source: Results of author's survey, 2020)

Thus, the application of high technology in shutchi catfish farming has brought many benefits to farmers in Can Tho city. However, the number of households that do not apply high technology in shutchi catfish farming is still quite high.

3.2. Factors impacting households' behaviors of high-tech application in shutchi catfish farming

The reality from the survey results shows that there is still a fairly high percentage of households in Can Tho city that have not yet applied high technology in shutchi catfish farming. In order to have practical solutions to promote the application of high technology in shutchi catfish farming, the study analyzes the factors impacting the behavior of high-tech application of households in shutchi catfish farming in the city.

To evaluate the factors, the study analyzed logistic regression model with 7 independent variables. As shown in data table 4. The model with a value of -2 Log likelihood = 27,336 shows that this model is suitable, allowing the analysis to clarify the relationship between independent variables and high-tech application behaviors of households in shutchi catfish farming in Can Tho city.

Table 4. Model of factors affecting the high-tech application behavior of households in shutchi catfish farming in Can Tho city

Variables	Coefficient B	Exp (B)	Statistical significance	Confidence interval 95%	
				Lower	Upper
Constant	-2.656	0.070	0.001		
1.Area	1.357$^{(***)}$	3.884	0.001	1.270	2.680
2.Number of farming years	-0.477$^{(**)}$	0.621	0.015	0.904	1.926
3.Educational background	0.847(**)	2.333	0.041	1.018	2.372
4.Local government support	0.478(**)	1.612	0.036	0.230	1.032
5.Number of local authority's training sessions	0.695(**)	2.003	0.016	0.426	189.068
6. Expert support	0.639	1.894	0.185	0.001	3.451
7. Business support	1.019	2.769	0.480	0.164	46.750
-2 Log likelihood = 27.336; N=120					
(***), (**): Statistical significance *1%, 5%*					

(Source: Results of author's survey, 2020)

As for the variable on area, the survey results show that the average area of shutchi catfish farming households is about 46,865m2; of which, households with high technology application in shutchi catfish farming have the average area is about 60,735 m2, 3 times higher than that of households without high-tech application. To illustrate this difference, the data in Table 6 show that, if the pond area is increased to 1000m2, the ability of households to apply high technology is also 3.9 times higher. Obviously, farming area is one of the factors affecting the decision of households to implement high-tech application behavior in shutchi catfish farming. This is explained that, if the pond area is expanded while fish is still raised by traditional methods, the households cannot guarantee the handling of problems such as water treatment, care, harvesting and preservation. . Furthermore, traditional farming leads to high investment costs.

As for the variable on farming years (experience), the survey results show that households applying high technology in pangasius farming have an average of 6.28 years of farming, 1.84 years lower than households without application. The question is, how does the number of farming years affect the households' decision to apply high technology in shutchi catfish farming? And the results in Table 6 show that the number of farming years has a negative relationship with the decision to apply high technology. It means fewer years of fish farming the household have, the higher possibility they apply high technology in fish farming. The reason is, households with many years of shutchi catfish farming often use and believe in their experience in handling problems that occur during fish farming. Indeed, it is good to use experience in shutchi catfish farming, but in the current situation, the competitiveness in terms of quality, price as well as the harshness of the environment (water source, climate) make empirical fish farming no longer suitale, difficult to compete as well as create an increased risk of disease.

As for the variable on local government support, this is the variable that represents the relationship between local government and farmers. The results in Table 4 show that, if households receive support from local government, the ability to apply high technology in fish farming is 1.6 times. This finding further strengthens the relationship between local support and farmer behavior in performing livelihood activities. In fact, local authorities have supported many activities such as connecting farmers with banks and credit funds for capital access; with scientists and technicians for activities of training fish farming techniques, supporting disease treatment, and controlling water sources.

As for the variable on local authority's training, in recent years, local authorities have regularly trained farmers on techniques of shutchi catfish farming. As a result, households have advantages in applying high technology to shutchi catfish farming. The regression model in Table 6 shows that, if the session number of local training in shutchi catfish farming techniques is increased by one time, the ability to apply high technology in shutchi catfish farming will double.

As for the variable on business and expert support, although the results in Table 6 show that the support of enterprises and experts increases the ability to apply high technology in shutchi catfish farming; however, the level of statistical significance shows the value of $p>0.05$; therefore the study cannot conclude the influence of these two variables.

4. Conclusion and recommendations

4.1. Conclusion

In recent years, farmers of the surveyed localities in Can Tho city have applied high technology in shutchi catfish farming. Farmers often apply high technology in stages such as fish care/raising, water treatment, harvesting and preservation. High technology application in shutchi catfish farming has brought many benefits to farmers in the surveyed localities in Can Tho city. High technology application helps to reduce costs, increase productivity and farmers' income. However, there is still a high percentage of households participating in the survey that have not yet applied high technology in shutchi catfish farming due to lack of capital, limited educational background and they have not known the benefits of high technology application in shutchi catfish farming.

Regarding the factors impacting the behavior of applying high technology in shutchi catfish farming, the study has shown that the behavior of applying high technology in shutchi catfish farming is influenced by many factors. These are pond area, number of farming years (experience), educational background, local authority support, participation in training sessions organized by local authorities. The factors have a positive relationship with the behavior of applying high technology in shutchi catfish farming, only the variable on shutchi catfish farming experience has a negative relationship. This is one of the important bases for researching a number of recommendations which encourage farmers to apply high technology in shutchi catfish farming in Can Tho city in the coming time.

4.2. Recommendations

On the basis of analyzing the factors affecting the behavior of high-tech application in shutchi catfish farming, the study suggests some recommendations as below:

Firstly, plan the appropriate pond area. To do this, local authorities need to develop plan for every single stage of shutchi catfish farming and provide information about this plan fully and publicly; encourage farming households to participate in cooperation to expand the area of farming ponds under the direction of local authorities; guide shutchi catfish farming households to expand their farming pond area based on specific local conditions.

Secondly, improve human capital. It is necessary to improve farmers' educational background in order to access information and easily absorb shutchi catfish farming techniques; strengthen training in fish farming techniques according to modern methods so that farmers can effectively apply them to the farming process; encourage farmers to change traditional and manual farming methods into modern ones with high technology application in order to contribute to improving the value chain of the local shutchi catfish industry.

Thirdly, improve social capital. The government needs to timely support people when they face difficulties in accessing capital and technical resources; strengthen and overcome limitations in cooperation, develop production models in groups, and replicate the effectively cooperative model of shutchi catfish farming in the community of farming household.

5. References

1. Thanh Liem (2020), Applying technology to increase the value of the shutchi catfish industry, Vietnam News Agency’s BNews, https://bnews.vn/ung-dung-cong-nghe-de-nang- Gia-tri-nganh-ca-tra/176692.html; accessed on 20/05/2021.

2. K.V (2018), Can Tho continues to promote the development of export shutchi catfish farming, https://dangcongsan.vn/kinh-te/can-tho-tiep-tuc-thuc-day-phat-trien-nuoi-ca-tra-xuat-khau-483188.html; accessed on 20/05/2021.

3. Nguyen Thanh Phuong and Nguyen Anh Tuan (2016), Shutchi catfish farming in the Mekong Delta: success and challenges for sustainable development, Agriculture Publishing House, Hanoi.

4. Nguyen Tien Dung and Phan Thuan (2021), Factors affecting livelihoods of residents in drought-salt areas in the Mekong Delta, Can Tho University Journal of Science (CTUJS), Eps 57, No.1C (2021): 210-216.

SESSION 9:

DEVELOPMENT ISSUES IN THE CONTEXT OF COVID-19

THE IMPACTS OF COVID-19 ON THE DEVELOPMENT OF NINH BINH PROVINCIAL TOURISM

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Abstract

Since 2019, the world has been facing one of the greatest threats - COVID-19 epidemic causing serious damages not only human health but also the global economy. As an important part of the economy, the tourism industry was not an exception to COVID-19. In fact, COVID-19 has brought impacts reversing decades on progress of tourism development. According to scholars, although tourism is vulnerable, it could adapt quickly and bounce back to the new normal situation if there is a proper strategy to recover. Using secondary data with desk research method, this paper investigate how COVID-19 impacts on the wellbeing of tourism industry by taking an example from Ninh Binh - a growing and attractive destination in Vietnam. After comparing the performance of Ninh Binh tourism before and during COVID-19, this paper illustrates the impacts of the pandemic to the development of tourism and demonstrates difficulties that destination has suffered. Also, it pointed out strategies for 03 key stakeholders of Ninh Binh provincial tourism including local government, tourism business (both direct and indirect business) and local community. At last, there 06 main suggestions are synthesized from these strategies to assist destination recover soon from COVID-19, namely, (1) preventing COVID-19 from spreading it out into the community; (2) issuing and implementing effectively policies to support businesses and locals; (3) Improving regional linkages, collaborations inside and outside destination; (4) Applying digital transformation on tourism operation and development (5) Encouraging hotels to transform into high quality quarantine places during COVID-19 period; (6) Improving people trust on local government and encouraging for the development of social cohesion among government, businesses and locals.

Keywords: *COVID-19, impacts of pandemic, Ninh Binh tourism, Strategies for recovering*

1. Introduction

Tourism is one of the most important global economic sectors, being the world's third-largest exporter (after fuels and chemicals), contributed 7% of global trade in 2020 (UNWTO 2021). Acknowledging the role of tourism in socio-economic development, promoting Vietnamese nature, culture as well as the country’s image, Vietnamese government has issued policies that encourages and supports the national tourism industry. According to VNAT (2020), in 2019 the country welcomed 18 million visitors with revenue of about VND 755 trillion, accounting for 9.2% of the national GDP, with stable and sustainable growth indicators in the last 10 years and tourism has become an economic key of Vietnam nowadays.

Understanding that tourism will be an economic development trend soon and taking advantage of the provincial natural and cultural resources, Ninh Binh provincial economy has been shifted from heavy manufacturing industries to the tourism economy in recent times. Nowadays, Ninh Binh has become one of the most attractive places in Vietnam and played a significant role in the National Tourism Development Plan of Vietnam. However, the occurrence of COVID-19 pandemic has caused great disruptions throughout the provincial economy and its tourism industry was not an exception. Therefore, it is necessary to research what the impacts COVID-19 has on destinations are and how destination can overcome the pandemic.

The purpose of this research is to investigate the impacts of COVID-19 has on tourism industry and suggest strategies that destination could implement to recover and adapt to the pandemic. Using desk research method using secondary data, this article will compare the situation before and after the pandemic to identify the difficulties, challenges and opportunities that COVID-19 brings to Ninh Binh tourism; at the same time, proposing solutions and strategies to overcome difficulties, contribute to the recovery process Ninh Binh provincial tourism during and after the pandemic.

2. Literature Review

2.1. The COVID-19 pandemic and Global tourism

a. The outbreak of COVID-19

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). COVID-19 has been traced back on November 2019 by the first case detect in Wuhan City, Hubei province, China. COVID-19 defined as an infectious disease caused by a new virus which was spread very fast and until May 2020, the total confirmed cases of COVID-19 worldwide are more than 158 million cases with nearly 3.3 million of deaths (World Health Organization, 2021). COVID-19 spreads primarily through contact with an infected person when they cough or sneeze. According to Bakar and Rosbi (2020), the pandemics spreads when a person touches a surface or object that has the virus on it, then touches their eyes, nose, or mouth. COVID-19 virus can live up to 72 hours. COVID-19 has given significant impact on the economic development worldwide. With the large-scale quarantines (about 14 and some countries require more than 14 days), travel restrictions, and social-distancing measures drive a sharp fall in consumers, business expenditure, and tourism demand. This situation was created economic recession globally. However, many efforts have been done by governments to reduce the spread of COVID-19 virus. For example, a few countries were performing a lockdown approach for movement control order (MCO). Although it might stop spreading out the virus, the impacts of this approach are consumers stay at home, businesses lose revenue and lay off workers and unemployment levels rise sharply.

b. Covid-19 and its impacts on global tourism

Tourism is one of the world's major economic sectors. In 2019 it received 1.5 billion visitors, an increase of 3.8% compared to 2018, contributed impressive $8.9 trillion to the world's GDP accounted for 7% of global trade and it was the 10th consecutive year, the number of visitors has increased positively (UNWTO, 2020). According to the International Labor Organization (2020), tourism created about 330 million direct and indirect careers worldwide, equivalent to 10.3% of total global employment and 1 in 10 jobs globally. However, with the outbreak of the COVID-19 pandemic, the world economy and the global tourism industry have faced one of the greatest threats. Countries such as the U.S., Europeans, South American countries have millions of cases with thousands of deaths; many countries and cities must impose lockdowns, the traveling is restricted, and people are required to stay home. As a result, tourism industry is freeze, destinations are blocked and locked down, international flights are canceled, tourism laborers lose jobs, and visitors' traveling is limited, and all parts of tourism vast value-chain have been affected and delayed. According to UNWTO, export revenues from tourism could fall by $910 billion to $1.2 trillion in 2020. This will have a wider impact and could reduce global GDP by 1.5% to 2.8%. As many as 100 million direct tourism jobs are at risk, in addition to sectors associated with tourism such as labor in accommodation, food services and transportation industries that employ 144 million workers worldwide. Small businesses (which shoulder 80% of global tourism) and countries where tourism is the key economic factors are the ones receiving the most negative impacts from COVID-19.

To limit and prevent the negative influences of COVID-19 to global tourism, OECD (2020) suggested policies to governments, including: restoring travelers confidence; supporting tourism businesses to adapt and survive; promoting domestic tourism and supporting safe return of international tourism; providing clear information to travelers and businesses; and limiting uncertainty (to the extent possible); evolving response measures to maintain capacity in the sector and address gaps in supports; strengthening co-operation within and between countries; building more resilient, sustainable tourism. Due to international travelling restriction, many countries encourage domestic travel (Sigala, 2020) to help destination survive through COVID-19 period. Besides that, to incentive international travel, especially between countries which have stable COVID-19 situation, the term “Travel bubble” is established. According to Lou and Lam (2020), “travel bubble” is a program that allows tourists to travel to countries nearby without quarantine requirement.

Since the beginning of 2021, many travel bubble relationships are implemented such as Austria – Germany, Denmark – Norway, Australia – New Zealand, China – South Korea, Singapore – China, Indonesia – China, South Korea, Japan, Australia. However, these travel bubbles are mostly for either diplomatic or business purposes, not leisure and the bubbles could be burster anytime, depending on the pandemic situation.

