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THE DETERMINANTS OF FIRM'S DECISIONS TO PRODUCE GREEN PRODUCTS IN DONG NAI PROVINCE

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ARTICLE INFO	ABSTRACT
<p>DOI: 10.52932/jfm.vi72.302</p> <p><i>Received:</i> June 23, 2022</p> <p><i>Accepted:</i> August 05, 2022</p> <p><i>Published:</i> December 25, 2022</p> <p>Keywords: Green product; Firm behavior; Logit regression; PSM method.</p>	<p>This study analyzes the determinants of firm's decisions to produce green products in Dong Nai province. We survey 300 firms which are currently doing business in Dong Nai in 2019. A combination of the propensity score matching (PSM) method and the logit regression addresses the problem of heterogeneity between observations in the empirical model. The result implies that a firm that (i) has assigned a leader to take responsibility for green growth; (ii) has an investment in emission treatment equipment; (iii) has procedure guidance for energy saving; and (iv) has an improvement in energy efficiency will have a higher probability to produce at least a green product. Moreover, a penalty for breaching environmental legislation does not encourage firms to produce green products. Several policy implications have emerged on the ground of our empirical findings. First, we propose cooperation and connection between domestic firms and foreign enterprises to inspire the production of green goods and services. Second, some preferential treatments for firms that assign a manager for green development can encourage green production in Dong Nai province. Finally, Dong Nai province shall consider policies supporting firms to mobilize capital to develop technology for green production.</p>

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1. Introduction

In the context of increasing climate change and resource depletion, green growth can be seen as an inevitable development model for countries in the future. The Organization for Economic Cooperation and Development (OECD) defines green growth as stimulating economic growth and development while ensuring that natural assets continue to provide environmental services and resources that are essential to human lives. For this to happen, green growth must be a catalyst for investment and innovation, and a basis for sustainable growth and the creation of new economic opportunities. In addition, World Bank considers green growth as a growth model that ensures efficient, clean use of resources with minimal pollution and environmental impacts.

In Vietnam, the Green Growth Program is implemented through the National Green Growth Strategy 2021-2030, with a vision to 2050 (according to Decision No. 1658/QĐ-TTg October 1, 2021, Prime Minister Government). Dong Nai is a central province of the southern key economic region of Vietnam, it is one of the six leading provinces/cities in the country in terms of economic development over the years with a growth rate of Gross regional domestic

product (GRDP) higher than the national average and is one of the “leaders” of the southern key economic region (Dinh, 2021). Dong Nai province has many comparative advantages in terms of nature and society, with great human resources, and a developed infrastructure system. According to Dong Nai Department of Planning and Investment (2021), Dong Nai is the first province to develop industrial zones and is one of the leading provinces/cities in industrial development in Vietnam. It is recorded as the province with the most industrial zones in the country, including major corporations in the world such as Bosch, Schaeffler, Fujitsu, Changshin, Kenda, Cargill, Ajinomoto and Meggitt (Dinh, 2021).

In the period 2015-2018, industrial production in Dong Nai continued to increase (Figure 1). Industrial production index of the whole industry increased by an average of 8.11% (7.7% in 2015; 7.5% in 2016; 8.6% in 2017; 8.7% in 2018). The industrial growth rate is increasing rapidly, the reason is that the province concentrates on promoting mechanisms and policies that focus on industrial development and effective network industrial parks. At the same time, the number of companies in the province is growing at a very high rate.

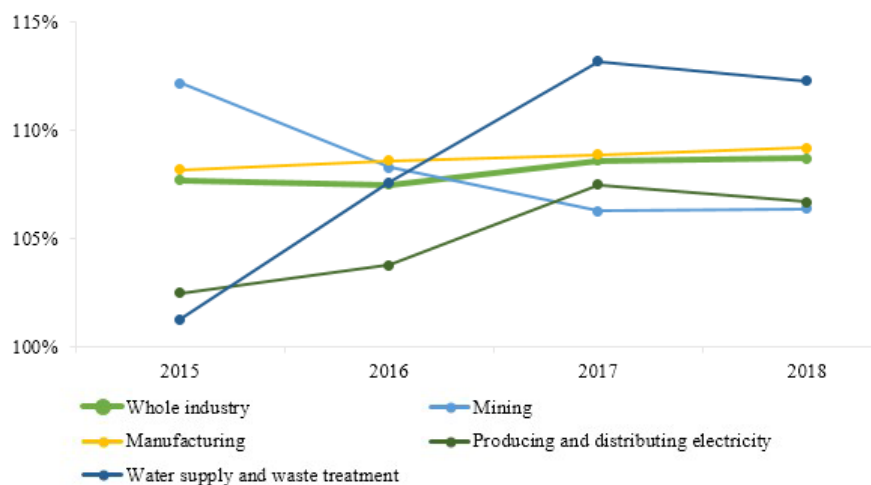


Figure 1. Industrial production index for the period 2016-2018 in Dong Nai province

However, along with the development of industrial parks is the problem of environmental pollution with a large amount of industrial solid waste from industrial and export processing zones in the province. As a result, the quality of the environment is seriously degraded, most of the major rivers in the area are polluted, which negatively affects the quality of life of people in the area. Dong Nai province is one of the regions that actively catch up and quickly deploy solutions to connect and mobilize resources to implement the green growth strategy with the whole country (Giang, 2022). Therefore, we need to study more deeply about the factors affecting the decision to produce green products of enterprises in Dong Nai province, in order to propose appropriate solutions and policies to encourage green products and promote businesses to operate in the “green” direction. Thus, this research topic will focus on clarifying the factors affecting the decision to produce green products of enterprises in Dong Nai province.

2. Literature review

Green production can be considered as a process of technical innovation (Lin & Ho, 2011). Innovation includes any operational change to a business, including equipment, products, processes, policies, and projects (Damanpour, 1991; Kimberly & Evanisko, 1981). Several researchers have proposed a number of factors that influence the innovation of green manufacturing, including factors that come from inside and outside the enterprise.

2.1. Internal factors

Availability of resources

Green production is considered as costly and time-consuming activities that require additional resources (capital equipment, individual employees skills, finance). If companies reduce their environmental impact, they may incur additional production costs. Therefore, more resources are needed for businesses to respond to the pressures of adopting green

practice standards (Sarkis et al., 2010). As the number of actual or potential resources increases, the likelihood of green production being implemented increases (Álvarez-Gil et al., 2007; Tang et al., 2015). The lack of resources is expected to prevent companies from making the necessary investments to implement green activities (Branzei et al., 2004).

The ability to change (or organizational inertia)

Sociologists have used the concept of inertia in physics to describe the difficulty of changing organizational structures when businesses are faced with the pressures or opportunities of green production behavior (Huang, 2013). The stronger the force of inertia, the slower organizations change in the face of environmental changes (Huang et al., 2013). Adopting green activities (such as ISO 14000) may require changes to existing technology, processes or practices (Dowell & Muthulingam, 2017; Perron et al., 2006). Organizational inertia is the main obstacle preventing a firm response to environmental change (Huang et al., 2013). Inertia prevents an organization from making the necessary internal changes to adapt to the rapidly changing environment (Huang et al., 2013).

Business leaders in company

It is generally agreed that senior leadership in the business influences employee behavior, thereby promoting product and process related initiatives. Management can influence the success of new company initiatives by promoting employee engagement and empowerment (Daily & Bishop, 2003), as well as by establishing systems for rewards and incentives to guide employee behavior (Pun et al., 2001). Dai et al (2014) argue that leadership’s commitment to environmental initiatives directly shapes employees’ beliefs, goals and actions. Leadership is responsible for changing the norms, values and culture in the organization, thereby guiding the behavior of each employee (Liang et al., 2007).