2.2. COVID-19 and its impacts on Vietnam tourism

As soon as the occurrence of the epidemic, Vietnam's tourism industry has suffered heavy losses including domestic tourism and international tourism. The travel restriction has been imposed on all tourist attractions and Vietnam restricted the entry of overseas tourists since April 2020. Industry such as, hospitality, hotel, restaurant, and transportation sectors were mostly postponed, and tourists' attractions were closed due to nationwide social distancing. The number of international visitors is only available in January and February, from March 2019 there are almost no visitors. Domestic tourists also feel sharply due to the complicated developments of the epidemic and Vietnam's social distancing. Tourism businesses faced with difficulties, causing many tourism industry employees to lose their jobs, even without income ... According to VNAT (2021), international visitors to Vietnam in November 2020 were estimated at 17.7 thousand people, up 19.6% over the previous month but down 99% over the same period last year; however, these are international workers or experts who works in Vietnam. In the first 11 months of 2020, international visitors to our country were estimated at 3.8 million, down 76.6% over the same period last year. Total visitors in the first quarter of 2020 reached 3.7 million visitors, down more than 18% over the same period; revenue from accommodation and dining services in the period was estimated at VND 126,200 billion, equivalent to 10% of the total revenue of commercial and service activities of the country, down 9.6% compared to the first quarter of 2019; Tourism revenue in the first quarter of 2020 was estimated at VND 7,800 billion, accounting for 0.6% of the total and down 27.8%. About 80-90% of small and medium-sized travel enterprises suspend their operations or activities.

Some important economic sectors related to tourism such as transportation are also seriously affected, in which, air transport is greatly affected by international passengers using Vietnam's aviation accounting for nearly 80%. Road and rail transport services also suffered negatively when trade and tourism activities declined, festivals and events are canceled. Transportation support services also decreased such as flight management services, airport services were all affected. Some other industries such as agriculture (agricultural production to serve visitors); banking and finance (restaurants, hotels without guests resulting in inability to pay bank debt); small craft industry (producing souvenir items for visitors) are seriously affected.

For recovering soon from the second COVID-19 epidemic, the tourism industry continues to launch the domestic tourism stimulus program towards improving safety and attractive factors. The Vietnam National Administration of Tourism has issued a set of criteria for tourism safety and launched the application “Safe Vietnam Tourism”, “Vietnamese travel in Vietnam”. Traveling businesses also generated collaborations to make affordable deals and enhance service quality. Although there are certain achievements on domestic tourism, Vietnam’s tourism industry is still facing many difficulties due to the potential risk of epidemics, vaccines have not been produced and globally have not achieved community immunity, so the response and adaptation to COVID-19 of the tourism industry will continue in the near future.

2.3. Overview of the Ninh Binh tourism (before COVID-19)

According to the Ninh Binh Department of Tourism (2019), Ninh Binh has an area of 1,390 square kilometers and a population of nearly 1 million, currently possesses 01 World Heritage Site, 1.499 cultural and historical relics, of which 79 were classified at the national level and 235 were classified at provincial level. Especially, the Trang An Scenic Landscape Complex was recognized as world natural and cultural heritage by UNESCO in 2014. Favorable nature along with the rich history has created many scenic places and historical and cultural relics in Ninh Binh. Most of Ninh Binh's tourists attractions have a combination of natural resources and humanities resources.

In terms of natural resources, Ninh Binh’s topography is divided into three distinct areas, the hills in the west and northwest, the plain in the east and the coastal area in the south. Three-fourths of the area is hilly and mountainous, diverse karst topography is a base for the development of flora and fauna, forming many tourist destinations with beautiful natural scenery that attracts to tourists, especially the cave complex such as Trang An, Tam Coc - Bich Dong, Van Long Wetland Nature Reserve, Van Trinh Cave, Dich Long Cave, Thien Ha Cave.. . The forest ecosystem in Ninh Binh is very distinctive, with Cuc Phuong National Park, a typical tropical forest with an area of over 22,000 ha, home to nearly 2,000 species of higher plants and about 2,600 species of animal; The Van Long nature reserve, which is featured fourth largest wetland ecosystems in the Red River Delta (about 2,643 ha). In addition, Hoa Lu Special-use Forest and Kim Son coastal mangrove forest have a rich ecological system and landscape with many rare and precious plant and animal species listed in the Red Book of Vietnam and the World. Ninh Binh has about 18km of coastline in the new land Kim Son.

Besides scenic places, cultural and spiritual tourism is also a strength of Ninh Binh, promoting the advantage of a sacred land which was the capital of three dynasties: Dinh, Early Le, Ly, associated with the great changes of the national history. It is also a place of convergence and development of many religions, especially Buddhism and Christian. Ninh Binh has a large number of religious and cultural architectural works that have historical value, such as, Phat Diem Stone Church, Hoa Lu Ancient Capital, Bich Dong Pagoda, Bai Dinh Pagoda, etc. The historical and cultural relics in Ninh Binh mainly associated with the

Dinh, Early Le and Ly Dynasty. In addition, Ninh Binh is one of the locals who still preserve many folk festivals. At present, the province has 74 festivals, some festivals have become the tradition not only of local people but also of the whole province and attract the attention of domestic and international visitors such as, Hoa Lu Festival, Thai Vi Temple Festival, Duc Thanh Nguyen Temple Festival, Trang An Festival, etc. Moreover, regarding gastronomy culture, Ninh Binh cuisine has many famous dishes such as goat meat (Thit De), burned rice (Com Chay). The beautiful nature, historical-cultural relics and delicious dishes of this land known as "Miniature Vietnam" will certainly leave many unforgettable impressions in the heart of visitors.

Taking advantage of the diverse tourism resources as well as the supporting and leading from the Central Committee Party and Government, the visitors to Ninh Binh has been increasing in the period of 2010-2019 (Table 1). In 2019, the province welcomed 7.65 million visitors, of which: domestic visitors: 6.68 million visitors, international visitors: 970 thousand visitors (with the average growth in number of visitors is 12%, annually), tourism revenue reached VND 3,600 billion, the service industry accounted for 46.2% of the GRDP structure of the province (Ninh Binh Provincial People Committee, 2020). Many investors in the field of tourism services inside and outside the province have come and invested in Ninh Binh. Up to now, the province has issued investment certificates for 36 investment projects on tourism, with a total investment of VND 16,212 billion. Along with the rapidly increasing number of tourists coming to Ninh Binh, the development of tourism has created many jobs for local people. If in 2010 Ninh Binh had 8,550 workers both directly and indirectly in this field, by 2019 this number increased to 21,500 people, the average labor growth rate in the last 9 years is 25.9% per year. In addition, traffic infrastructure such as national highways, health system, Internet facility and accommodation infrastructure such as restaurants, hotels, homestays, entertainment areas, walking streets, supermarkets, shopping centers are being invested which contributes to promoting the tourism and service sector of the province, creating jobs for locals; therefore, poverty is alleviate and socio-economic is able to develop effectively and efficiently.

Table 1: Overview of Ninh Binh tourists 2010 – 2019

	Year	**2010**	**2015**	**2019**	**2020**
International tourists	**Total number of international tourists**	663,3	600,6	915,0	196,0
	Percentage compared to the total number of guests	21,4	10,0	11,96	7,47
	Average length of stay (by day)	1,99	1,52	1,8	1,0
Domestic tourists	**Total number of domestic tourists**	2.433,3	5.392,6	6.735	2.429

	Year	2010	2015	2019	2020
	Percentage compared to the total number of guests	78,58	89,98	88,04	92,53
	Average length of stay (by day)	1,55	1,28	1,85	1,0
Total number of visitors		3.096,6	5.993,2	7.650	2.625,3

Source: Ninh Binh Tourism Department, 2020

2. Method

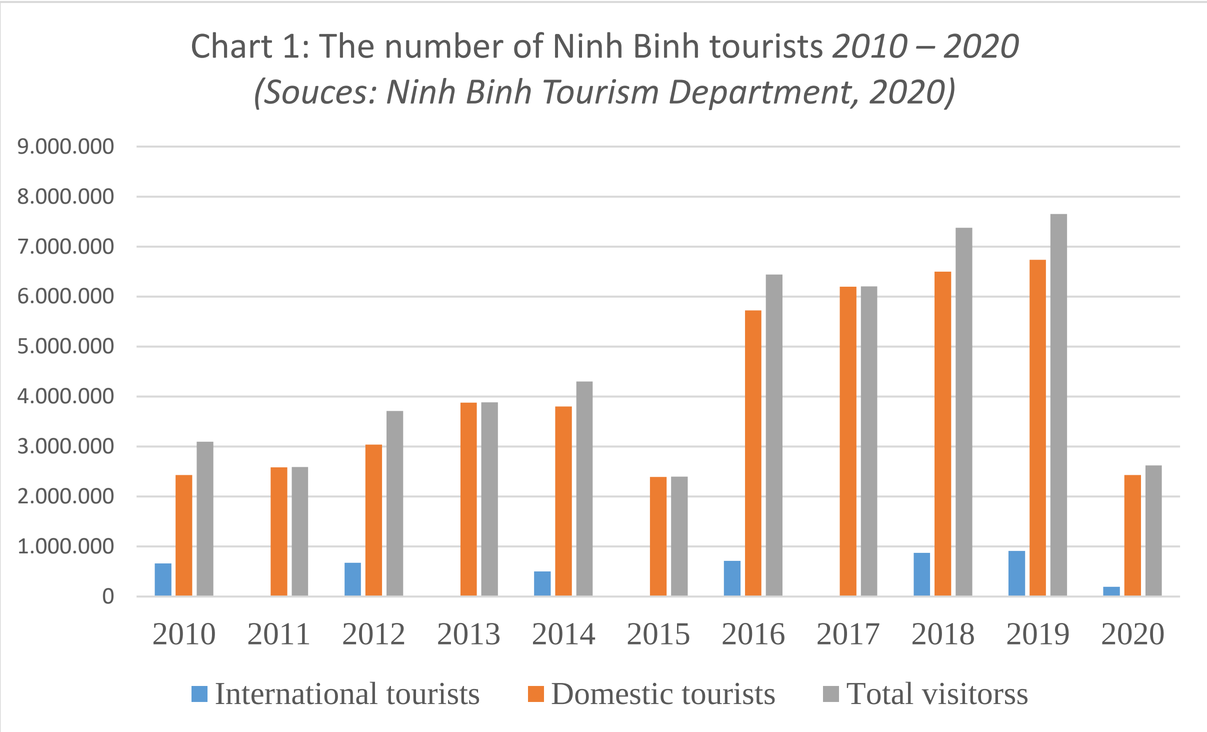
2.1. Research method

To investigate what the impacts of COVID-19 and figure out the strategies and solutions for overcoming the COVID-19, this research uses secondary research which is also known as desk research. According to Smith and Smith (2008), secondary research is a common approach to a systematic investigation in which the researcher depends on existing data or secondary data on research process. This research design involves organizing, collating, and analyzing these data samples for valid research conclusions. Secondary research is also known as desk research since it involves synthesizing existing data that can be sourced from the internet, peer-reviewed journals, textbooks, government archives, and libraries. What the secondary researcher does is to study already established patterns in previous researches and apply this information to the specific research context.

2.2. Data collection and analyze

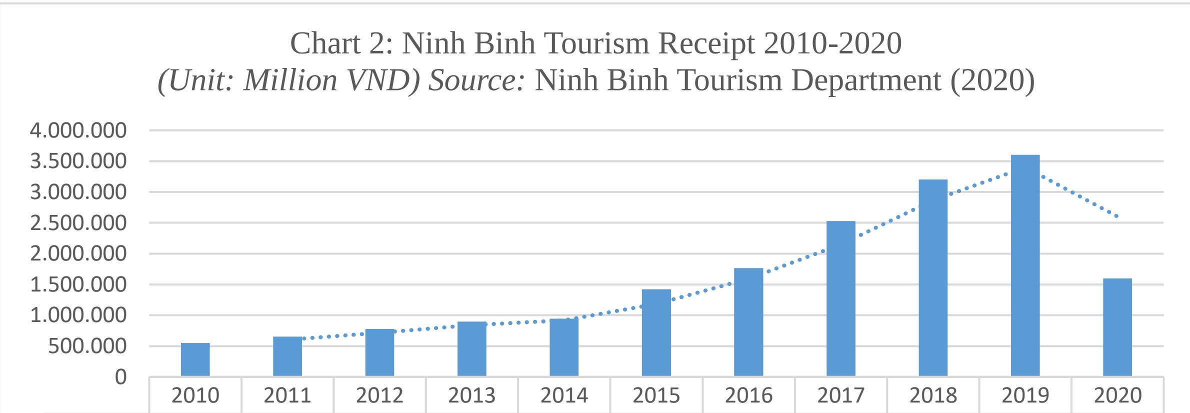
In this research, the data is collected from sources such as journal article, report from international organizations, non-government organization, Vietnamese government and Ninh Binh local government achieves. To find out the impacts of COVID-19 on tourism, this research takes the example of Ninh Binh provincial tourism and compares the tourism performance before and after the outbreak of COVID-19 pandemic. Furthermore, based on the current situation of Ninh Binh destination and its strengths as well as weaknesses, this research will suggest strategies that can assist the destination to survive and adapt to COVID-19.

As an attractive destination of Vietnam, Ninh Binh was not an exception to COVID-19. International tourists couldn't arrive, the number of domestic tourists went down, traveling is restrictions directly damaged seriously provincial tourism. As a result, many hotels, restaurants, areas, and tourist attractions must remain closed, and tourism revenue has plummeted. In 2020, Ninh Binh tourism not only failed the target of 7.0 million visitors, but also, 2020 has been the worst year in terms of development since 2010. The recovery of



Ninh Binh tourism must depend about COVID-19 of Vietnam and the effectiveness of future COVID-19 vaccines. All the data about tourism performance was collected in government public data and will be analyzed in the next paragraph.