2.2. External factors

The government

Many studies have shown that the government plays an important role in orienting enterprises toward green production (El-Baz & Laguir, 2017; Ye et al., 2013; Zhu & Sarkis, 2007). Institutional theory suggests that there are two main types of mechanisms that influence the behavior of organizations: imposition and incentive (Scott, 1987). In view of this, two types of government policy can be distinguished: (i) command/control policy, and (ii) incentive policy. Command/control policy refers to a mandatory compliance approach that forces companies to make similar shares of the pollution control burden, regardless of cost (Jaffe et al., 2002). Incentive policy refers to market-based approaches that encourage businesses to undertake pollution control efforts for their own benefit and to collectively meet policy objectives (Jaffe et al., 2002).

Customer pressure

Customer pressure is another institutional force that compels or encourages companies to adopt environmentally friendly practices (Hanim et al., 2012). In today's highly competitive global marketplace, simply competing on price and quality is no longer enough. The environmental demands of buyers are arguably one of the most important factors driving companies towards environmentally friendly products. Lewis and Harvey (2001) argue that customers (including end users and downstream supply chain partners) with strong environmental awareness have developed preferences for green products across society. Developing a more environmentally friendly product helps to create new markets and increase or maintain market share. Numerous studies have confirmed that customer demand for green products is the main driver behind corporate green initiatives (Alvarez-Gil et al., 2007; Zhu & Sarkis, 2007). With increasing green demand from customers, delivery of green products is becoming a standard when ordering (Ye et al., 2013).

3. Methodology and Data

3.1. Research data

The study examines the factors affecting the decision to produce green development-oriented products of enterprises in Dong Nai through a direct survey of enterprises in Dong Nai province in 2019. The survey was built on the basis of the "Information collection form" in the Enterprise Survey of the Vietnamese General Statistics Office. Specifically, the questionnaire is divided into seven parts: (i) General information, (ii) Enterprise overview, (iii) Enterprise's perception of participating in the green manufacturing industry, (iv) Actions of enterprises towards green development in industry, (v) Green innovation activities of enterprises, (vi) Efficient energy consumption, and (vii) green transformation in product mix.

Results from the group of questions on "Transformation of product structure towards green products" are used to determine whether enterprises decide to produce green products or not. Based on the research question of the article and the collected data, we propose to use the dummy variable about whether the company produces at least one green product as a proxy for the green production of the company.

Thornton et al. (2005) suggests that companies that have been fined or that understand the administrative penalties for violating environmental regulations tend to implement better environmental protection measures. Besides, ISO 14,000 certification on environmental management is also a proof that enterprises are well implementing environmental standards in production activities. In addition, companies that assign responsibility to leaders to be in charge of green production also show a serious orientation towards green production development. Therefore, these three factors are used as explanatory variables for the likelihood that the firm will choose to produce at least one green product.

The size of the company is considered as a decisive factor to the company's activities in

each period (Lin & Ho, 2010; and Zhang et al., 2020). Therefore, company size at establishment and company size in 2019 are included in the research model. Company size is formed on the basis of three factors (i) total capital; (ii) total assets; and (iii) total number of employees. Each factor is rated on an ascending scale from 1 to 8. In addition, the number of years of operation of the company also shows the company's experience in its field of production. Production experience is also considered to be one of the factors influencing a firm's decision to adjust production (Ge et al., 2020; and Yasuda, 2005). Therefore, the number of years of operation of the company is included in the model.

The variables of company size, operational policy, technological innovation, efficient energy regulation, and energy saving policy are the variables built on the basis of multiple binary questions ("Yes or no"). In order to avoid multicollinearity and heteroscedasticity caused by including too many variables in the model, we propose to use principal component

analysis (PCA) to convert groups of questions on the same topic into one specified variable.

Table 1 presents the statistical results of the surveyed companies on the trend of producing green products in 2019 in Dong Nai. In general, 24.8% of the companies have been producing at least one green product, 35.1% of the companies have assigned a leader responsible for developing green production. All of companies have more than 10 years of experience in the manufacturing sector on average. In addition, 54.9% of businesses have invested in equipment to handle emissions during the production process, 29.4% of the companies achieved ISO 14,000 certification on environmental management, 57.5% of the companies have set regulations and standards on energy saving and efficiency. Only 7.1% of the companies were administratively sanctioned for violating regulations on emissions into the environment. The numbers show positive news when businesses have been interested in developing green production.

Table 1. Descriptive statistics of the variables used in the study

Variables	N	Mean	Min	Max
There are few green products	236	0,248	0	1
Assigning responsibility to leaders to be in charge of green production	236	0,351	0	1
Being administratively sanctioned for violating environmental regulations	236	0,071	0	1
Years of operation	236	13,068	0	51
Size of company at establishment	236	0	-2,124	2,693
Size of company in 2019	236	0	-4,47	2,174
Having invested in emission treatment equipment	236	0,549	0	1
Having ISO 14,000 certification on environmental management	236	0,294	0	1
Having green operation polices	236	0	-4,282	1,237
Having green technology innovation	236	0	-1,468	1,454
Having regulations about energy efficiency	236	0,575	0	1
Having policies about energy saving	236	0	-0,19	4,139
Degree of energy efficiency	236	0	-1,13	1,77

According to the survey results of 300 operating companies in Dong Nai in 2019, about 58% of companies are interested in and

arrange costs for environmental protection; More than 50% of companies have invested in environmental protection equipments, waste

treatment construction and arranged recurrent expenditures for environmental protection. At the same time, the survey also recorded that

about 25% of enterprises have at least 1 green product.

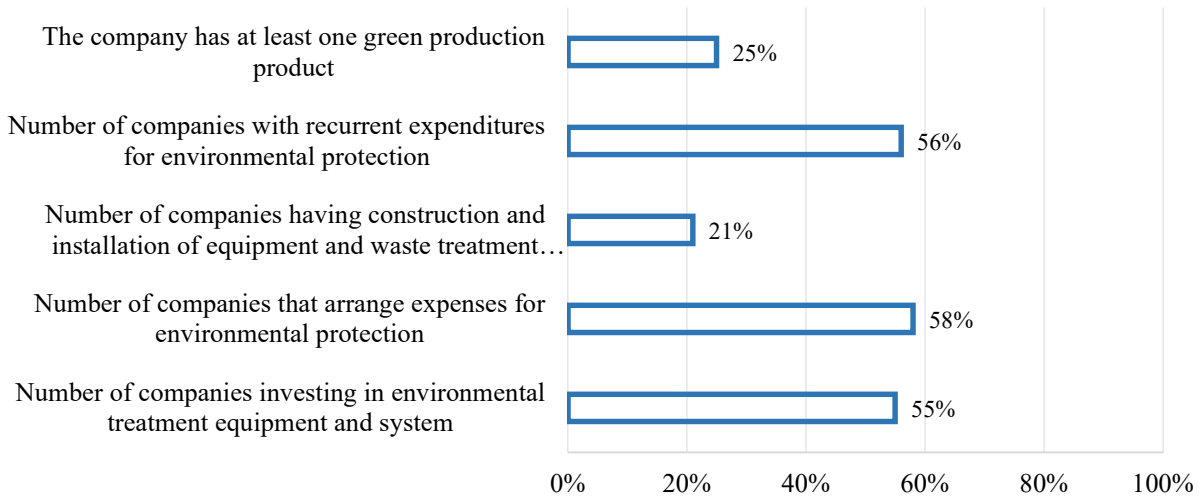


Figure 2. The awareness level of companies in Dong Nai regarding green development