In terms of economic impacts of the pandemic, according to the Ninh Binh Tourism Department (2020), the total number of tourists coming to Ninh Binh in 2020 reached 2.8 million, only 37% compared to 2019, of which domestic visitors 2.6 million were only 39% compared to 2019, international visitors only reached 200,000, only 21.4% compared to



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Series1	551.427	654.148	778.957	897.445	942.779	1.420.9	1.764.9	2.528.2	3.200.0	3.600.0	1.600.0

2019. Tourism workers in 2020 decreased from 21,500 to 14,000 workers, which means 7.500 careers were lost. As it shown on the Chart 1, comparing before and after the launch of COVID-19, the performance of Ninh Binh tourism in 2020 seems to be taken back into 2010. With the downward number of tourists, as it is indicated in Chart 2, the total tourism receipt also is negatively impacted. In 2020, total tourism revenue is 1.600 billion VND, equal to 44% comparing to 2019 and less than the total tourism revenue in 2016. International tourists are restricted to entry Vietnam, domestic tourists fear the spreading of pandemic; as a result, many hotels, restaurants, tourists' attractions must remain closed causing loses on the tourism revenues. Furthermore, many tourism businesses went bankrupt because they cannot pay for bank interests leading tourism workers lost jobs. Also, not only tourism businesses have suffered, tourism supplying business are negatively impacted by COVID-19. In terms of social impacts, although the negative impacts of COVID-19 to the economy and tourism of Ninh Binh is obvious with strong evidences from statistics, the social risks are also very high. For instances, Ninh Binh tourism workers are mostly from low-income households and they are vulnerable with the damages of COVID-19. Losing jobs can change their livelihoods, loss income and make their lives harder. Moreover, loss tourism revenue can cut the budget to conserve the environment and historical relics heritage causing negative impacts on the environmental and cultural heritages.

3. Results

As it is discussed above, there are disadvantages that COVID-19 brings to economic and social well-beings of Ninh Binh province. To prevent the spreading of COVID-19, people are encouraged to stay home and keep distances between each other; therefore, people could not go anywhere and tourism services must be closed. Damages are obvious and significant; however, it still has chances for Ninh Binh to overcome. First of all, on the Chart 1, domestic tourists are the main tourists in Ninh Binh and international tourists only takes a small number on the total tourists in the period 2010-2020, therefore, if Ninh Binh target the domestic tourists effectively during the pandemic, tourism businesses and workers would have opportunities to recover the pandemic. Secondly, due to the downward on tourists, the environment receives less impacts from tourism activities, the air will be clean as people do not travel. According to Rosbi and Bakar (2020), since people cannot travel for a long time because of the pandemic, once the COVID-19 is controlled worldwide, the tourism demand will raise remarkably and destinations like Ninh Binh province would prepare to be ahead for the future trend. In the next section, based on the results of this research, there are strategies suggested for Ninh Binh tourism to overcome the pandemic and adapt to the new normal situation.

The strategies to recover from covid-19 for ninh binh province

According to Sigala (2020), tourism is the industry most affected by the pandemic but also one of the most recoverable industries. Therefore, if the destination can catch on to the new tourism trend, Ninh Binh will have breakthrough opportunities, so the management, local government, businesses and locals need to be prepared so that as soon as the epidemic passes, the tourism market will flourish, there will be suitable products for tourists and be ready for the development in the “new normal situation”.

As stated above, compare the situation before and during COVID-19, evidences are showing that these impacts of COVID-19 bring to Ninh Binh social-economic development and its tourism industry disadvantages. To overcome the disaster, this article will point out strategies implemented by 03 groups of stakeholders, namely, the local government (Ninh Binh Provincial People Committee), the businesses and locals to overcome the pandemic. Dabphet (2012) stated that these 03 groups are the key stakeholders that determine the development and performance of a destination. Due to the social-political specifics of Vietnam, local government plays a significant role in the plan and issues strategies, yet it must be along with the assists and involvement of the business and local people to be effective.

Local government

During the COVID-19 epidemic, the priority concern of local government is to keep the situation stable without new infections and must acknowledge that “do not to trade health and community benefits to achieve economic benefits”.

Guiding businesses and people; strengthening inspection, supervision and propagating the observance of basic principles of epidemic prevention; transparency of information about the pandemic, prevention of fake news causing confusion for locals and visitors about the epidemic situation.

Based on the actual situation of the locality, imposes policies to support and promote the tourism industry, focusing on exploiting the domestic tourist market. For example: Promulgating policies to support bank loan interest rates for tourism enterprises and enterprises in tourism value chain, especially small and medium-sized enterprises (categorizing businesses by sector to have specific preferential rates); reducing land rents for tourism service projects; providing funding support for individuals and households unemployed due to epidemic. Discounted fares or free fares at government-managed tourist attractions.

Due to the epidemic situation, revenues from tourism activities to reinvest in the protection of ecosystems, preservation of cultural and historical relics are affected; therefore, local governments need to involve and spend money on activities of protecting ecosystems, preserving relics, cultural and historical heritages.

Re-planning tourism development policies, with an increased focus on improving the resilience of tourism destinations and community to overcome and adapt with pandemic; catching the trend of the domestic and international tourism industry, proposing to apply tourism industry solutions such as vaccination passports, travel bubble, and so on.

Inviting and facilitating for event companies or reporters, newspapers on reporting and filming about the natural and cultural attractions in Ninh Binh; enhancing the promotion of images, building promotional videos on websites, digital platforms with diverse content and forms, subtitled in many foreign languages.

Coordinating with other provinces and destination to develop regional links and collaboration, create conditions for businesses inside and outside the province to cooperate closely with each other, build multi-provincial tours to serve tourists.

Continuing to invest and improve facilities of relevant sectors such as health, education, telecommunications, transport infrastructure to serve tourism. Prioritizing the construction of telecommunications infrastructure to accelerate digital transformation because digital transformation is one of the effective tools to adapt and recover from the COVID-19 pandemic.

The businesses

Follow the guidance of the management agency (from the government) on COVID-19 prevention, especially accommodation service must not accept to accommodate in cases where foreigners enter illegally or do not present documents about equal and valid quarantine.

Priority on developing the brand and promotion strategy, ensuring service businesses can provide their services in a new development environment. Many companies and businesses mainly focus on attracting international customers need to change marketing methods, attract domestic visitors to suit the actual situation.

Strengthening the collaboration and cooperation with companies and businesses inside and outside the province to create regional links. Promoting cooperation and links to build new tours and tourism products, share peak season visitors or improve service quality is one of the methods for the tourism industry to adapt to COVID-19

Building tourism products that express local culture, in accordance with Vietnamese customs and provincial customs to attract domestic tourists; producing promotional videos with subtitles in many languages, using advertising tools on social networking to promote to domestic and foreign tourists.

Encouraging hotels to transform their accommodation business to a high-quality quarantine area to maximize profits and generate income during the COVID-19 pandemic.

The local people

Supporting for the governments and businesses, well-implemented the guide to prevent the COVID-19 pandemic from authority, and try not to let the epidemic spread within the community

Responding to the movement launched by the local government or the General

Department of Tourism: “Each citizen is a tourism ambassador”, promoting beautiful images of people, lifestyle, cultural traditions of Ninh Binh people

Raise awareness of protecting ecosystems and environment, preserving cultural and historical relics; diversify income, livelihoods and avoid over-dependence on the tourism industry

Expressing the rights, obligations, responsibilities and voices of the people through giving opinions on the planning development of the tourism industry of the province, in particular, the Tourism Plan is necessary to focus on sustainable development, exploiting economic benefits but must priorities with environmental protection, preserving indigenous cultures and traditions and ensuring the rights and interests of the community.

According to McGehee et al (2010), local people play an important role in tourism resilience. Many destinations and countries tend to reinvest in facilities (e.g., rebuild roads after a disaster) or focus on promoting tourism product to attract visitors back to their destinations after a disaster. However, social capital, community cohesion, or the solid relationship among communities, businesses and local government is one of the most significant factors for the adaptability of the destination (McGehee et al 2010). Therefore, people must unite to overcome these difficulties, trust in the leadership of the government to adapt to the “new normal situation” during COVID-19 period.

4. Discussion and Conclusion

COVID-19 epidemic not only causes harm to human health, moreover, the rapid spread of nCovi virus also causes the collapse of the health system and the collapse of the economy. To limit the spread of the COVID-19 epidemic, all economies were shut down, people restricted travel to avoid exposure to COVID-19. This is the premise that causes world tourism to suffer, many destinations fall into crisis. As commented above, COVID-19 brings challenges, difficulties and opportunities for growth and breakthrough. In Ninh Binh province, although the economy is also heavily influenced by the COVID-19 epidemic, with the determination and participation of the whole political system, the consensus of businesses and people, the economic sector in general and the tourism industry has made certain achievements. For the effective adaptation of the provincial tourism in the new normal situation, the article has shared several strategies for three main groups of stakeholders, including local government, the business and local community. In general, the strategy to be effective implemented, the tightening coordination of 03 stakeholders is a must; in which, attention should be paid to the following 06 focus points: (1) ensuring a good disease prevention, preventing epidemic diseases from spreading out into the community; (2) issuing and implementing effectively policies to support businesses and people to overcome the epidemic; (3) Improving regional linkages, linkages between companies, businesses and local authorities, promote promotion and cooperation activities for mutual development inside and outside destination; (4) Applying digital transformation, continuing to promote on social media with subtitle on many languages to attract international attentions (5) Encouraging hotels to transform into high-service quality quarantine zones to maximize profit during the hard time of COVID-19; (6) Improving people trust on local government, as well as enhancing social cohesion among the community. Besides that, although there are losses and damages caused by COVID-19, the tourism of Ninh Binh still have chances to breakthrough and recover fast because their main visitors are domestic visitors. Therefore, if the situation within Vietnam is stable, the tourism has opportunities to resist with COVID-19 and still be a key economic factor.

In the following years, the world could never be the same as before (Sigala, 2020). COVID-19 has caused significant disruptions and damages to the socioeconomics in general and tourism in particular. However, as it stated, tourism and the community in destinations have its own resilience and adaptive capacity. The government, businesses and people around the world will acknowledge and figure out strategies to survive and transform in order to adapt to the "new normal situation", yet the effectiveness of strategies will highly depend on the effectiveness of vaccines. Regarding Ninh Binh tourism, as domestic is the main source of tourists, it still has chances to take economic and social advantages from tourism activities by applying 06 suggestions listed above. However, the whole tourism industry needs to wait until COVID-19 pandemic is under control to be truly recovered from the disaster. Any solutions for developing tourism in COVID-19 period is temporary and the tourism activity could be shut down any time to prevent spreading the virus.

To sum up, as it is stated above, belongs with the negative impacts, there would be positive impacts and the target of destination to take the advantages, catch the new trend, transform, and adapt with the new situation. This report discusses the impacts COVID-19 has on the tourism industry with the focus on Ninh Binh province in Vietnam. To sum up, there are 07 main suggestions for local government, businesses, and the local community to follow and recover from the pandemic. In the future, for a research paper, it should figure out the factors that help destination over the pandemic or what are the factors that make tourism resilient with the COVID-19 to help destination could effectively survive through the pandemic.

5. References

1. Bakar, N. A., & Rosbi, S. (2020). *Effect of Coronavirus disease (COVID-19) to tourism industry*. International Journal of Advanced Engineering Research and Science, 7(4), 189-193.

2. Dabphet, S. (2012). *The key stakeholders in the implementation of sustainable tourism development in two rural towns of Thailand.* In the International Conference on Tourism, Transport and Logistics Challenges and Opportunities of Increasing Global Connectivity, Paris. Retrieved from http://www.ijbts-journal.com/images/main_1366796758/0029-Siripen.pdf.

3. Duncan, M (2020), *The COVID-19 Pandemic Has Cost The Global Tourism Industry $935 Billion*, Forbes, Retrieved from: https://www.forbes.com/sites/duncanmadden/2021/01/14/the-COVID-19-pandemic-has-cost-the-global-tourism-industry-935-billion/?sh=1d8aea397d40

4. International Labor Organization (2020), *The impact of COVID-19 on the tourism sector*, ILO Sectoral Brief, Retrieved from: https://www.ilo.org/sector/Resources/publications/WCMS_741468/lang--en/index.htm

5. Luo, J. M., & Lam, C. F. (2020). *Travel Anxiety, Risk Attitude and Travel Intentions towards "Travel Bubble" Destinations in Hong Kong: Effect of the Fear of COVID-19*. International journal of Environmental Research and Public Health, 17(21), 7859.

6. McGehee, N. G., Lee, S., O'Bannon, T. L., & Perdue, R. R. (2010). *Tourism-related social capital and its relationship with other forms of capital:* An exploratory study. Journal of Travel Research, 49(4), 486-500.

7. Ninh Binh Department of Tourism (2020), *Ninh Binh Tourism Annual Report 2020 and its directions in 2021*, Report No. 265/BC-SDL

8. Ninh Binh Department of Tourism (2021), *Developing Community-Based Tourism in Ninh Binh* Province, Report No. 200/BC-SDL.

9. Ninh Binh Department of Tourism (2019), *Ninh Binh Tourism Overview*, Retrieved from: https://sodulich.ninhbinh.gov.vn/Default.aspx?sname=sodulichEN&sid=1228&pageid=27674&catid=38728&catname=ninh-binh-tourism-overview

10. Ninh Binh Provincial People Committee (2020), *Social-economic Annual Report 2020 and Direction for 2021*, Report No. 162/BC-UBND.

11. Sigala, M. (2020). Tourism and COVID-19: *Impacts and implications for advancing and resetting industry and research.* Journal of business research, 117, 312-321.

12. Smith, E., & Smith Jr, J. (2008). *Using secondary data in educational and social research*. McGraw-Hill Education (UK).

13. UNWTO (2020), *Tourism and COVID-19 – Unprecedented Economic Impacts*, Retrieved from: https://www.unwto.org/tourism-and-COVID-19-unprecedented-economic-impacts

14. UNWTO (2021), *International Tourism Highlights*, *2020 Edition*, Retrieved from: https://www.e-unwto.org/doi/book/10.18111/9789284422456

15. Vietnam National Administration of Tourism (2019), *Vietnam Tourism Annual Report 2019*, Retrieved from: https://vietnamtourism.gov.vn/english/index.php/items/15251

16. World Health Organization (2021), *WHO Coronavirus (COVID-19) Dashboard*, retrieve at: https://covid19.who.int/

IMPACT OF THE COVID-19 PANDEMIC ON TOURISM ACTIVITIES IN DA NANG CITY

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Abstract

With the goal of developing tourism to become a spearhead economic sector of the locality, over the years, the Party Committees and authorities of Da Nang city have paid much attention to investment and development and obtained many promising results. The number of tourists coming to Da Nang is increasing which leads to the tourism revenue is increasing as well, significantly contributing to increasing state budget revenue, creating jobs, and improving people's lives. In 2020, the outbreak of the Covid-19 pandemic halted tourism service activities in the locality, causing heavy losses and damage to the tourism industry. Within the framework of this article, the author focuses on clarifying: Potentials and advantages of tourism development in Da Nang city; Impact of the Covid-19 epidemic on tourism activities in Da Nang city. From there, propose some solutions to restore and develop tourism activities in Da Nang City in the coming time.