3.2. Empirical research model

The dependent variable is the variable that indicates whether the firm produces at least one green product or not. The main variable of the model is a binary variable and the distribution of the two options is that 24.8% of the companies produce at least one green product and the remaining 75.2% of companies do not produce any green products. Therefore, logit and probit regression models are two appropriate regression methods in this case. Both methods are quite similar when the dependent variable is a binary variable. Therefore, we propose to use the logit regression model as the main regression method in this study. The logit regression method is presented as follows:

$$I_i^* = \beta X_i + u_i \tag{1}$$

Assuming that:

$$Y_i = 1 \text{ if } I_i^* \geq m$$

$$Y_i = 0 \text{ if } I_i^* < m$$

Then, the probability that $Y_i = 1$ is calculated as follows:

$$P(Y_i = 1) = P(I_i^* \geq m) = P(\beta X_i + u_i \geq m)$$

$$= P(u_i \geq m - \beta X_i)$$

If the above probability is symmetric, then:

$$P_i = P(Y_i = 1) = P(u_i \leq \beta X_i - m)$$

The logit model assumes that the error term u_i follows a standard logistic distribution. Thus, the probability that $Y_i = 1$ is as follows:

$$P(u_i \leq \beta X_i - m) = P_i = \frac{1}{1 + e^{-Z_i}}$$

In which:

$$Z_i = \beta X_i - m; \text{ with } -\infty < Z_i, \text{ then } 0 < P_i < 1$$

The probability that $Y_i = 0$ will be the complement of $Y_i = 1$, and is calculated as follows:

$$P(Y_i = 0) = 1 - P_i = 1 - \frac{1}{1 + e^{-Z_i}}$$

The ratio between $Y_i = 1$ and $Y_i = 0$ is as below:

$$\frac{P_i}{1 - P_i} = \frac{1 + e^{Z_i}}{1 + e^{-Z_i}} = e^{Z_i} \tag{2}$$

Taking the logarithm of both side of the equation (2) we have the following general logit model:

$$L_i = \ln\left(\frac{P_i}{1 - P_i}\right) = \beta X_i - m = f(X_i) \quad (3)$$

Empirical model applying logit regression from equation (3) has the form as below:

$$P(Y = 1) = f(X_j) \quad (4)$$

Where Y is the dependent variable with a value equal to 1 if the firm produces at least one green product and 0 otherwise.

The variables X_j in equation (4) include: (i) Being administratively sanctioned for violating environmental regulations; (ii) There is investment in environmental treatment equipment; (iii) Having the ISO 14,000 certification on environmental management; (iv) Size of the company at the time of establishment; (v) Company size in 2019; (vi) Number of years the enterprise has been in operation; (vii) Green operation policy; (viii) Green technological innovation; (ix) There are regulations on efficient use of energy; (x) Having policies on economical use of energy; (xi) Efficiency of energy use; and (xii) The company has assigned responsibility to business leaders in charge of green development in production.

To ensure that the companies included in the logit regression model are highly homogenous, we apply the Propensity Score Matching (PSM) method to create the sample with the highest similarity between the two groups of observations in the sample. The PSM method requires defining a “discriminatory” variable (treatment) to identify two samples. In this study, we propose to use the variable “the company assigns responsibility to business leaders in charge of green development in production” as the treatment variable. We use the “outcome” of this treatment variable as “the business that has converted at least one product in the green direction”. Thus, the research results will assess whether assigning responsibility to leaders really makes a difference in deciding to produce at least one green product.

4. Research results

4.1. Regression results

Regression results (Appendix 1) shows the marginal effects of the explanatory variables on the probability that the firm decides to produce at least one green product. Columns (1) and (2) are results across the entire sample. Columns (3) and (4) are the results for the homologous sample using the PSM method, with the treatment being that the enterprise has assigned the leader to be responsible for the green production segment. Columns (5) and (6) are the results of the sample of FDI companies. Finally, columns (7) and (8) are the results of a sample of non-FDI firms.

In Appendix 1, marginal effects are determined in two cases: (i) The company has no investment in emission treatment equipment, and (ii) The company has invested in emission treatment equipment. In general, having a business leader in charge of green development, the enterprise has a higher probability of producing at least one green product. The impact of assigning leaders in charge of green development to the probability of a company producing green products is higher than for companies with investments in emission control systems. For the sample using the PSM method, the impact of having a leader in charge of green development is significantly higher than the results for the entire sample. In addition, the fact that the company assigns a leader in charge of green development has no impact on the probability of green product production, for companies without FDI.

4.2. Results discussions

Technological innovation towards green growth has the effect of increasing the probability of green product production in FDI companies. This result is also similar to the studies of Jun (2019), and Nosheen et al (2021). Besides, for the entire sample, when the company invests in an emission treatment system, the impact of new green technology innovation will increase

the odds of green production by at least 5.2 % at the 10% significance level.

The fact that the company has energy efficiency regulations also contributes to an increase in the probability of production going green when considering the entire sample, the sample of FDI companies, and the sample of non-FDI companies that invest in waste treatment equipment. For the sample using the PSM method, the regulation of energy efficiency has no impact on the decision to produce green products. In addition, the level of efficiency in actual energy use of enterprises also has the effect of increasing the probability of producing products in a green direction, except for FDI companies. Yu-Shan Chen and Ching-Hsun Chang's (2012) research also shows that companies need to develop dynamic capabilities, strengthen transformation leadership, and innovate in green ways to enhance green product development.

In addition, variables related to whether the company was administratively fined for violating environmental protection regulations, the size of the company when it was established, and the size of the company in 2019, owning the ISO 14,000 certificate on environmental management, having a green operating policy, having a policy on economical use of energy have no impact on the decision to produce at least one green product. Bernauer (2006) argues that environmental regulations can encourage innovation by making companies in all sectors aware of their responsibilities and willingness to seize opportunities that may be missed in the development of environmentally friendly products.

5. Conclusion and policy implications

This study assesses the factors affecting the decision to produce green products for enterprises in Dong Nai province. The logit regression results show the marginal effects of the variables including “having leaders in charge of green development”, “having investment in emission treatment equipment”,

“having regulations on efficient energy use”, and “having a high level of energy efficiency” increases the probability that enterprises decide to produce at least 1 green product, especially for FDI enterprises. For domestic enterprises, the level of efficiency in energy use has a positive effect on the probability that enterprises decide to produce green products. In addition, when domestic enterprises invest in emission treatment equipment, the adoption of regulations and standards for the economical and efficient use of energy also increases the likelihood of manufacturing green products. The representative variable for institutions is that the administrative sanctions for violations of regulations on environmental protection have no statistically significant impact on the decision to produce green products for enterprises. In addition, the size of the business, operating experience (represented by the number of years of operation), having ISO 14,000 certificate or having a green operating policy also had no impact on production decisions. corporate green products.

From the above research results, we propose some policy implications as follows. *First*, based on the higher green production results of FDI enterprises compared to domestic enterprises, we propose to strengthen the connection between domestic and foreign enterprises and international organizations in order to promote the process of learning and acquiring experiences in implementing green growth and sustainable development. Green growth goals should be placed at the center of the local socio-economic development planning strategy to orient to attract green investment, support and monitor the performance of businesses in the province closely follow the green growth orientation.

Second, the assignment of tasks to the leader responsible for developing the green production field of the enterprise contributes significantly to the decision to produce green products. Thus, on the company's side, in order to develop green production, they need to allocate resources, especially to assign personnel in the

business leadership responsible for developing this production segment. Regarding the role of the government and State management agencies, green production activities, or green production projects of enterprises with specific assignment of departments responsible for development Green production should be the focus of policies to promote green production in Dong Nai Province.

Third, investing in emission treatment equipment, innovating green technologies, and increasing the efficiency of energy use of enterprises contribute to increasing the probability of enterprises to produce green products. Therefore, technology application is considered an effective lever in implementing green transformation. Technology will help businesses optimize performance, productivity, improve system administration quality, and avoid wasting resources. In order for the deployment of technology applications to be feasible, the Government and local authorities need to support businesses in mobilizing investment capital from many different sources such as attracting funding and aid from foreign investors, international organizations, foreign investment, and domestic social capital.

Finally, the administrative sanction not only has no impact on the enterprise's decision to produce green products, but also has a negative sign on the decision to produce green products.

Therefore, the policies aim to tighten regulations on waste disposal; regularly organize inspection and monitoring teams in the implementation of environmental regulations of companies; and strict treatment of violations of environmental protection law are necessary, but not the focus in developing policies to promote green exports in the current period of the province.

In addition, our research also has some unavoidable limitations in the implementation process. First, firm size should be the real variable instead of the nominal variable. However, the fact that the survey sample shows that company size information provided by respondents is often misleading and limited. Therefore, the research team decided to use the identifier variable to measure company size. Second, information about the board of directors and corporate governance was not included in the survey. Because the study sampled companies in Dong Nai province without classifying the type of business, the structure and organization of the board of directors or corporate governance differs. As part of this study, the research team was unable to sample companies by company type. Thus, the informational nature of management will not be consistent across observations. Therefore, the research team did not include questions about information from company directors in the survey.

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Appendix 1. Factors affecting the probability that a company decides to produce at least one green product

Explanatory variables	Whole sample		PSM sample		FDI companies		Non-FDI companies	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Having business leaders in charge of green development	0,089** (0,045)	0,115** (0,057)	0,121* (0,062)	0,150** (0,076)	0,114** (0,054)	0,151** (0,073)	0,012 (0,108)	0,013 (0,112)
Being administratively sanctioned for violating environmental regulations	-0,066 (0,084)	-0,085 (0,110)	-0,096 (0,119)	-0,119 (0,150)	-0,031 (0,105)	-0,041 (0,141)	-0,144 (0,213)	-0,152 (0,241)
Years in operation	-0,001 (0,003)	-0,001 (0,004)	0,001 (0,005)	0,001 (0,006)	-0,001 (0,004)	-0,002 (0,005)	0,006 (0,006)	0,006 (0,006)
Company size at establishment	-0,012 (0,032)	-0,015 (0,041)	-0,004 (0,050)	-0,005 (0,062)	0,008 (0,036)	0,011 (0,048)	-0,080 (0,084)	-0,084 (0,090)
Company size in 2019	0,005 (0,028)	0,007 (0,035)	0,004 (0,043)	0,006 (0,054)	-0,006 (0,030)	-0,008 (0,040)	0,036 (0,065)	0,038 (0,069)
Having invested in emission treatment equipment	0,092** (0,038)	0,118* (0,067)	0,130** (0,055)	0,162* (0,090)	0,108*** (0,039)	0,144* (0,075)	0,027 (0,132)	0,028 (0,149)
Having ISO 14,000 certification on environmental management	-0,028 (0,051)	-0,036 (0,066)	-0,053 (0,074)	-0,066 (0,092)	-0,037 (0,058)	-0,050 (0,076)	-0,080 (0,110)	-0,085 (0,114)
Having green operation polices	0,011 (0,029)	0,015 (0,036)	0,037 (0,041)	0,046 (0,050)	0,026 (0,037)	0,034 (0,048)	-0,017 (0,037)	-0,018 (0,039)
Having green technology innovation	0,040 (0,026)	0,051* (0,030)	0,061 (0,041)	0,076 (0,046)	0,054* (0,030)	0,071** (0,036)	-0,004 (0,050)	-0,004 (0,053)
Having regulations about energy efficiency	0,149** (0,064)	0,192*** (0,074)	0,141 (0,094)	0,175 (0,110)	0,136** (0,065)	0,182** (0,082)	0,288 (0,193)	0,305** (0,134)
Having policies about energy saving	0,007 (0,041)	0,009 (0,052)	0,066 (0,074)	0,082 (0,091)	0,022 (0,046)	0,029 (0,061)	-0,027 (0,061)	-0,029 (0,065)
Level of energy efficiency	0,048** (0,023)	0,062* (0,032)	0,062* (0,034)	0,077* (0,044)	0,016 (0,029)	0,021 (0,038)	0,121*** (0,045)	0,128** (0,054)
R-square	0,259	0,298	0,298	0,298	0,330	0,330	0,156	0,156
Number of observations	236	236	146	146	174	174	62	62
Having invested in emission treatment equipment	No	Yes	No	Yes	No	Yes	No	Yes

Note: The dependent variable is the variable that indicates whether the firm produces at least one green product or not; The above results are the marginal effects from the logit regression model of the variables in the two cases (i) the company *has* invested in emission treatment equipment, and (ii) the company *has not* invested in emission treatment equipment; standard deviation in parentheses; ***, **, and * are statistically significant at the 1%, 5%, and 10% level.



ASSESSING CUSTOMER SATISFACTION WITH THE RETAIL SERVICE QUALITY OF ZARA VIETNAM STORES

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ARTICLE INFO	ABSTRACT
<p>DOI: 10.52932/jfm.vi72.351</p> <p><i>Received:</i> October 03, 2022</p> <p><i>Accepted:</i> November 22, 2022</p> <p><i>Published:</i> December 25, 2022</p> <p>Keywords: Customer satisfaction; Retail service quality; RSQS.</p>	<p>The goal of this study is to investigate customer satisfaction with the retail service quality at ZARA Vietnam outlets by using the Retail Service Quality Scale (RSQS) on five dimensions such as reliability, physical aspects, problem-solving, personal interaction, and policy. By using Smart PLS 3.2.0 software for a sample of 186 ZARA clients, the results showed that consumer satisfaction with the retail service quality at ZARA stores is fulfilled in physical aspects, reliability, problem-solving, and policy. On the other hand, personal interactions were not appreciated by customers. The findings provide some guidance for foreign fashion brands on how to improve retail service quality in Vietnam</p>

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1. Introduction

In determining a company's success, service quality is an important aspect of service marketing. Several prior studies have emphasized the outcomes of excellent service quality, such as increased market share and revenue (Becerril et al., 2017), and increased customer satisfaction and loyalty (Leinkumar, 2017). As a result, retail store managers place a greater emphasis on identifying and addressing service quality complaints in a timely and effective manner. Because of its special attributes, the evaluation of service quality in retail will differ from that of other products or services. Dabholkar et al. (1996) developed the Retail Service Quality Scale (RSQS) to assess elements essential to retail consumers. It has become a standard metric for assessing retail organizations that mix service delivery and customer service. RSQS considers aspects both during and after the transaction (Dabholkar et al., 2000).