Keywords: *Tourism, Covid-19 pandemic, impact, Da Nang city.*

1. Introduction

The complicated developments of the Covid-19 pandemic in 2020 and early 2021 have strongly affected tourism activities in the world, Vietnam in general, and Da Nang city in particular. Flight bans, travel restrictions, and tourist apprehensions about the effects of the pandemic have left many hotels, restaurants and retail chains in tourist attractions in the city deserted. The whole Da Nang tourism industry was almost exhausted, tourists and tourism revenue dropped seriously. In this article, the author focuses on clarifying the impacts of the Covid-19 pandemic on tourism activities in Da Nang city.

2. Methods

To clarify the content: Impact of the Covid-19 pandemic on tourism activities in Da Nang city, in this article, the author collects many sources, such as Statistical Yearbook of 2017, 2019, Report of the General Statistics Office of Da Nang City on the socio-economic situation of the locality over the years from 2000 to 2020, reports on the situation of tourists as well as tourism revenue of the Department of Culture - Sports - Tourism, the Implementation plan of action program No. 28-Ctr/TU dated February 18, 2019, of the City Party Committee on sustainable development of marine economy in Da Nang city to 2030, vision to 2020. 2045 of the People's Committee of Da Nang City, History of the Party Committee of Da Nang City, ...

thereby using historical, statistical, analytical, and comparative methods to clarify the potentials and advantages of position. Geographic location, natural resources, and population characteristics affect tourism development in Da Nang city. Current status of tourists as well as tourism revenue in Da Nang from 2000 to 2020.

3. Results

3.1. Potential and advantages of tourism development in Da Nang city

Da Nang city has an area of 1,255.53 km² (of which the mainland is 950.53 km²; the Hoang Sa island district is 305 km²), including 06 districts (Lien Chieu, Thanh Khe, Hai Chau, Cam Le, Ngu). Hanh Son and Son Tra) and 02 districts (Hoa Vang and Hoang Sa island district) [6; p.29].

Da Nang is one of the great urban centers of the country, where it has converged with many potentials and advantages to become the economic, political, cultural and social center of both the Central region and the Central Highlands. The advantages of geographical location, natural resources, and people are essential factors to make Da Nang an attractive tourist destination for domestic and international tourists.

3.1.1. The geographical location

Da Nang is located at 15°55' to 16°14' North latitude, 107°18' to 108°20' East longitude, bordered by Thua Thien - Hue province to the north, Quang Nam province to the west and south, and bordered by Quang Nam province to the East Sea. Thanks to such a geographical position, Da Nang has a temperate climate, not too cold in winter, but not too hot in summer, so it is quite suitable for tourism and resort activities.

Due to the geographical characteristics of being in the middle of the country, on the North-South transport axis in terms of road, railway, sea, and air, it is 764km from Hanoi to the North, and far from Ho Chi Minh City about 964 km to the south. In addition, Da Nang is also the center of three famous world cultural heritages of Vietnam: Hue ancient capital, Hoi An ancient town, and My Son Sanctuary. With this location, Da Nang soon became the center of the country in transit, welcoming tourists of the country.

3.1.2. Natural resources

Da Nang city is one of the important gateways to the sea from the Central Highlands and Laos, Cambodia, Thailand, and Myanmar to the Northeast Asian countries through the East-West economic corridor, with the ending point being Tien Sa Seaport [6; p.23-24]. Da Nang city is endowed with rich, diverse, and abundant natural resources.

To the northeast of Da Nang city is Son Tra peninsula with an area of 400 hectares of primeval forest, diverse in flora and fauna. There are 12 impressive tourist destinations here such as Linh Ung pagoda, Ban Co peak, thousand-year-old banyan tree, radar station 29 (Indochina God’s eye), Tien Sa port, Tien Sa beach, Da Den beach, Nghe cape, Bai Nam beach, Bai But beach, Bai Bac Beach, InterContinental Danang Sun Peninsula Resort. The West is Ba Na Hills tourist area located at an altitude of over 1000m with a cable car system reaching 4 world disciplines: the largest disparity, the longest total length of the cable, and the heaviest cable combined with the area. Fantasy Park is the largest indoor amusement park in Southeast Asia. To the southeast of the city is the famous Marble Mountains with a system of communal houses, pagodas, and shrines in Asian architecture, a system of churches in Western architecture, museums, notably the sculpture art museum. Cham carving attracts a large number of tourists to visit. And the North is Hai Van Pass - where there are many ideal stops to see the dreamy Da Nang city.

Da Nang has a coastline of about 30 km, sloping, smooth sand with many beautiful beaches, such as:

**** Non Nuoc beach*** stretches 5km and is located about 10km from the city center to the Southeast, in Hoa Hai ward, Ngu Hanh Son district. Non Nuoc Beach stretches like an arc, fine white sand, gentle slope, clear blue water, sunny and windy. Fresh environment, ideal temperature, less affected by the northeast monsoon. This is a favorable condition for tourists to swim and relax all year round.

**** Bac My An beach*** is located in Bac My An ward, Ngu Hanh Son district, Da Nang city, about 7km southeast of the city center. Bac My An beach has 5 beautiful beaches, including T18 beach, My Da Dong 2, My Da Dong 3, Bac My An, and Furama hotel area.

Before 1975, this was just a natural beach, after Da Nang was liberated, the state built here a motel and a sanatorium to serve the convalescence needs of cadres, workers, and officals in Quang Nam - Da Nang province. Recently, with the appearance of resorts, Bac My An has become famous, known by domestic and foreign tourists as an international resort.

**** My Khe beach*** has a length of approximately 900m, belongs to the busiest type of beaches in Da Nang, is located 3km from the city center, so it is very familiar to residents. The American magazine Forbes voted My Khe beach as one of the six most attractive beaches on the planet. It can be said that My Khe beach has fully met the basic voting criteria of Forbes, such as My Khe beach is convenient in terms of traffic; the beach is open to all visitors free of charge; the beach has long and flat sand, sunshine and wave coverage suitable for playing sports; capable of ensuring the safety of visitors; There are luxury resorts, international standard villas...

* Nam O Beach is about 17 km northwest of Da Nang city center, Nam O dawn is said to be an ideal picnic place for people who like going “backpacking”. Starting from the city center, along Nguyen Luong Bang Street, passing Xuan Thieu beach at the entrance to the winding fishing village, people will see the white sand stretching along the coast appearing before your eyes. From the sand about a few hundred meters, we will encounter a fairly wide rock at the foot of the mountain with thousands of pebbles mixed with coral rocks.

**** Xuan Thieu Beach*** which is about 3 km south of Nam O Reef - a place associated with history. Before 1975, this beach was reserved only for American soldiers (U.S. soldiers called Xuan Thieu beach “Red Beach” (i.e. Red Sea)). Currently, Xuan Thieu beach is invested with many high-end beach resortes and a variety of sports and entertainment services at sea, such as: surfing, flying parachutes, jet skis.

Xuan Thieu Beach is steeper than other beaches, but the water here is more clean and quiet because there is partly water from the Han River pouring out, the water taste is not as salty as other places. Since 1992, Xuan Thieu tourist area has been established with a relatively continuous and complete service system such as hotels, restaurants, some entertainment services, beach services.

* The beaches of Son Tra Peninsula are a privilege that nature has generously bestowed on Da Nang city. In the figure reaching out to the sea, Son Tra is a giant screen shielding the city. Located about 10 km northeast of the city center, Son Tra Peninsula with an altitude of 693m above sea level. It is also a diverse and abundant nature reserve, protected under the national prohibition forest regime. Son Tra Peninsula is surrounded by a beautiful coastline arc with beaches, such as: Tien Sa Beach, Black Rock expanse, Rang Beach, But, Da, South, North, Con, Trem expanses. Son Tra Peninsula is a convergence of all elements for visitors to visit, resort, have fun and discover the adventure of unspoiled mountains and forests. With its own characteristics, Son Tra Peninsula has created interesting attractions and unique experiences that tourists coming to Da Nang can hardly forget.

In addition, Da Nang has Han River, which contains many potentials and advantages to exploit tourism development.

The Han River is made up of a tributary of the Thu Bon River that is integrated with the Cam Le River. Han River is 1,200m wide, water flow is about 3m/sec, with an average depth of 4 to 5m, the vessel can enter the river to dock easily. The last section of the river connects to Da Nang Bay. The bay has an average depth of 10 to 15m of water, the mouth of the bay is up to 20m of water.

Han River has long been the pride of the people of Da Nang. This river has poetic beauty, bringing many benefits, especially exploiting to develop night tourism. Starting at the pier, visitors will be able to visit the city center at night on the Han River, visitors can admire the unique bridges in Vietnam, such as the Han River (the only cable-stayed bridge in Vietnam, the symbol of the intensevitality of Da Nang city), Thuan Phuoc Bridge (the longest hammock bridge in Vietnam), dragon bridge (the largest steel dragon in the world) and the new tran Thi Ly bridge (the bridge with a tower tilted 117m high, the 3-side cable-stayed system radiating like a sail winding into the South China Sea).

3.1.3. Population characteristics

Da Nang city has a large population compared to the whole country. According to statistics, in 2019, the population here reached 1,134,310 people, ranking 39th in the country. The structure of labor working in the predominantly service sector, accounting for 68.20%; industry - construction accounted for 28.48% of the labor structure; the agriculture, forestry and fishery sector accounted for only 3.32%.

In the city, there are about 37 ethnic groups and foreigners living together. In particular, the most ethnic group is the Kinh with more than 1 million people, the second largest is Chinese with 2,974 people, the Cha Tu ethnic group has more than 1000 people, along with other ethnic minorities such as Tay, Ede, Muong, Gia Rai, etc. With a large population and diverse cultural identity as above, it has created a unique cultural identity for the people here. In the folk beliefs of the sea, the sea gods are worshipped very diverse and rich, reflecting the aspirations and dreams of fishermen who go to sea. Since then, it has created many customs and festivals that attract a large number of visitors near and far to visit and experience.

3.2. Impact of the Covid-19 pandemic on tourism activities in Da Nang city

3.2.1. Tourism activities in Da Nang city before the Covid-19 pandemic

In order to facilitate the socio-economic in general and tourism activities of Da Nang city in particular with conditions for development, on October 16 2003, the Ministry of The Political Ministry introduced Resolution 33-NQ/TW on the construction and development of Da Nang city in the period of industrialization, to modernize the country. On January 24, 2019, the Politburo continued to issue Resolution No. 43-NQ/TW on the construction and development of Da Nang city to 2030, with a vision to 2045.

Implementing the Resolution of the Politburo, over the years, the Party committees and the Government of Da Nang city have set out many guidelines and policies to concretize the Resolutions of the Politburo with the goal of "Developing tourism to become a key economic sector" in the local economic development. As a result, a number of major tourism projects of domestic and foreign strategic investors have been put into operation for tourism development such as Sun Group, DHC, BRG, AHT, Vin group, Along with that, many activities to promote and promote the image of tourism through festivals, cultural events, sports, tourism are also directed to organize, such as: International Marathon, IRONMAN 70.3, show "Charming Da Nang", Soul Viet ... and especially Danang International Fireworks Festival, Clipper Race 2016, ABG5-2016 Asian Beach Games, Danang International Tourism Fair 2016, Da Nang Paragliding Open "Flying over Tien Sa 2017", Asia Golf Tourism Festival 2017, APEC Premium Week 2017, Danang International Hot Air Balloon Festival was held from April 27th to May 1st 2019 at Hoa Trung High-Tech Park and Ho Chi Minh City, Hoa Vang district and support festivals in Bach Dang street area, so on. Through the above special festivals, it has attracted tens of thousands of domestic and foreign tourists to visit and travel, contributing to promoting and enhancing the local tourism image to domestic and international tourists.

Accommodation facilities serving tourists are interested in construction investment. On average, there are nearly 100 new accommodation facilities built each year in Da Nang with about 6,000 rooms. In particular, the number of hotels from 1 to 3 stars is more than that. According to statistics of the Danang Tourism Promotion Center, as of the beginning of June 2019, out of 800 accommodation establishments in Da Nang city, there are nearly 650 1-3-star hotels and equivalent. While the hotel is 4-5 stars and equivalent to just over 80 establishments, the rest are luxury resort villas, villas - standard apartments, campsites - motels with standard rooms for rent. Along with the increase in the number of hotels, high-quality hotels also increased, but this number is still quite modest in the total number of hotels throughout the city. The business activities of hotels keep a fairly stable growth rate with an average room use capacity of 75%, coastal hotels and 3-5-star hotels with room capacity in summer can be up to 90-100%.

With the efforts of party committees and local authorities, the past time tourism activities in Da Nang have achieved very remarkable results.. The number of tourists coming to Da Nang increases every year with a fairly high growth rate. The total number of visitors to Da Nang in 2000 was only 393 thousand, in 2007 it exceeded the threshold of 1 million visitors. In 2009, during the global financial crisis, tourists to the City still increased by nearly 15% compared to 2008, reaching more than 1.1 million visitors, the total revenue of the Tourism industry in 2009 reached more than VND 1 trillion, up 12.8% compared to 2008.

Inthe period of 2009 - 2013, along with the development of Vietnam's tourism industry, the number of tourists coming to Da Nang continued to increase, with an average annual growth rate of 26.9%, of which international visitors increased by 39.7% and domestic visitors by 24.5%.

***Table 1.* Tourist to Da Nang in the period of 2009-2013**

(Unit: tourists)

	2009	**2010**	**2011**	**2021**	**2013**
Total number of visitors	1.131.104	1.499.210	2.227.909	2.570.957	2.938.563
International visitors	155.912	290.933	402.752	409.551	595.095
Domestic visitors	975.192	1.208.277	1.825.157	2.161.406	2.343.468

(Source: Da Nang General Statistics Office in the period of 2009 – 2013)

Entering the period 2014 - 2019, the number of visitors to Da Nang increased rapidly and steadily, with an average growth rate of 17.9%, of which international visitors increased by 29.8% and domestic visitors by 13.0%.