According to Dream Incubator Group (2021), the Vietnam fashion retail market is reported to be worth US \$5.34 billion in 2020 (where Apparel and Footwear are the two major products with 54% and 33% share respectively), Vietnam is attracting many global brands. ZARA Vietnam became a phenomenon when it was launched on September 8, 2016, with thousands of customers queuing to pay. Sales surpassed 5.5 billion VND on the first day. ZARA Vietnam recorded 321 billion VND in revenue in 2016, more than 1.1 trillion VND in 2017, and nearly 1.7 trillion VND in 2018. Its revenues from just two stores in Hanoi and Ho Chi Minh City are much higher than those of domestic luxury fashion retailers. This is a significant achievement for ZARA, which other fashion companies throughout the world strive for.

To be successful in the fashion retail industry, global fashion retail brands must increase the quality of their service, which will give them a lasting competitive advantage. Stemming from the growth requirements of Vietnam's fashion retail brands, ZARA Vietnam was

selected as a case study for using the RSQS technique to gain a deeper understanding of the impact of retail service quality on customer satisfaction. In Vietnam, although there have been many studies to evaluate service quality at supermarkets, banks, electronic stores, etc., by applying SEVQUAL, SERVPERF models. This is one of the limited studies analyzing customer satisfaction on retail service quality of clothing brands in Vietnam with the RSQS model.

By testing the model's reliability and validity, we concluded its service quality measurement application concerning the overall customer satisfaction with ZARA fashion stores in Vietnam. This will also identify strengths and weaknesses in the service quality of ZARA stores, measure customers' perception of retail service quality relative to expectations, as well as gain insight into them by gathering individual perceptions to ensure customer satisfaction.

2. Literature review

Service quality is defined by Parasuraman et al. (1988) as the gap between consumers' expectations and their actual impression of the service quality accomplished. Service quality not only serves to improve the brand's image but also has a significant impact on both the external and internal parts of the business (Haelsig et al., 2007). Retail service quality is unlike any other product or service context (Gagliano & Hatchcote, 1994). Retailers are more likely to impact service quality than product quality in retail services (Dabholkar et al., 1996).

Parasuraman et al. (1988) established the SERVQUAL scale, often known as the gap model, to measure service quality by comparing customer expectations with customer perceptions. Then, Cronin and Taylor (1992) argue that rather than utilizing gap theory, service quality should be assessed as an attitude, hence SERVPERF was created to evaluate service quality only on perceived service quality and without the expectation measurements from SERVQUAL.

Although SERVQUAL and SERVPERF have been experimentally studied in several research related to pure services (e.g., banking, healthcare, and telephone services), they are not always successful in understanding retail businesses (Dabholkar et al., 1996). “*Due to the unique nature of retail services, quality improvement and measurement of retail cannot be approached in the same way as from the service perspective*” (Najib & Sosianika, 2019). (3) Dabholkar et al. (1996)’s RSQS scale is the most suited to situations with more products and fewer services, such as food or clothing (Mehta et al., 2000). RSQS was comprised of five dimensions: reliability, problem-solving, physical aspects, personal interaction, and policy.

Physical aspects were used by Dabholkar et al. (1996) to define the physical environment of the shop and the convenience of its layout, which included the equipment, amenities within and outside the store, the availability of supplies, and the convenience connected with the store service. The physical environment of the shop influences customer satisfaction (Kumar et al., 2018), and the surrounding space can improve the consumer’s image of the business’s items and service quality (Zeithaml, 1988). According to Islam et al. (2016), physical aspects were discovered as the most important predictor of customer satisfaction.

H1: Physical aspects are positively related to customer satisfaction.

Reliability refers to keeping task-related commitments, offering services at the proper level of customer expectations (Westbrook, 1981), and making error-free and client-friendly sales. Firms must deliver on their promises to clients. The greater the importance of reliability to clients, the higher their satisfaction with retail service quality. It has been discovered that reliability and customer satisfaction are linked (Zia, 2020; Seth et al., 2005).

H2: Reliability is positively related to customer satisfaction.

Personal interaction refers to a salesperson’s face-to-face interaction with consumers to resolve questions and concerns. Consumer trust can be increased by the courteousness and helpfulness of store staff. Salespersons need to have full knowledge of products/services and can answer customers’ inquiries, give full attention to customers, provide prompt services, and make customers feel safe (Zia & Hashmi, 2019; Odekerken et al., 2001). Personal interaction is an extremely effective method for improving customer satisfaction (Kumar et al., 2018; Yuen & Chan, 2010).

H3: Personal interaction is positively related to customer satisfaction.

Problem-solving is a new dimension that includes processing returns and exchanges, responding to client complaints, giving actual attention to problem solutions, and responding directly and rapidly to customer problems (Zeithaml, 1988). According to Westbrook (1981), customers are extremely sensitive to how store employees handle problems and complaints. Dabholkar et al. (1996) and Zia (2020) emphasized the need for complete problem resolution as a component of outstanding services. Service failures may produce dissatisfaction if the problem-solving procedure is ineffective (Chang et al., 2008; Lewis & Spyropoulos, 2001).

H4: Problem-solving is positively related to customer satisfaction.

The policy includes high-quality items, convenient parking, and extended working hours, as well as acceptance of major credit cards (Noel & Jeff, 2001). According to Mazursky & Jacob (1985), retail customers are impressed by return and exchange policies, as well as the store’s credit and additional expenses policies. Consumers who desire a quick, easy purchase and after-sales experience, as well as straightforward and well-defined policies in a retail setting are always available (Briggs et al., 2020). Ray & Lu (2018) also show that policy has a positive impact on customer satisfaction.

H5: Policy is positively related to customer satisfaction.

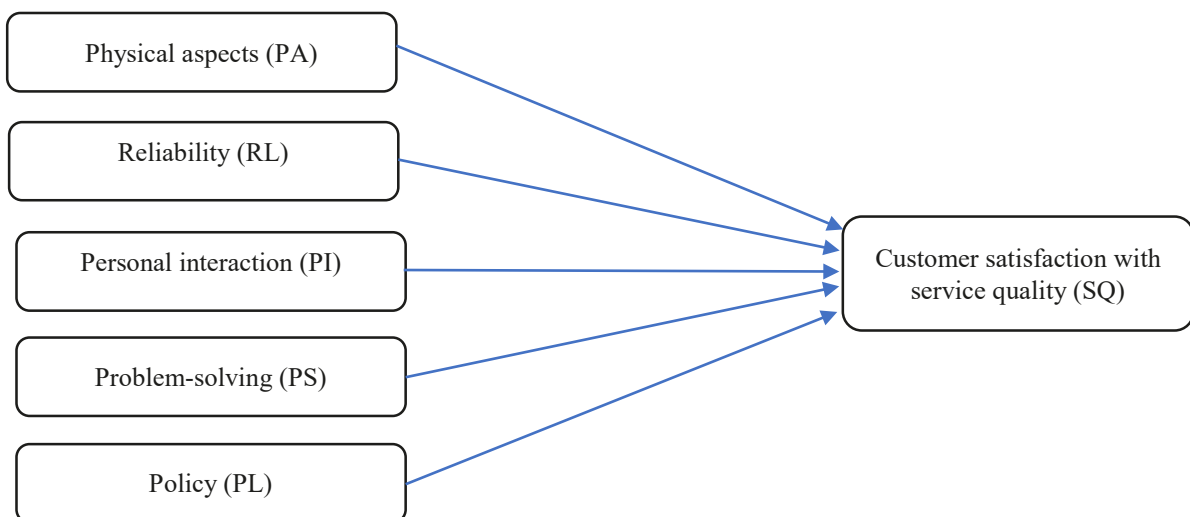
Table 1. Previous studies on retail service quality

Author(s)	Findings
Zia & Hashmi (2019)	Physical aspect, Problem-solving, and policy are three aspects that have a substantial contribution to service quality. Customer satisfaction with Zain Company in Saudi Arabia is influenced by reliability and personal interaction, which were shown to be extremely insignificant aspects.
Kumar et al. (2018)	In the Indian retail sector, policies, convenience, personal interaction, physical appearance, problem-solving, and reliability are significant to judge service quality.
Ushantha et al. (2014)	Customer satisfaction from major supermarket shops in the Colombo district is positively correlated with physical aspects, reliability, personal interaction, problem-solving, and policy.
Nhat (2007)	The retail service quality of supermarkets is heavily influenced by three factors: physical characteristics, personal interaction, and policy.
Soyoung & Byounggho (2002)	The RSQS was a better match for the US sample than the Korean sample. Personal interaction and problem-solving into a single concept.
Mehta et al. (2000)	In a more-goods and fewer-services environment, such as a supermarket, RSQS was found to be superior.

3. Research method

To collect data, we developed a questionnaire employing the scale items from previous studies (as shown in Table 1). The questionnaire also includes demographic questions such as gender, age, occupational status, and income stage. First, a pilot test was conducted by

distributing the questionnaire directly to 30 people to ensure that it was appropriate and that the question wording was correct. The comments from participants were considered in the preparation of the final version to ensure validity and content.

**Figure 1.** Proposed research model

The questionnaire was distributed to ZARA customers from 01st December 2021 to the end of January 2022. About 210 responses were collected but only 186 surveys could be analyzed after removing incomplete or inconsistent responses. Table 1 displays the demographic information for the sample. Females account for 56.5 percent of responders, while males account for 43.5 percent. The sample was divided into four age groups:

18-24 years old (26.9%), 25-32 years old (19.9%), 33-40 years old (25.8%), and above 40 years old (27.4%). A total of 186 people responded, with 32.3% having a monthly income of more than 9 million VND and 29.6% having a monthly income of 6 to 9 million VND. According to the survey, it is seen that customers at ZARA mostly are businessmen and freelancers. They take the highest proportion of 26.3 and 22.6 respectively.

Table 2. Respondents' profile

Measure/Value	Frequency	Percentage	Measure/Value	Frequency	Percentage
Gender			Age		
Female	105	56.5%	18 to 24 years	50	26.9%
Male	81	43.5%	25 to 32 years	37	19.9%
Occupation			33 to 40 years	48	25.8%
Businessman	49	26.3%	Over 40 years old	31	27.4%
Employee	29	15.6%	Income		
Student	36	19.4%	Less than 3 million VND	40	21.5%
Unemployed/housewife	30	16.1%	3 to 6 million VND	31	16.7%
Freelancer	42	22.6%	6 to 9 million VND	55	29.6%
Total	186		Over 9 million VND	60	32.3%

4. Research results

Following Anderson & Gerbing (1988), we presented a two-step approach: (1) the measurement model and (2) the structural model. We used Smart PLS 3.2.0 software to analyze the collected data. The study has five independent constructs and one dependent construct with 25 observed variables measured by a 5-point Likert scale, from “strongly disagree” to “strongly agree”.

The concept measurements' reliability and validity are used to evaluate the measurement model. Internal consistency reliability,

convergent validity, and discriminant validity were suggested by Hair et al. (2017). Table 3 indicates that most of the factors have internal and construct reliability (Cronbach's Alpha, Composite Reliability > 0.70, and outer loadings > 0.6). Second, the extracted average variance (AVE) and outer loadings were used to establish convergent validity and AVE values more than 0.50 show that the scale has convergent validity (Hair et al., 2017). Third, each construct's square root of AVE was larger than its association with other constructs. In Table 4, the Heterotrait-Monotrait (HTMT) values are also below 0.80. Our analysis shows discriminant validity.

Table 3. The measurement model.

Dimensions	Code	Factor Loadings	Alpha	CR	AVE
Physical aspects (PA)	PA1	0.652	0.805	0.862	0.560
	PA2	0.772			
	PA3	0.862			
	PA4	0.810			
	PA5	0.616			
Reliability (RL)	RL1	0.864	0.889	0.923	0.750
	RL2	0.858			
	RL3	0.901			
	RL4	0.840			
Personal interaction (PI)	PI1	0.908	0.863	0.914	0.780
	PI3	0.919			
	PI5	0.819			
Policy (PL)	PL1	0.817	0.859	0.904	0.702
	PL2	0.895			
	PL3	0.845			
	PL4	0.793			
Problem solving (PS)	PS1	0.871	0.873	0.885	0.797
	PS2	0.912			
	PS3	0.894			
Service quality (SQ)	SQ1	0.808	0.781	0.873	0.696
	SQ2	0.813			
	SQ3	0.880			

Note: CA: Cronbach's Alpha, CR: Composite Reliability, AVE: Average Variance Extracted.

Table 4. HTMT ratio analysis

	PA	PI	PL	PS	RL
Personal interaction (PI)	0.119				
Policy (PL)	0.184	0.070			
Problem solving (PS)	0.108	0.034	0.129		
Reliability (RL)	0.222	0.096	0.043	0.152	
Service quality (SQ)	0.408	0.161	0.286	0.461	0.470

The model does not have multicollinearity because the VIFs are less than 5, according to Hair et al. (2017). The SRMR index < 0.08 is considered satisfactory for determining the model's goodness of fit. The SRMR index = 0.07 (<0.080) in this situation is in the range of adequate fit.

The adjusted R square is 0.386, suggesting that the independent variables explained 38.6% of the variation in the dependent variable.

By applying a bootstrapping analysis (1000 samples), the results show that 4 out of 5 hypotheses are accepted because the p-values

are less than 0.05. These findings are consistent with those of Ali et al. (2017) and Suhartanto et al. (2019), where the researcher found a positive effect of the extra dimensions. The normalized values of the Physical (0.298), Reliability (0.291), and Policy (0.234) aspects are significantly related to customer satisfaction with service quality.

The Problem Solving (H4) component has the highest coefficient of 0.307 indicating that it has the largest influence on customer satisfaction. This result supports previous studies that in apparel stores, customers place more emphasis on problem-solving, than on the physical aspect, reliability, and Policy (Zia, 2020; Zia and Hashmi, 2019).

Table 5. Hypotheses Testing Result

Structural Paths	B	P-Value	f ²	Support
H1: Physical aspects → Customer satisfaction with service quality	0.298	0.000	0.139	Accepted
H2: Reliability → Customer satisfaction with service quality	0.291	0.000	0.134	Accepted
H3: Personal interaction → Customer satisfaction with service quality	0.090	0.128	0.013	Rejected
H4: Problem-solving → Customer satisfaction with service quality	0.307	0.000	0.152	Accepted
H5: Policy → Customer satisfaction with service quality	0.234	0.000	0.089	Accepted

This study highlights the importance of problem-solving in building customer satisfaction with service quality. So it can be said that Vietnamese shoppers pay more attention to getting answers to their problems. These problem solutions include returns ease, exchange assistance, or even refunds. Those stores which are incapable of proving satisfactory solutions to their problems are rated at the lowest level. Furthermore, policies have a positive link with customer satisfaction with service quality. The retail policy is a unique competitive factor. Each store would appeal to customers in different ways if it attempts to make promises and policies. Consumers want straightforward and transparent policies, as well as quick and easy buying, payment, and after-sales experiences.