***Table 2.* Tourist to Da Nang in the period of 2014-2019**

(Unit: tourists)

	2014	2015	2016	2017	2018	2019
Total number of visitors	3.800.000	4.600.000	5.510.000	6.600.000	7.600.000	8.692.421
International visitors	955.000	125.000	1.660.000	2.300.000	2.875.000	3.522.928
Domestic visitors	2.800.000	3.350.000	3.840.000	4.300.000	4.700.000	5.169.493

(Source: Summary of Report of the Department of Culture, Sports and Tourism of Da Nang City)

Along with that, total tourism revenue in the period 2014 - 2019 also increased rapidly with an average growth rate of 16.7% in wet year. Total tourism revenue over the years also increased sharply. In 2014, the total tourism revenue was estimated at 987.1 billion VND, by 2017 it was reached 1597.2 billion VND, an increase of 61.1% compared to 2014. By 2019, total tourism revenue reached 2138.0 billion VND, increasing 12.2% compared to 2018.

Table 3. **Tourist to Da Nang in the period of 2014-2019**

(Unit: Billion VND)

	2014	2015	2016	2017	2018	2019
Total number of visitors	987,1	1.166,4	1.461,6	1.597,2	1.905,6	2.138,0

(Source: Statistical Yearbook 2017 and 2019)

The continuous increase in total tourism revenue over the past years as above is a clear demonstration of the logic with the increase in the number of visitors to Da Nang city. This not only creates conditions for Da Nang to continue affirming its tourism brand with domestic and international tourists but also significantly contributes to the economic restructuring, creating more jobs and improve people's lives.

3.2.2. Impact of the Covid-19 pandemic on tourism activities in Da Nang city

In early 2020, after the outbreak of the Covid-19 epidemic, implementing the social distancing policy of the Prime Minister, in Da Nang city, all activities in the fields of hotels, motels, restaurants and transportation were suspended. Along with that, the aviation industry in Da Nang was also severely affected when a series of domestic and international flights to and from Da Nang were cancelled. This leads to a decrease in the number of international visitors to Da Nang. Domestic tourists also dropped sharply due to the complicated development of the epidemic and Vietnam implemented social distancing. Tourism businesses face difficulties, causing many employees of the tourism industry to lose their jobs, even without income, ...

After the Prime Minister began easing social distancing measures, allowing tourism services to resume operations, with the direction of Party Committees at all levels, the Department of Tourism promptly mobilized many resources. and actively coordinate with local departments, agencies and sectors to deploy many solutions to stimulate demand and restore tourism activities in the area such as: strongly implementing communication activities about safe - attractive Da Nang destinations. Guided through news articles, tourism images in the press, major domestic and international TV channels, the highlight is a video clip promoting Da Nang tourism on BBC World News; promoting the title of the top 10 destinations in 2020 voted by Google, introducing check-in points, other perspectives on Da Nang on the online channel with high traffic Youtube, Tiktok, Twitter, Instagram, page Fanpage and city tourism portal… Thanks to that, tourism activities in the city are gradually restored.

At the end of July 2020, the Covid-19 epidemic broke out again, following the social distancing policy of the 2nd Prime Minister, Da Nang city had to suspend activities such as festivals and religious ceremonies. , sports activities, events; operations of non-essential businesses and services; amusement parks, entertainment, beauty facilities, karaoke, massage, bars, discos, video games, theaters, cinemas, stadiums, training grounds,... So, the Da Nang's tourism businesses have not had time to recover from the 1st outbreak, but have to face and suffer the 2nd wave of Covid-19 epidemic, which makes many businesses located in the city already difficult. difficult even more difficult. The tourism stimulus packages were almost frozen due to the sudden increase in the number of tourists canceling the tour.

Entering 2021, the Da Nang city government has been making efforts to recover the tourism industry after the heavy losses caused by the Covid-19 epidemic in 2020 with many new experience tourism products, organizing many tourism events, and many more. exciting activities and events. Along with that, many large units and businesses in the area such as: Ba Na Hills tourist area also organize the program of the magical winter festival, the program to welcome the new year "New Year's Eve Party" with many activities. experience high-class, novel and attractive cuisine to serve tourists; Art performance program Co Tu Dance "Tung Tung Da Da" is free for visitors of Nui Than Tai Hot Springs Park Tourist Area. However, due to the general context of the whole country, the Covid-19 pandemic broke out again in many provinces and cities across the country, the number of tourists to Vietnam in general and Da Nang city in particular did not achieve the expected results.

According to the report of Da Nang city, in 2020, tourists to Da Nang decreased sharply, the total number of visitors served by accommodation establishments was estimated at 2.67 million, down more than 64% compared to 2019, of which tourists international arrivals is estimated at 703 thousand arrivals, equal to only 24.5% of 2019. Visitors served by travel agencies are also at a record low, especially foreign tours have decreased deeply, Da Nang tourists traveling abroad also For example, international visitors to Da Nang only focus on the first 3 months of the year. Due to travel restrictions, the average number of days of stay of tourists increased higher than in previous years, estimated at 2.47 days/time, of which international visitors are 2.33 days/time and domestic tourists are 2. ,54 days/time (In 2019, this indicator is 2.12, 2.13 and 2.10 days/time, respectively) [3, p. 6-7]. Notably, in the first 3 months of 2021, tourism activities continued to be affected by the COVID-19 epidemic. The number of visitors to accommodation establishments serving the first quarter was estimated at only 610.6 thousand arrivals, down 52.5% over the same period in 2020, of which international visitors were estimated at 48.6 thousand arrivals, down 91. 7% and domestic visitors estimated at 562 thousand arrivals, down 19.3% [4, p. 11].

4. Discussion and Conclusion

The Covid-19 pandemic has caused heavy damage to the tourism economy of the country in general and Da Nang city in particular. In 2020 and early 2021, the number of visitors to Da Nang decreased sharply compared to the same period last year. Along with that, revenue from accommodation, food and travel services also did not reach the plan. Units and businesses operating in the tourism sector were the hardest hit, leading to a halt in other fields.

However, Da Nang city is considered as a place with many potentials and advantages for tourism development. The strategic goal of Da Nang tourism development to 2030 with a vision to 2045 is to build and develop a world-class Da Nang tourism brand, connecting with tourist routes in the region and the region above. biodiversity conservation facilities, promoting the city's natural, cultural and historical heritage values. At the same time, promote the potential and advantages of the sea in tourism and service development; effectively exploiting the potential of sea tourism, creating unique and highly specific marine tourism products and building Da Nang tourism brand to reach the international level [5, p.5]. Therefore, in the near future for Da Nang tourism to recover and develop in the context of the complicated development of the Covid - 19 pandemic, in my opinion, it is necessary to focus on implementing some of the following solutions:

Firstly, in the face of the complicated situation of the Covid-19 pandemic, Da Nang city, on the one hand, need to update and promptly implement the Government's instructions on the prevention of COVID-19 epidemic. 19 to business tourism and people; strengthen the inspection and prevention of epidemics at enterprises and tourist establishments; promote epidemic prevention and control propaganda and well implement the 5K message of the Ministry of Health, on the other hand, must proactively come up with synchronous and powerful solutions to recover and develop post-Covid-19 tourism, such as: Tax exemption and reduction for businesses in the tourism industry or organizing many activities to stimulate demand, build new attractions to attract tourists or promote communication and promotion of Da Nang destinations. Along with that, Da Nang city needs to have a plan to improve the quality of tourism business activities, develop tourism human resources by continuously organizing training classes, fostering skills and professionalism.

Secondly, tourism businesses need to have a plan to adjust their operations, study market needs to have suitable quality tourism products; strengthen alignment to increase resistance and grow strong; linking with airlines, transportation, hotels, restaurants... to build tourism stimulus packages, helping tourism recover quickly after Covid - 19. Coordinate with functional units of Da Nang city step up promotion, publicity and development of new tourism products to attract international tourists, especially tourists from regions not affected by the Covid-19 pandemic.

Third, travel businesses, hotels, restaurants and Da Nang people when participating in tourism activities should pay attention to strengthening safety measures to prevent and control the Covid-19 epidemic according to regulations. government to both ensure the safety of passengers and at the same time protect their own safety.

5. References

1. Cucthongke.danang.gov.vn, accessed at 11:17 a.m., May 15, 2021.

2. Communist Party of Vietnam (1996), History of the Party Committee of Da Nang city, volume 1 (1925 - 1954), Publishing House. Danang.

3. Da Nang City General Statistics Office (December 29, 2020), Press release on the socio-economic situation of Da Nang city 2020.

4. Da Nang General Statistics Office (March 3, 2021), Press release on the socio-economic situation of Da Nang city in the first quarter of 2021.

5. Da Nang City People's Committee (February 28, 2020), Action plan implementation plan No. 28-Ctr/TU dated February 18, 2019 of the City Party Committee on sustainable development of marine economy in the city Da Nang City to 2030, with vision to 2045.

6. Da Nang City People's Committee (2020), Notes on adjusting the general planning of Da Nang city in 2030, with a vision to 2045.

CHALLENGES FOR THE CHINESE ECONOMY AFTER THE COVID-19 PANDEMIC

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Abstract

The covid 19 pandemic has had a strong impact on the global economy, including China. The covid -19 pandemic has plunged the Chinese economy into negative growth after nearly 40 years of continuous growth. Although the Chinese government has adopted many economic policies, this country still faces many challenges. This article analyzes and outlines domestic and foreign challenges facing China after the pandemic: the workforce hasn't adequately recovered due to several factors; debt pressure; domestic demand decreased; the resurgence of the pandemic; the shortage of export orders.

Keyword: *Covid-19, China, challenge, economy.*

1. Introduction

January 20th 2020, Beijing confirmed to be dealing with a new strain of coronavirus, in 3 months, the sudden shock from the pandemic Covid-19 reduced 7 points % of the growth of China. The first quarter 2020's GDP reduced by 6.8% compared to the same period's figure of 2019[107] . China's economy has officially experienced negative growth since 1992. Due to the rapid spread of the disease, China has to enact massive lockdown and nation-wide quarantine. Factories in the world's largest manufacturer have continuously been shut down. All economic activities ceased.

Only after announcing the lockdown lift of Wuhan, where the first case of Covid-19 was reported, at the start of April 2020, has China started to revive its economy. However, China's economy still has to face numerous challenges aside from the risk of a second outbreak.

2. Methods

This paper uses an overall and comprehensive approach to collect and summarize the recent studies and reports which are related to this topic. All the data and figures are obtained based on the secondary data provided by some public organizations like Vietnam News Agency; General Statistics Office of Vietnam; The Ministry of Labour - Invalids and Social Affairs, etc.

[107] http://thoibaotaichinhvietnam.vn/pages/quoc-te/2020-04-17/trung-quoc-gdp-giam-68--lan-dau-tang-truong-am-tu-khi-thong- ke-85524.aspx

3. Results

Internal challenge

Although China announced, as of mid-March 2020, more than 90% of businesses with annual revenue larger than 20 million CNY have reopened, except for the province of Hubei (province of China) – the center of the Covid-19 pandemic in China. Meanwhile, the central and local governments in this second-largest economy have announced multiple credit incentives to support businesses restart production. At the same time, China's economy still faces these challenges:

First, the workforce hasn't adequately recovered due to several factors.

According to official data, more than 50 million migrant workers haven't been able to work. Some are still in quarantine. Others are unable to travel from rural areas – where transport services have ceased, or be deemed redundant by the original employers due to the lack of demand from customers and partners alike. Local governments are also under pressure from the effort to contain the spread of the pandemic, which makes them ever so nervous and cautious in allowing people to go back to work. Gaode, a traffic surveillance and online mapping service, estimated on Wednesday 11 of March, only about half the working population in coastal cities went back to work. Office workers are still working from home[108].

Alongside that, owners of big businesses, especially factories which export goods with low-profit margin also fear that if one worker is reported with the disease, the local government will force them to pay for 2 weeks of quarantine expenses for dozens or hundreds of workers. Therefore, requiring workers back to work is still limited.

Second, debt pressure.

China's banking system will face immense pressure from the Covid-19 pandemic. Bad debt will spike if banks are to lend out massive amounts of money to rescue the economy. Household and corporate debt of China has inflated after a decade of growth, mainly the result of financial leverage.

According to the South China Morning Post, analysts warned if the government requested banks to lend out money to industries devastated by coronavirus, bad debt will skyrocket, threatening both the banking system and the economy.

Before the outbreak of coronavirus, China's financial system was already in shambles. According to the Institute of International Finance (IIF), until the The first quarter 2019, gross debt of businesses, households, and government soared to over 303% of GDP figure, equivalent to 40,000 billion USD[109].

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108 https://zingnews.vn/trung-quoc-noi-lai-san-xuat-doanh-nghiep-gian-lan-de-nhan-tro-cap-post1059213.html

109 https://bizlive.vn/kinh-doanh-quoc-te/bom-no-trung-quoc-40000-ty-usd-va-cac-bong-ma-de-doa-kinh-te-the-gioi-3523166.html

The disease will probably negatively affect businesses and local governments more than it would households. Therefore, Chinese government will be more lenient concerning the debts of local governments. The government will allow localities to borrow more at lower interest rates. As a result, the debt volume will increase in the coming years.

By the end of the Q4/2019, the bad debt balance at commercial banks increased to 2,410 billion yuan (344.2 billion USD), 46.3 billion yuan (6.6 billion USD) higher than the previous quarter, according to the statistics of the China Insurance and Banking Administration. The bad debt ratio at commercial banks is 1.86%, equivalent to the third quarter of 2019[110].

The People's Bank of China has said it will "back up” bad debts affected by the coronavirus. However, coronavirus remains to be a difficult test for the Chinese banking system. In 2019, the Chinese government had to intervene in the operations of three local banks, raising questions about the stability of the banking system in the country of 1.4 billion people. Baoshan Bank was subsequently acquired by the central government, while Jinzhou and Hengfeng Bank are, until now, partly guaranteed by the state and private investors.

Credit rating firm Standard & Poor (S&P) estimates that the NPL ratio in Chinese banks could rise to 6% if the COVID-19 pandemic continues[111]. Up to now, the People's Bank of China has pumped billions of dollars into the financial system to promote lending and reduce the cost of loans. The impact of the Covid -19, will put Chinese companies at risk of default in 2020.

Third, domestic demand decreased.