Personal interaction has no impact on customer satisfaction with service quality. The finding is in line with the results of Ali et al. (2017) and Suhartanto et al. (2019), who

find a positive effect of the service quality measurement dimensions except for “personal interactions”.

Zara shop chain is a well-known Spanish retailer. In its international activities, its constant service image has proven to be a success. Its survival is dependent on its dedication to sustaining service quality and addressing the demands of its target clients. The communication between corporate personnel and customers needs to be enhanced because the organization’s target customers have a negative opinion of human contacts. Further research into individual interactions may uncover specific difficulties that need to be addressed. It may send a message that ZARA needs to undergo regular employee training, particularly in terms of product expertise and swift response. Employee empowerment also allows retailers to respond more quickly to client requests. According to Dotson and Patton (1992), successful shops will focus their

resources on offering critical services related to interpersonal contact.

ZARA stores should invest in training their personnel so that they can deal with clients more professionally and confidently. Employees should actively respond to client inquiries, friendly communicate, transfer quick and simple explanations, and recognize their demands. As a result, to gain a competitive edge, ZARA not only maintains the positive aspects but also improves the weaknesses where customers are feeling dissatisfied; thereby resulting in increased customer loyal.

5. Conclusion

Service quality has been the most basic marketing tactic used by retailers to gain a competitive advantage and maintain customer satisfaction and loyalty. This study demonstrates the usefulness of assessing customer satisfaction with retail service quality. The findings provide some guidance for foreign fashion brands on how to improve retail service quality in Vietnam. In this study, the RSQS by Dabholkar et al (1996) was verified in the Vietnamese environment, specifically in a garment store - ZARA. The majority of respondents are satisfied with the quality of retail services and they will recommend ZARA to friends or colleagues.

The results indicate that the improvement of “problem-solving” will improve customer satisfaction as this dimension has a value of utmost importance. On the other hand, 3 dimensions including Physical aspects, Reliability, and Policy also have significant impacts. That means that any improvement in the four aspects enhances customer satisfaction. Furthermore, it is conceivable that each store trying to make different commitments, policies, or physical aspects which will become differentiating factors that attract consumers in different ways.

Vietnamese customers do not appreciate personal interactions with retailers. This variable shows that customers are hardly interested in individual interactions. However, culture can play an important role in assessing how customers perceive service quality. Future research may consider cultural and environmental factors to measure service quality.

The study has some limitations: The study only focuses on surveying and analyzing the data collected in Ho Chi Minh City while ZARA has a nationwide store system. It would also be more interesting to do a cross-country study. In addition, due to the limited sample size, future research may examine larger sample sizes and consider the sizes and categories included in addition to the recommendations of the academic literature

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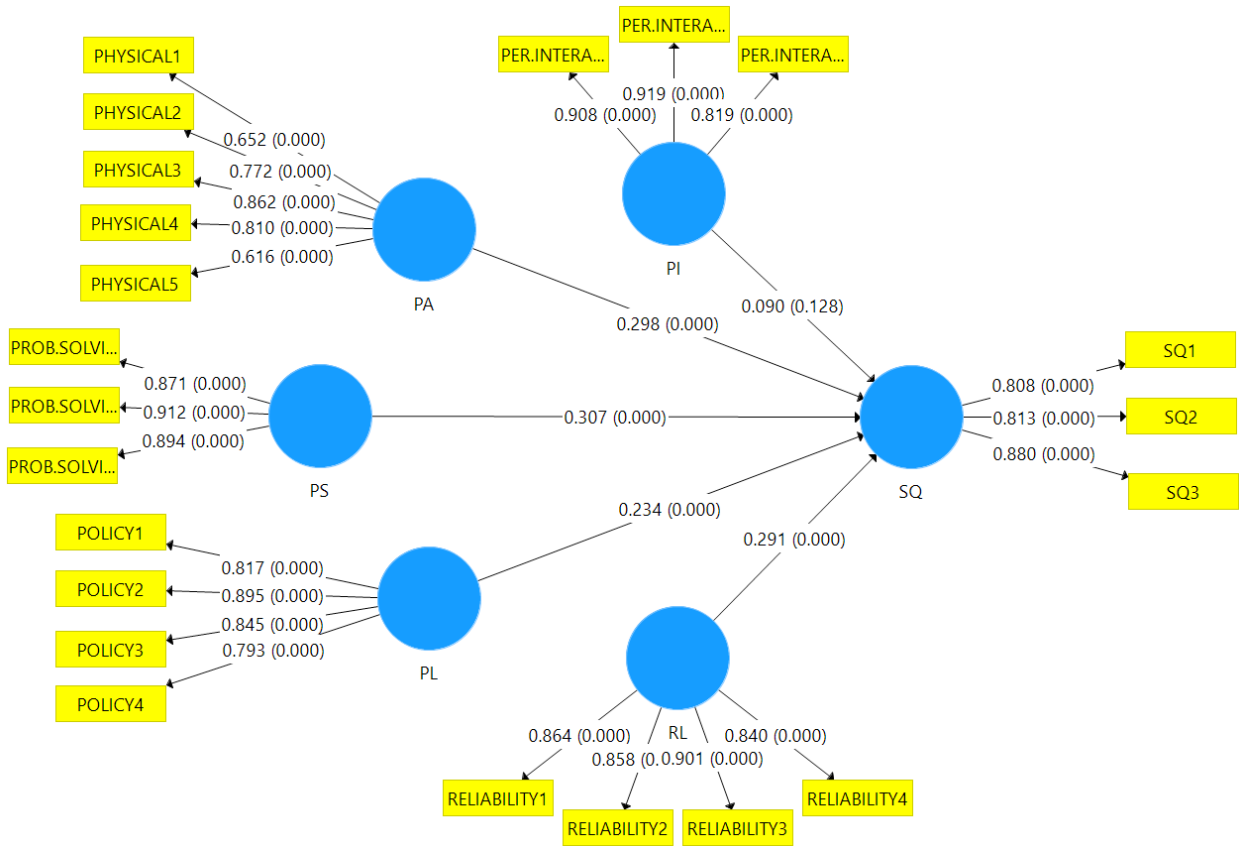
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Appendix 1. Constructs and item measurement

Construct	Code	Items
Physical aspects (PA)	PA1	“ZARA has modern-looking equipment”
	PA2	“ZARA has clean, convenient, and visually attractive physical facilities”
	PA3	“Materials related to ZARA’s service are visually appealing”
	PA4	“The layout of ZARA makes it easy for you to find”
	PA5	“The layout of ZARA makes it easy for customers to move around”
Reliability (RL)	RL1	“ZARA provides its services as promised”
	RL2	“ZARA performs the service right the first time”
	RL3	“ZARA has goods available when you want”
	RL4	“ZARA insists on error-free sales transactions and records”
Personal interaction (PI)	PI1	“ZARA’s employees have the knowledge to answer your questions”
	PI2	“ ZARA’s employees give fast services to you”
	PI3	“ ZARA’s employees respond to your requests quickly”
Policy (PL)	PL1	“ZARA offers high-quality goods”
	PL2	“ZARA has operating hours convenient for you”
	PL3	“ZARA accepts all credit cards”
	PL4	“ZARA’s policies on returns are convenient for you”
Problem-solving (PS)	PS1	“ZARA willingly handles returns and exchanges”
	PS2	“When you have a problem, ZARA shows a sincere interest in solving it”
	PS3	“ZARA ‘s employees can handle your complaints directly and immediately”
Customer Satisfaction with Service quality (SQ)	SQ1	“Overall, you rate the quality of service you received in ZARA as excellent”
	SQ2	“You are extremely satisfied with ZARA ‘s service quality”
	SQ3	“You would recommend ZARA to friends or colleagues because of good service quality”