The increase of domestic demand is expected for Chinese businesses to be able to overcome the pandemic. However, the risk is, many businesses went bankrupt after two months of paralysis, causing the unemployment rate to increase from 5.2 to 6.2%, equivalent to 5 million people losing their jobs[112], not to mention migrant workers who have not returned yet and workers who do not have formal contracts. This has made the domestic demand less bright.

Gavekal Dragonomics consultancy organization, based in Beijing estimates, Covid - 19 will cause losses of about 115 billion cubic wages for migrant workers and the damage is permanent, because workers can not get back the 3 months they lost even if they work harder . This situation caused domestic demand to continue to decline, in the context of the retail industry's revenue decline of 20.5% in the first 2 months of 2020[113].

Although the supply problem can be solved relatively quickly, the recovery of demand is the problem. Even people with no income loss tend to respond by limiting

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110 https://zingnews.vn/tq-truoc-nguy-co-tang-truong-lao-doc-no-xau-phinh-to-vi-virus-corona-post1049595.html

111 https://vietnambiz.vn/ti-le-no-xau-cua-cac-ngan-hang-trung-quoc-co-the-vuot-nguong-6-neu-dich-corona-tiep-dien-20200206103408264.htm

112 http://www.pvn.vn/Pages/detail.aspx?NewsID=8b66d76e-b9f6-4561-8609-aa204c3fe2c7

113 https://tintucnhanhvn.com/trung-quoc-doi-mat-cu-soc-kinh-te-thu-hai-vi-ncov/

spending and increasing savings amid the current pandemic.

According to a survey conduct by *Rong360.com, a* financial *firm,* 64.4% of participants will cut back spending after the pandemic ends and 31.4% of whom confirm that they have no plan to increase spending when the situation is better[114].

Fourth, the resurgence of the pandemic

The reopening of the economy could put China facing the risk of a second outbreak. There are 2 main reasons that lead to this situation, one is China "imports" viruses from abroad; second is the possibility that pathogens have not yet been completely suppressed in communities. Chinese experts warn that the pressure of an economic recovery in fear of a pandemic outbreak will create a distorted economic picture in China.

The fact is that resuming factories in China is not easy. The Covid -19 pandemic is still spreading all over the world, so China could face the risk of a "second wave of infection" when many Chinese return home from abroad.

Besides, China has yet to completely quell the pandemic. Therefore, the risk of a second outbreak of disease is still lurking in China. The Chinese government recognizes that the continuation of economic activities has many risks. Covid-19 is still spreading around the globe, every day, China has dozens of new "imported" cases (Chinese people who get sick from abroad return home). Hong Kong also saw a surge in new "imported" infections. The fact that some businesses open their doors to workers too early makes it difficult for the anti-pandemic campaign. A large titanium factory opened in February and was immediately closed because many workers were infected with the virus.

The Chinese economy rescue plan is based on a series of policies and campaigns to encourage workers to return to work, improve domestic and foreign business confidence and save companies that are slipping to the brink of bankruptcy. However, some local governments and businesses worry that they will be severely punished by the government if the disease spreads. They, therefore, have chosen to delay the continuation of production.

External challenges

First, the shortage of export orders:

After more than 2 months, all economic activities, production has mostly stalled, many Chinese businesses are preparing to face the second economic shock of the Covid - 19 pandemic, which originated from outside the country. This time it was not due to the lack of raw materials for production, but the sharp decline in demand for goods from international buyers. In the context of several countries with rapid outbreaks, global financial markets plummeting, consumers and businesses since the uncertainty the future holds, leading to a halt of global demand for Chinese goods.

[114] https://kinhdoanhvaphattrien.vn/hau-dich-covid-19-cu-soc-kinh-te-thu-hai-doi-voi-bac-kinh-co-hinh-thu-the-nao.html

So far, China has partially recovered its supply chain after more than 2 months of lockdown, but now the Covid -19 pandemic has exploded globally, Europe, America, and Africa, all experienced a medical crisis. The impact of the Covid -19 pandemic on the global economy has caused the world demand to drop significantly. This has a direct impact on the export of China.

The state of the shutdown to prevent the spread of the pandemic of many countries in the world has made it difficult for the export segment, which accounts for 20% of China's GDP. China Customs data has just released show that exports of this country decreased by 17.2% in January and February 2020, compared to the same period last year[115]. This is the strongest decline since February 2019. Many Chinese factories are running at nearly full capacity for foreign demand, but goods remain to be undesirable.

Currently, all of China's top four markets, the European Union (EU), the US, Southeast Asia and Japan are facing difficulties due to the COVID-19 pandemic, which limits orders from China. National. Therefore, the government cutting taxes, or subsidies, will not help if companies do not receive orders. The situation will only really improve once the pandemic is under control around the world.

Second, the risk of threatening China's global economic position

To date, the pandemic has infected more than 3 million people and more than 200,000 deaths globally. The world's wave of anger over the Chinese government's treatment of the pandemic is putting pressure on and threatening China's global economic position.

US President Donald Trump on April 27 said he could ask China to pay damages because of Covid -19. Meanwhile, British and German officials also want China to clarify information about COVID-19.

Whether or not China can maintain its position in the global economy or be isolated, will be one of the most important questions for China, after the pandemic is under control. There are many indications that Covid -19 has led the world to be less friendly with China. This affects the international environment that has helped China grow at an impressive rate in recent years.

One of the biggest pressures the Chinese government faces is that the global value chain is rapidly changing, which could affect the job market in China in the short term and undermine its long-term role. The country's term in the global economy.

Covid -19 is an opportunity for the West to reconsider its supply chain and global production chains, restructuring the world trade order, in which China is no longer the *center* of the world trade network.

Three leading economies in the world, the US, Japan and the European Union (EU) recently planned to encourage companies to relocate production out of China. Companies have been changing their supply chains before, due to rising costs and the impact of the US-

[115] http://tapchitaichinh.vn/tai-chinh-quoc-te/kinh-te-trung-quoc-kho-co-kha-nang-phuc-hoi-hinh-chu-v-321632.html

China trade war. However, Covid -19 is causing countries to accelerate the process. Although this is not an immediate threat to China, the pandemic itself can cause serious challenges in the long term.

Besides, Covid-19 also exposes the world's dependence on Chinese goods, especially on necessary medical equipment. The lack of personal protective equipment (PPE) also makes many people regret the lack of production in developed countries.

Three years ago, when the newly elected president of the United States, Mr. Donald Trump had a definitive view of reducing the level of economic dependence on China.

Continental Europe has demanded Beijing to rebalance bilateral economic relations. The Covid -19 pandemic further strengthened that stance. The most recent is Japan: not as brash as US President Donald Trump, but since March 2020, Prime Minister Shinzo Abe has continuously "*encouraged Japanese business people to think about restructuring their investments in foreign countries, the destination could be countries in Southeast Asia ".* South Korean car group Hyundai has a plan to divert investment from China to India[116].

President of China Xi Jinping announced that maintaining a stable supply chain and value chain is one of the six priorities throughout the pandemic, and China should be prepared to deal with external changes. This announcement shows the determination of China in maintaining its position in the global economy.

Efforts to revive the economy

After loosening restrictions across the country, China entered a period of economic recovery facing both domestic and foreign challenges. The Chinese government has made efforts to restart the economy through macroeconomic policies, especially fiscal and monetary policy.

Regarding fiscal policy: The Chinese Government has implemented the following solutions:

First, reduce taxes and lower taxes and fees for businesses. China has launched a series of bailout packages such as tax reduction and the exemption for businesses. In 2019, China reduced taxes and fees by more than 2,300 billion yuan and by 2020, China will continue to reduce its large scale by over 1,000 billion yuan[117]. The reduction is mainly aimed at local businesses.

Second, to expand the budget and increase government spending. The Chinese government continues to promote the role of fiscal policy, by expanding capital investment through the issuance of special bonds of local authorities for large infrastructure projects.

The People's Bank of China (PBOC) has released data showing that the total value of bonds issued in China reached 5,300 billion yuan (about 748.6 billion USD) in

[116] https://bnews.vn/trung-quoc-kho-khan-phuc-hoi-kinh-te-giai-doan-hau-covid-19/155138.html
[117] Vietnam News Agency: "China Economic Prospects", Special Reference, February 24, 2020

March 2020. The value of government bonds reached 370 billion yuan, while the value of bonds issued by local governments was 387.5 billion yuan. By the end of March 2020, the size of China's bond market was 103 trillion yuan. China has stepped up the issuance of municipal bonds this year to support projects aimed to minimize the impact of the Covid - 19 pandemic. As of the end of March 2020, the debit balance of local governments stood at 22,500 billion yuan[118] .

Alongside the increase in the effectiveness of government investments, promoting the activeness of private investment, accelerating the construction of important projects. Concentrate funding on vulnerable businesses, however selectively rather than in discriminatorily.

Third, financial support to rescue the aviation industry. The Chinese government injected billions of dollars into the aviation industry, allowing some state-owned airlines to acquire smaller airlines that have suffered heavy losses as a result of the plunges in the need for transportation services, consider debt waivers and offer more favorable aircraft rental terms. The government provides financial subsidies to airlines, along with assistance packages for international services, waives the responsibility to pay aviation development funds, airport and air traffic control fees for airlines[119].

For monetary policy:

Over the past four months, the People's Bank of China has made efforts to implement a series of stimulus measures to "prop up" the economy, increasing support for businesses and individuals affected by the pandemic. Such measures include:

First, cut interest rates on MLF and LPR loans

The first cuts were made when China was at the focal point of the Covid - 19 pandemic. On February 17, PBOC announced to lower the interest rate by 10 basis points on about 200 billion yuan (28.65 billion USD) worth of 1-year medium-term loans (MLF), or from 3.25. % previously down to 3.15%. Following that, the 1-year basic lending rate (LPR) was lowered from 4.15% to 4.05% / year, the 5-year term rate was set at 4.75%, down from 4.8% / year.

On April 15, PBOC continued to cut the 1-year MLF rate, from 3.15% to 2.95% - the lowest level since this liquidity tool was introduced in September 2014. The PBOC's lowering of the interest rates helped push 100 billion yuan ($ 14.19 billion) into the financial market. As of April 20, PBOC continued to cut 20 basis points of 1-year LPR interest rate to 3.85% / year from 4.05% / year earlier, while LPR for 5-year term has cutting more modestly with 10 basis points from 4.75% / year to 4.65% / year[120] .

[118] http://thoibaotaichinhvietnam.vn/pages/quoc-te/2020-04-27/trung-quoc-phat-hanh-gan-750-ty-usd-trai-phieu-trong-thang-3-85954.aspx

[119] http://www.tapchicongsan.org.vn/web/guest/the-gioi-van-de-su-kien/-/2018/816019/kinh-te-trung-quoc-trong-boi-canh-bung-phat-dai-dich-covid-19.aspx

[120] https://ndh.vn/quoc-te/trung-quoc-tiep-tuc-giam-lai-suat-cho-vay-trung-han-xuong-thap-ky-luc-1266855.html

Second, the injection of over 300 billion yuan through repurchase agreement (Repo)

Monday 17/2, the PBOC also injected 100 billion N pleased yuan (about 14.33 billion US dollars) into the financial system through the agreement to sell and buy back shares (repo) due in 7 days with an interest rate 2,4%. Two weeks earlier, on February 3, PBOC reduced the interest rate by 0.1% on the 7-day and 14-day repurchase contracts, thereby pumping about 170 billion USD into the financial system.

As of March 30, PBOC continued to lower the 7-day reverse repo rate again, from 2.4% to 2.2%, to ease the pressure on the already damaged economy. heavily caused by the Covid-19 pandemic. This is the third time reverse repo interest rate has been cut since November 2019 and the strongest drop in nearly 5 years. Through this tool, PBOC has injected 50 billion yuan (7 billion USD) into the banking system[121].

Third, reduce the required reserve ratio

Since the beginning of 2020, PBOC has cut the required reserve ratio (RRR) 3 times to intervene in the economy. First, on January 6, PBOC lowered the RRR rate for commercial banks by 50 basis points (from 13% for large banks and 11% for smaller lenders applied previously) to reduce lending rates for businesses. This action by PBOC also means pumping into the financial system about 800 billion yuan (115 billion USD).

On March 16, the PBOC proceeded to reduce the RRR rate for eligible banks for the second time. The action will liquidate 550 billion yuan ($ 78.57 billion) from long-term reserves. This cut is aimed at comprehensive financial solutions, and banks that meet certain standards can get a discount of 50-100 bps.

By April 3, PBOC once again reduced the RRR rate for small and medium banks, thereby continuing to clear about 400 billion yuan ($ 56.38 billion) to help support the economy. domestic. Specifically, the PBOC will reduce the RRR rate by 100 basis points in two stages. Accordingly, the first reduction of 50 bps will take effect from April 15 and the next reduction of 50 bps will be effective from May 15. Also, according to the PBOC, interest rates on excess reserves of Chinese banks will decrease from 0.72% to 0.35% and take effect from April 7[122].

Fourth, extending debts: The Chinese banking system has also extended debts worth nearly 3.34 trillion yuan ($ 477 billion) in January 2020, equivalent to total outstanding loans. Chinese bank credit in 2007. Money supply increased by 8.4%, exceeding 202 trillion Yuan, about 28.9 trillion USD (January 2020) - the highest level in history, nearly twice the size of the Chinese economy[123].

Finally, loosen some regulations on bad debt rating standards: China is also taking

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[121] http://thoibaotaichinhvietnam.vn/pages/quoc-te/2020-02-18/trung-quoc-bom-1433-ty-usd-vao-thi-truong-tai-chinh-82660.aspx

[122] https://cafef.vn/nhtw-trung-quoc-da-lam-nhung-gi-de-cuu-nen-kinh-te-khoi-bong-den-covid-19-20200421142938487.chn

[123] http://www.vnba.org.vn/index.php?option=com_k2&view=item&id=13543:ngan-hang-trung-quoc-manh-tay-bom-tien-cuu-kinh-te-trong-dai-dich&Itemid=253&lang=vi

unprecedented measures to avoid bad debts such as extending the due date of loans to companies at risk of late payments and loosening regulations on delinquent debt classification. This measure is expected to help both banks and borrowers “breathing room”. However, it is likely to increase the level of risk for banks in the long term.

The latest S&P Global report estimated that the current pandemic could cause the bad debt ratio of the Chinese banking system to triple to about 6.3%, equivalent to an increase of about 5,600 billion people. bad. S&P Global also said that "suspicious" debts in this country could peak at 11.5% of the total debt after the pandemic ends[124].

All the actions shown above indicate that the Chinese Government is making great efforts to restart the economy. However, analysts said that it may take several months for the economy to be able to return to pre-crisis levels, particularly economic recession worldwide will increasingly put pressure on efforts to revive the economy of China. As conditions for reemployment remain weak and commodity exports are constrained, it is predicted that the PBOC will continue to take more measures to boost the economy.

4. Discussion and Conclusion

Thus, it can be said that the measures taken from the beginning of February have helped to stabilize the Chinese economy. Despite disappointing The first quarter 2020’s GDP statistics, China's economic activity showed signs of recovery in March 2020. For example, growth in industrial production, fixed-asset investment and retail sales has increased and currently at -1.1%, -9.4% and -15.8%, respectively, from -13.5%, -24.5%, and -20.5% low between January and February 2020[125]. In addition, 99% of businesses have resumed work, while 84% of small and midsize businesses have reopened[126].

The continuation of businesses and the return of workers to work in March 2020 has helped to partially reverse the decline in manufacturing activities, investment and consumption spending in the first two months of 2020. Even so, it is still too early to see the March growth data as evidence for China's economic recovery, because a series of uncertainties are still waiting ahead. Meanwhile, fears of a Covid -19 outbreak in China have prompted many economists to predict that China will experience a period of difficult and slow recovery, before the economy is in full swing. can grow strongly again.

According to the International Monetary Fund (IMF), China will maintain its growth rate of 1.2% in 2020[127], while the world will experience a worse recession than the Great Recession of 2008. With this pessimistic outlook, China is unlikely to achieve the ambitious goal that the Chinese regime set out this year, which is double the figure compared to 2010.

In the following period, challenges for the world's second largest economy are yet to

[124] https://saigondautu.com.vn/the-gioi/no-xau-tang-vot-nhieu-ngan-hang-trung-quoc-doi-dien-thach-thuc-sinh-ton-78901.html

[125] https://baoquocte.vn/kinh-te-trung-quoc-se-the-nao-khi-di-truoc-mot-buoc-trong-cuoc-dua-hau-covid-19-114650.html

[126] https://bnews.vn/trien-vong-phuc-hoi-kinh-te-trung-quoc-con-nhieu-bap-benh/154962.html

[127] http://trungtamwto.vn/chuyen-de/15253--imf-cac-nen-kinh-te-lon-giam-nghiem-trong-viet-nam-se-tang-truong-27-nam-2020

be over. The Covid -19 pandemic is accumulating many risks and disadvantages from China's geopolitical environment. A pandemic crisis is unlikely to end in a year or two. The impact of the pandemic will last much longer than the impact of the global financial crisis in 2008. The world trade picture and the global value chain will be impacted hard for many years to come. The geopolitical environment of China will increasingly deteriorate, and would be a great political challenge for China.

5. References

1. http://thoibaotaichinhvietnam.vn/pages/quoc-te/2020-04-17/trung-quoc-gdp-giam-68--lan-dau-tang-truong-am-tu-khi-thong- ke-85524.aspx

2. https://zingnews.vn/trung-quoc-noi-lai-san-xuat-doanh-nghiep-gian-lan-de-nhan-tro-cap-post1059213.html.

3. https://bizlive.vn/kinh-doanh-quoc-te/bom-no-trung-quoc-40000-ty-usd-va-cac-bong-ma-de-doa-kinh-te-the-gioi-3523166.html

4. https://vietnambiz.vn/ti-le-no-xau-cua-cac-ngan-hang-trung-quoc-co-the-vuot-nguong-6-neu-dich-corona-tiep-dien-20200206103408264.htm.

5. http://www.pvn.vn/Pages/detail.aspx?NewsID=8b66d76e-b9f6-4561-8609-aa204c3fe2c7.

6. https://tintucnhanhvn.com/trung-quoc-doi-mat-cu-soc-kinh-te-thu-hai-vi-ncov/

7. https://kinhdoanhvaphattrien.vn/hau-dich-covid-19-cu-soc-kinh-te-thu-hai-doi-voi-bac-kinh-co-hinh-thu-the-nao.html

8. http://tapchitaichinh.vn/tai-chinh-quoc-te/kinh-te-trung-quoc-kho-co-kha-nang-phuc-hoi-hinh-chu-v-321632.html

9. https://bnews.vn/trung-quoc-kho-khan-phuc-hoi-kinh-te-giai-doan-hau-covid-19/155138.html

10. Vietnam News Agency: "China Economic Prospects", Special Reference, February 24, 2020

11. http://www.tapchicongsan.org.vn/web/guest/the-gioi-van-de-su-kien/-/2018/816019/kinh-te-trung-quoc-trong-boi-canh-bung-phat-dai-dich-covid-19.aspx

IMPACT OF COVID-19 ON CHILDLABOUR: INTERNATIONAL CONTEXT AND ISSUES FOR VIET NAM

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Abstract

Child labour is a global issue, taking place mainly in poor and developing countries when socio-economic conditions are limited. There are various causes of this situation and one of them is the consequences of poverty, the level of access and quality of education, the lack of parental care, public awareness and the support efficiency of the social security system ... This situation not only affects the quality of labor resources, hinders the development of many aspects of society, but also a strategic issue, requiring countries to commit to solving when participating in world economic integration. In recent years, countries have shown great efforts to improve the situation, estimating that the number of child labour globally has decreased from 246 million children to 152 million in the 2000s. However, in the current context, with the existing impact from the Covid-19 pandemic, the above achievements are shaken. Covid-19 has devastated the global economy, affecting the livelihoods of many households, especially poor families in least developed countries, and increasing the risk of children becoming child labour. This article explores the impact of Covid-19 on child labour and the challenges of this problem in some countries around the world. From there, this article will discuss and point out strategic issues in the prevention and settlement of child labour from the approach of social policy and social work in Vietnam.

Keywords: *Child labour, Covid-19, Social Policy, Social Work*

1. Introduction

The concept of "child labour" means children participating in labor in accordance with the law and labor activities that hinder or negatively affect the development of their physical, intellectual, personality and comprehensive development. Is a case of child labour considered based on three factors: (1) Does the nature of the work the child participate in have a negative effect on the physical, mental and moral development of the child? (2) Are working conditions heavy, toxic and dangerous? (3) Is the working time suitable for the age prescribed by law?

Between 2008 and 2012, globally, the recruitment of child labour among the ages of 5 to 14 decreased by 2.7% (about 32 million); and the 15-17 year old group decreased by 2% (9 million). This reduction is available in both sexes, but the declining rate for boys is faster than for girls [6]. According to the International Labour Organization (ILO)'s "World

Report on Child Labour (2015)" report, there are 168 million child laborers in the world [9], in which the Sub-Saharan Africa has the highest rate of child labour (with 28% of children aged 5-14), then to the Middle East and North Africa; East Asia and the Pacific (each with a rate of 10%), Latin America and the Caribbean (9%) [28]. Nearly half of all disadvantaged child labour (about 73 million children) are doing jobs that directly endanger their health, safety and mental development. The main areas focusing on child labour were agriculture (70.9%), services (17.1%) and worked in the industry (11.9%) [10]. In some countries such as India, Nepal, China, Philippines, Pakistan etc., the situation of child labour is still quite complicated. In particular, with the strong impact from the Covid-19 pandemic to the world currently, the disadvantaged groups in society including child labour will be directly affected and face many risks. This creates many new challenges for countries and regions in developing and implementing intervention strategies and programs to address child labour in the new context.

Vietnam is one of the countries that still has child labour. With the efforts of the government and the support of international organizations such as the ILO, UNICEF etc. the number of child labour has decreased from 1.75 million (in 2012) accounting for 9.6% of the population of children aged 5-17 to 1.03 million (in 2018) accounting for 5.4% of the population of children aged 5-17 [12,13]. However, in many countries, the impact of covid-19 is placing new difficulties and challenges with the increased risk of child labour in Vietnam's non-official economic sectors, especially among poor families who have lost their livelihoods due to the epidemic. By overview approach to understanding the effects of Covid-19 with the child labour situation in some countries, the article proposes recommendations for developing and implementing solutions in prevention and intervention to address this issue in the new context from the approach to policy and social work activities.

2. Method

Find out how changes in the socio-economic context under the impact of Covid-19 are affecting the lives of young workers to recommend solutions that are appropriate to the new context to intervene to address this issue is the purpose throughout the documents mentioned. There are many different approaches to achieve that goal. As the Covid-19 epidemic spreads, children are vulnerable to neglect due to lower mortality rates, one study has reported a mortality rate of 0.03 per 100000 deaths among children aged 0–9 years [3]. Some child welfare organisations have warned that the various lockdown measures will lead to more cases of child sexual, physical and emotional abuse and neglect [4]. Ugandan Health Ministry figures show that there has been a significant increase in child abuse rates in various forms across Uganda during the blockade due to Covid-19 [23]. The number of calls to the Uganda Children's Help Hotline (UCHL) to ask for help has increased 13-fold since before the Outbreak of Covid-19 [14]. On the other hand, considering the impact of Covid-19 on child labor is placed in the context of the seasonal migration of their parents. The closure of workplaces and the risk of Covid-19 have directly affected the livelihoods of seasonal migrant working families in Nepal. Coupled with the disruption in access to education has increased the risk of children participating in child labour in both groups: children emigrating with their families or children left behind for care relatives in their home country [1]. In addition, considering the impact of previous crises on child labour such as the Ebola epidemic in Africa and the global HIV/AIDS epidemic and the August 2007 global financial crisis also provides corroborating evidence for understanding the assumptions about the possible effects of Covid-19 on child labour in the current context [23]. The increased risk of child labour was also found when considering the impact of Covid-19 on the lives of poor families, the effects that children in poor families face such as nutritional needs are reduced, inability to respond to changes in learning methods when schools are closed, access to social security systems is interrupted etc. found to be one of the main effects of many children being over-engaged [11].

By overview and analysis of the sub-document including academic articles in specialized journals synthesized by the search engine on the website: https://scholar.google.com, https://www.sciencedirect.com with the search keywords "*impact of covid-19, child labour, social work*"; academic articles at the international scientific conferenceon Social Work with Child Labour (ISBN: 978-604-65-3274-3, 2018); press release, project documents etc. posted on the ILO website in the "*Child labour"* directory; ILO, UNICEF, survey and research reports... and relevant agencies and organizations about child labour, this article aims to contribute to highlighting the impacts of the Covid-19 pandemic on the situation of child labor in the world. From there, it raises policy issues and social work activities in preventing and solving this problem in Vietnam.

3. Results

3.1. Covid-19 increases the risk of child labour

Human Rights Watch (HRW, 2020) warns that the global economic downturn caused by the COVID-19 crisis will likely increase child labour and child marriage rates. "Research has found that child labour has a lot to do with the financial shocks that families experience, such as illness, disability or loss of parental employment. Many families don't have the credit or savings to withstand financial failures, including loss of income and without adequate government support, their children may be at higher risk of joining the workforce to help their families survive". De Hoop and Edmonds (2020) emphasizes that: "child labour will be an important coping mechanism for poor households experiencing COVID-related shocks" [5]. According to the International Labour Organization (ILO), global child labour has steadily declined over the past two decades, but the COVID-19 pandemic threatens to reverse this trend. There are up to 60 million people are expected to fall into poverty this year, and that certainly motivates families to send children to work. A joint report by the ILO and the United Nations Children's Fund estimated that as the poverty rate rises by 1%, child labour will increase by at least 0.7% [15,25].

- *The number of child labourers* at increased risk due to parental death or treatment, the reason for COVID-19 can force children to become main workforce that generates income for families, especially in poor families [8].

- *Child labour is at greater risk of abuse and exploitation*: in the effect of the Covid-

19 pandemic, the demand for personal protective equipment (PPE) increases, medical equipment manufacturers put pressure on progress for their factories located in countries such as China, India, Malaysia etc. increases the risk of using child labour in countries considered to be the world's factories because the labor costs of child labour are always much lower than that of adult workers. Meanwhile, regulations on the sale and purchase of these products from suppliers suspected of forced labor were also relaxed due to urgent demands from the market. The situation is similar in agriculture, the agricultural processing industry and the garment industry. An apparel exporter in India explained the pressures on the industry that could lead to an increase in the use of child labor as follows: when work has fallen, contractors can accept orders at a lower cost, and this will require them to use cheaper labor, especially child labour [8]. For agriculture, social distancing causes households to fall into temporary agricultural labor shortages, so they can use their own children as alternative workers. In fact, children in rural areas will have to work more time in fields, plantations ... with the nature of work is also harder, more toxic than usual.

- *The closure of schools increases the risk of child labour and marriage among girls*: It is clear that in addition to the functions of cultural education for children, it also plays a very important role when keeping children at school and reducing the risks of labor and early marriage in children. However, when going to school was disrupted due to Covid-19 along with reducing families' incomes pushing poor families to look for ways to survive, they were forced to let children become low-cost workers or for girls to marry early [8,23]. In India, while the Covid-19 pandemic forced children out of school, many children secretly moved to farms and factories to work, exacerbating the problem of child labour in the country [15,24,27]. The situation is similar in Uganda, with many parents losing their incomes, unable to feed their families and being pushed into extreme poverty, leaving children in these families engaged in dangerous work to support their families. According to the Save the Children survey: 56% of respondents thought there had been an increase in child labour since the start of the lockdown [26]. In many parts of Uganda, children have been seen selling food items, alcohol, firewood on the streets or working in gold mines andgrazing livestock... since the blockade began [14,26]. On the other hand, due to the impact of the epidemic, schools turn to online learning, but not all families are equipped with modern equipment suitable for children's distance learning, this leads to disruptions in access to education or affects the quality of learning and learning. This situation is common in many countries such as India, Nepal, Ghana, Bangladesh etc. [1,8,11].

- *Child labour faces a high risk of infection:* For various reasons such as un-protective working environment, lack of protective equipment or disease prevention etc. make child labour work in service areas, small manufacturing households, especially street child labour at increased risk for Covid-19 infection. In Ghana, many children from low-income families have to make a living raising themselves and even raising their whole family, by working on the streets. More than 90,000 children are reported to be working on Ghana streets and are involved in various jobs such as cleaning glasses, begging or porters [11]. With the harsh economic reality caused by the COVID-19 pandemic, many children have been forced to take to the streets to work, despite the risks of infection from the epidemic. In India, when the epidemic spread quickly and a blockade was issued, while people were asked to go home, around tens of thousands of street child workers had nowhere to go. This puts them at risk of arrest, fines or even imprisonment for violating social control orders [8].

- *Programs and activities to prevent and intervene with child labor are interrupted*: with the requirements set out from the blockade and social distancing to control the spread of the epidemic, the intervention activities to solve this problem of agencies and social organizations are suspended, especially with activities organized based on the community or direct mass media activities [8,11,15,23]. In addition, the impact of Covid-19 has a significant impact on the economic development of countries, putting more pressure on the state budget on social security. In the new context, many countries must rebalance the priority of disbursement for urgent programs in disease prevention such as vaccine purchasing, expense for the health system etc. also significantly affects the allocation of budgets for action programs to address child labour. In Uganda, during the blockade because of the pandemic of social workers on the front lines of the government - those worked with monitoring cases of abuse, violence, and exploitation of children were classified as non-essential workers. On the other hand, when schools are closed, social workers in schools also have their support and supervision work interrupted with children who are at risk of becoming child labour. This fact makes it even more difficult to check, early detection of acts of abuse and exploitation of child labour [23].

3.2. Recommendations for the prevention and settlement of child labour in the context of Covid-19

- Strengthen case management at the facility in monitoring and early detection of cases of child labor through reports of violations from people in the community through support hotlines. Develop a social security information management system to capture information on child protection and the implementation of social security systems for subjects, strengthening the provision of inter-linked social services in different fields (e.g., social protection, child protection, education, health etc.) through a software system managed by the Ministry of Labor, Invalids and Social Affairs.

- Enhance indirect forms of communication through social platforms such as Fanpage, voice message, website, youtube etc. At the same time, to ensure the effective use of social media platforms, the government needs to stop taxes or reduce taxes on telecommunications companies, social media platforms with effective content.

- It is necessary to properly recognize the position, role and importance of social workers in the early supervision, detection and management of cases for child labor at the establishment.

- Focusing on the coordination of stakeholders in the prevention and solving of child labor issues such as: social invalids, police, health, schools, child care protection officers, social workers...

- Develop child-friendly health services by strengthening equipment, improving professional capacity for junior health centers.

- Improve access to water, sanitation and housing services for children, especially girls.

- Provide financial and social support to disadvantaged families with activities such as loans, technical assistance, tax exemption, strengthening support packages for unemployed workers, extending bank loans, encouraging young parents to join peer support groups...

4. Discussions and Conclusions

The impact of Covid-19 has placed many new challenges in terms of the risk of increasing the number and complex and dangerous developments of child labour, which has become the effectiveness of activities and programs to prevent and tackle child labour in many countries around the world. This fact requires governments to take immediate action, further expressing their efforts in the prevention and repelling of the Covid-19 pandemic. At the same time, it is also necessary to continue to effectively implement strategies on the eradicating of child labour in the global supply chain. In order to do so, it is necessary to build, design and implement intervention solutions on child labour in the coming time, requiring flexible integration, in line with new requirements from practice.

In Vietnam, the situation of child labour in the 1980s has improved significantly. With the remaining **1.03** million child labour numbers (2018), which **519,805** have been identified as being in hard work, toxic, dangerous (accounting for 2.7% of the total number of children aged 5-17, accounting for nearly 50.4%of the total child labour) and the common challenges that are pose in the context of the Covid-19 epidemic are creating many difficulties for the government and stakeholders is solving this problem [13]. From the recommendations drawn in addressing child labour in some countries in the context of the Covid-19 epidemic, in near future, the prevention and reduction of child labour in Vietmam should pay attention to some of the following contents:

- *From a policy and legal perspective:* It is necessary to continue researching, formulating, amending and finalizing the relevant legal framework on child labour; to define and give a unified concept of child labor in legal documents, to finalize process, procedures and guidance in the Inspection Law on the organization of child labour inspection and supervision in non-official economic areas; to change and raise the punishment level for cases of violations of child labour; To research and put solutions in to practice for control and trace ability of exported products to avoid the use of child labor in the supply chain; Formulating, finalizing and proceeding to seek opinions to promulgate the Law on Social Work Practice as a legal basis for the professional activities of social workers *in Vietnam.*

- *From the social work activities perspective*: Child protection is one of the top priority areas and tasks of Social Work, especially for disadvantaged children such as child labour. With four basic functions: prevention, therapy, recovery and development, Social Work focuses on two main groups of activities including: (1) Activities of prevention of child labour and (2) Activities of intervention and support for child labour. In the new context, social work activities should also focus on adjustments to the COVID-19 epidemic situation.

+ With activities to prevent child labour: Social work should continue to focus on activities such as communication to raise awareness for children, especially the group of children participating in economic activities - high-risk subjects become child labor with knowledge about children's rights, the provisions of the law on child labour, the consequences of child labour ...; Raise awareness of the families of children and communities about the provisions of law and the responsibilities of families and communities in preventing and abolishing child labor; Inform enterprises and employers about regulations prohibiting the use of child labor in the production supply chain, regulations on child labor in the commitments of free trade agreements (CPTPP, EVFTA). It is necessary to help employers recognize the responsibility of the business in this regard, because no one can replace the business in overseeing the entire production process, subcontractors and its entire supply chain. Estimating the requirements set out from social distancing to control the epidemic, media and forms of communication also need to add and choose new forms based on social platforms such as fanpage, voice messages, website, youtube etc. Combining the broad spectrum goal by mass media with in-depth communication according to the group model, the club with the choice of media content suitable for each group of audiences. Continue to maintain support activities of social work in schools on education and development of life skills for disadvantaged children and children participating in economic activities; Motivate resources to provide, equip minimal techniques, or promote online education through television, radio... to maintain distance learning for children who do not qualify in the event of school closures. Promoting networking activities, supporting the improvement of livelihood conditions for poor families and disadvantaged families with loan support, production technical assistance, tax exemption, strengthening of support packages for unemployed workers, extension of bank loans, emergency subsidies in cash or in-use.

+ With the activities of intervention and support for child labor: Implementing the expansion of statistics, listing and importing data into the child management system at risk of becoming child and child labor who have been child labor in the areas in order to serve the case management; Develop, complete and train leading social workers on emergency intervention procedures for child labour in need; Building monitoring system, providing information, shelter addresses etc. in the community in supporting early detection and intervention with child labour; Promoting the provision of intensive social work services with child labour (medical care; counseling/psychological counseling, alternative care for cases where it is necessary to ensure safety, temporary isolation from risk factors for injury to children; protection, legal assistance to protect the legitimate rights of children before related parties; to provide repatriated support in case of wandering child labor for a living, being herded or trafficked; support community integration for child labour after intervention etc.) in the direction of bringing these services closer to the community, not merely those provided framed at social work centers and social protection centers. In the context of the epidemic, it is necessary to promote the strengths of indirect interventions such as the operation of the child protection hotline (111), providing counseling services, psychological counseling over the phone, carrying out monitoring and case management through capturing information from online platforms etc. In addition, itis necessary to strengthen the development of the social work network in the hospital and focus on coordinating with stakeholders in the process of operation. At the same time, it is necessary to strengthen the activities of training and developing human resources in social work, regularly training and improving professional capacity for social workers at the base of in-depth knowledge and topics on skills and working processes with child labour.

Preventing and addressing child labour in the context of covid-19 is solving many new challenges for governments in many countries including Vietnam. Maintaining and adjusting interventions in accordance with new conditions is a task set for state management agencies to achieve dual objectives while ensuring epidemic prevention and control, socio-economic development and significant control of risks and consequences from the epidemic. In the current context, it should be recognized that: preventing and reducing child labour no longer stops at the issue of child protection, it is also a strategic issue of national economic development in the context of integration, increasing pressure on the health system in the context of the epidemic when the risk of covid-19 infection of child labour increases and is a global social problem that hinders the implementation of progress, fairness and social development. The synchronized and sustainable solutions with the cooperation of many relevant departments, branches and social organizations are considered the most effective strategies to solve this problem in the current context.

5. References

1. Angela Daly, Alyson Hillis, Shubhendra Man Shrestha / Babu Kaji Shrestha (2021): Breaking the child labour cycle through education: issues and impacts of the COVID-19 pandemic on children of in-country seasonal migrant workers in the brick kilns of Nepal, Children's Geographies, DOI: 10.1080/14733285.2021.1891406
2. Batha, E. (2020). 'Coronavirus puts 4 million girls at risk of child marriage.' Thomas Reuters Foundation, May 14, 2020.
3. Bhopal S, Bagaria J, Bhopal R. Children’s mortality from COVID-19 compared with all-deaths and other relevant causes of death: Epide- miological information for decision-making by parents, teachers, clini- cians and policymakers. Public Health 2020; 185: 19–20
4. De Cao Elisabetta, Malte Sandner: The Potential Impact of the COVID-19 on Child Abuse and Neglect: The Role of Childcare and Unemployment. London, UK: VoxEU; 2020. Available from: https:// voxeu.org/article/potential-impact-covid-19-child-abuse-and-neglect
5. De Hoop, J. & Edmonds, E. (2020). 'Why child labour can't be forgotten during COVID-19'. UNICEF, 14 May 2020. https://blogs.unicef.org/evidence-for-action/why-child-labour-cannot-be- forgotten-during-covid-19/
6. Diallo, Y., Etienne, A., & mehran, F. (2013). Global child labour trends 2008-2012. International Labour Organization

7. Duong Thi Thu Huong (2018), *Child Labour and the issue of strategies and models of support for child labour in Viet Nam today,* International Conference Yearinth: Social Work Services for Children and Child Labour who have been trafficking, abuse, Labour - Social Work, 2018. ISBN: 978-604-65-3274-3

8. Idris, I. (2020). *Impact of COVID-19 on child labour in South Asia.* K4D Helpdesk Report 819. Brighton, UK: Institute of Development Studies.

9. ILO (2015), World Report on Child labour: http://www.ilo.org/ipecinfo/product/download.do?type=document&id=26977

10. ILO (2017), Global estimates of Child labour: Results and trends,2012-2016. Alliance.

11. Lorretta Domfeh Owusu and Kwabena Frimpong-Manso (2020), The impact of COVID-19 on children from poor families in Ghana and the role of welfare institutions, Journal ofchildren's services DOI 10.1108/JCS-07-2020-0033 VOL. 15 NO. 4 2020.

12. MoLISA, General Statistics Office, ILO, *2012* National Child Labour Census

13. MoLISA, General Statistics Office, ILO, *2018* National Child Labour Census

14. Muzungu HE. A Matter of Life and Death: A Case of the Uganda Child Helpline. Kampala: UNICEF Uganda; 2020. Available at: https://www. unicef.org/uganda/stories/matter-life-and-death-case-uganda-child- helpline [accessed August 10, 2020].

15. Navpreet Kaur and Roger W Byard (2021), Prevalence and potential consequences of child labour in India and the possible impact of COVID-19 – a contemporary overview, Medicine, Science and the Law

16. Nguyen Dang Doanh (2019), *Strengthening*supervision inspection in the prevention of child laborreduction, Online Social Labor Magazine, October 15, 2019.

17. Nguyen Hai Huu (2018), Overview of the situation and policies for children and child labour who have been *traded,*abused, the International Conference Yearbook: Social Work Services with children and child labour who have beentraded, abused, labor and social workers, 2018. ISBN: 978-604-65-3274-3

18. Nguyen Kim Loan (2018), Early Labour Children's Issue and Social WorkApproach, International Workshop Yearinth: Social Work Services for Child and Child Labour, Trafficking, Labour – Social Work, 2018. ISBN: 978-604-65-3274-3

19. Nguyen Thi Thai Lan - Ma Dieu Linh (2018), Overview *of social work services with early working children and trafficking;* International Conference Year: Social Work Services for Child and Child Labour, Trafficking, Labour and Social Work, 2018. ISBN: 978-604-65-3274-3

20. Nguyen Thu Ha and his associates (2018), Children working in Viet Nam: Portraits and proposals of social workactivities, International Workshop Yearinth: Social work services for children and child labour who have been trafficking, abuse, labour and social workers, 2018. ISBN: 978-604-65-3274-3

21. Participatory Development Associates (2020), "The state of child protection in Ghana", available at: www. pdaghana.com/index.php/pda-reportsz/item/62-the-state-of-child-protection-in-ghana.html (accessed September 20, 2020)

22. Praxis (2020). 'COVID19 Pandemic Voices from Margins. Webinar 14: Vulnerabilities of Child Labour'. Praxis, 22 May 2020

23. Quraish Sserwanja, Joseph Kawuki and Jean H Kim (2021), Increased child abuse in Uganda amidst COVID-19 pandemic, Journal of Paediatrics and Child Health 57 (2021) 188–191 © 2020 Paediatrics and Child Health Division (The Royal Australasian College of Physicians)

24. Salaria S. Child labour cases rise during lockdown in India. Times of India, https://timesofindia.indiatimes. com/city/noida/child-labour-cases-rise-during-lockdown-in-noida/articleshow/76916365.cms (accessed 24 August 2020).

25. Sarkar K. India faces losing generation as Covid-19 pushes Children to Work. Hindustan Times, https://www.hindus tantimes.com/india-news/india-faces-lost-generation-as-covid-19-pushes-children-to-work/story-hIbEkV1pEh QAmkWwR9S8rO.html (accessed August 24, 2020).

26. Save the Children International; Child Fund; Plan International; SOS Children's Villages; Terre des Hommes; World Vision. Keeping Chil- dren Safe in Uganda's COVID-19 Response. 2020. Available from: https://resourcecentre.savethechildren.net/node/17615/pdf/Joining% 20Forces%20-%20Protecting%20children%20during%20Covid-19%20in% 20Uganda.pdf [accessed 10 August 2020].

27. Sunil S. India faces losing generation as COVID pushes children out of school and into jobs. The Print, https:// theprint.in/india/india-faces-lost-generation-as-covid-pushes-children-out-of-school-and-into-jobs/478424/ (accessed 24 August 2020).

28. UNICEF: https://data.unicef.org/topic/child-protection/child-labour/#

29. Viet Nam Children's Law (2016)

30. Viet Nam Labour Law (2019)

31. Xuan Anh (2020), Responding to the risk of increasing *child labour due to Covid-19*, People's Daily, June 12, 2020.

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