Appendix 2. The results of the structural model





STOCK MARKET REACTION TO COVID-19: EVIDENCE FROM VIETNAM

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ARTICLE INFO	ABSTRACT
<p>DOI: 10.52932/jfm.vi72.347</p> <p><i>Received:</i> November 07, 2022</p> <p><i>Accepted:</i> December 08, 2022</p> <p><i>Published:</i> December 25, 2022</p> <p>Keywords: Coronavirus; Covid-19; Pandemic; Stock market; Vietnam.</p>	<p>This paper examines the impact of the Coronavirus (Covid-19) epidemic on stock market returns. In particular, Covid-19 is determined through the number of confirmed cases and the number of deaths. The research data sample was collected in Vietnam, which is an emerging country with a nascent but rapidly developing stock market during the past time. For the analytical method, the Autoregressive Distributed Lag (ARDL) method is used to estimate the research model. The estimation results indicate that the stock market reacts negatively in both the short and long term to the information about the number of Covid-19 cases. In other words, stock market returns decline when the number of Covid-19 cases increases. However, the impact of Covid-19 deaths on stock market returns is negligible. This shows that the stock market usually reacts as soon as the number of Covid-19 cases is confirmed. Regarding Covid-19 deaths, it usually takes a certain time to update the number of Covid-19 deaths since the number of Covid-19 cases is confirmed. Moreover, Vietnam has treated Covid-19 cases quite well. Therefore, stock market investors often react insignificantly to the number of Covid-19 deaths. In addition, this study also finds the negative impact of inflation and interest rates on stock market returns. The results of this study are significant empirical evidence for Vietnam, especially in Covid-19 control and stock market development.</p>

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1. Introduction

The World Health Organization (WHO) issued the first Covid-19 warning on January 30th, 2020, then declared Covid-19 a global pandemic on March 11th, 2020. With its rapid spread, Covid-19 has had a significant impact on international transactions as well as business activities within each country, causing unprecedented damage globally (Wagner, 2020). At the end of March 2020, more than 100 countries had to blockade part or all of their territory to limit the spread of Covid-19, which has made production activities as well as commercial transactions decrease sharply (Ashraf, 2020). From the perspective of investors in the stock market, they feel anxious and pessimistic about future earnings (Liu et al., 2020). This has affected their psychology when they invest in the stock market. As a result, Covid-19 could have a significantly negative impact on stock market returns.

Since the appearance of Covid-19, most countries around the world have taken many emergency measures to prevent and control the pandemic. Some of the main measures which have been commonly applied include blockading the area with confirmed cases, isolating suspected cases, increasing the treatment of confirmed cases, and especially enhancing vaccination against Covid-19 (Hung et al., 2021). In addition, many countries are actively deploying support packages to limit economic losses. This has reduced the level of the negative impact of Covid-19 on the economy as well as the stock market returns in many countries (Topcu & Gulal, 2020). In other words, the stock market's reaction to Covid-19 may vary from country to country (Ashraf, 2020; Topcu & Gulal, 2020). Therefore, through the analysis of the data sample in each country, the impact of Covid-19 on stock market returns can be examined more specifically according to the particularities of each country. Accordingly, countries will have a reliable foundation for determining appropriate measures to minimize the negative impact of Covid-19 on stock market returns. Despite such an important role, most

empirical studies often examine the impact of Covid-19 on stock market returns with a sample of many countries, and the number of empirical studies analyzing the data sample of a country is limited.

In the context of the worldwide Covid-19 outbreak, what concerns countries is not only the number of Covid-19 cases, but more importantly, the reduction in the number of Covid-19 deaths. As a result, the stock market's reaction to Covid-19 cases and Covid-19 deaths may vary (Al-Awadhi et al., 2020). However, there have been few studies examining the impact of Covid-19 deaths on stock market returns.

In addition to the limitations mentioned above, empirical studies also have drawbacks when they often focus on analyzing the data from developed stock markets (such as the US, China, France, Germany, Italy, Japan, South Korea, Spain, and Canada). There have been few empirical studies examining the impact of Covid-19 on nascent stock markets like Vietnam. Some empirical studies on this issue in Vietnam include Anh and Gan (2021), Hung et al. (2021), Ngoc et al. (2021). However, these empirical studies still have shortcomings when only analyzing the data sample of a number of listed enterprises on the Vietnamese stock market, not examining the stock market comprehensively through the stock index. Furthermore, these studies also have defects because they have not examined the impact of Covid-19 deaths on stock market returns in Vietnam.

Overall, the impact of Covid-19 on stock market returns is a research topic with some explorable gaps and is essential for countries with nascent stock markets like Vietnam. Accordingly, this study focuses on analyzing the impact of Covid-19 on stock market returns in Vietnam. This is an emerging country with a nascent but rapidly developing stock market (Hung et al., 2021). Moreover, Vietnam has been controlling Covid-19 successfully (Anh & Gan, 2021). Therefore, the research results are

expected to provide many new and meaningful findings for Vietnam, especially in the control of Covid-19 and the development of the stock market.

The rest of this research paper is organized as follows: part 2 presents the literature review and hypothesis development, part 3 describes the econometric methodology and data, part 4 reports the empirical results and the last part draws the conclusion.

2. Literature review and hypothesis development

The stock market often reacts sensitively to major events in the economy (Al-Awadhi et al., 2020), especially the events related to epidemics, such as: severe acute respiratory syndrome – SARS (Chen et al., 2009; Chen et al., 2007; Nippani & Washer, 2004), H7N9 influenza virus (Jiang et al., 2017), Ebola virus (Ichev & Marinč, 2018), Covid-19 (Al-Awadhi et al., 2020; Ashraf, 2020). Accordingly, the Covid-19 pandemic was first reported in the world at the end of 2019 (He et al., 2020). Although the short outbreak, Covid-19 has caused great havoc to most countries and territories all over the world, especially to the stock markets in these countries (Ashraf, 2020). Therefore, the impact of Covid-19 on the stock market is a research topic that has received much attention in recent empirical studies.

Most of the empirical studies on this topic usually analyze the data sample of many countries. For example, Ashraf (2020) found the negative impact of Covid-19 cases on stock market returns in 64 countries. However, the stock market's reaction to Covid-19 can vary over time and depend on the stage of the outbreak. Meanwhile, stock market returns respond insignificantly to the news of Covid-19 deaths. Goodell (2020) concluded that Covid-19 has a significant impact on socio-economic activities globally, especially those in the financial sector. He et al. (2020) reported that Covid-19 has the negative short-term impact on stock market returns in China, Italy,

South Korea, France, Spain, Germany, Japan and the US. In particular, the negative impact of Covid-19 on the stock market returns of these countries is often higher than the global average impact. Liu et al. (2020) believed that 21 stock indexes in economies around the world have dropped rapidly after the appearance of Covid-19. Accordingly, the level of negative impact of Covid-19 on stock market returns in Asian countries is often greater than the impact level in other countries. Topcu and Gulal (2020) found the negative impact of Covid-19 on emerging stock markets; however, the level of this negative impact gradually decreased from April 2020 onwards. By regional classification, Covid-19 has generally impacted emerging stock markets in Asia more than those in Europe. Furthermore, the time and size of the government's stimulus packages are of great significance to countries in offsetting the negative effects of the pandemic on the stock market. In another study, Xu (2021) found the negative impact of Covid-19 on stock market returns in Canada and the US. However, this impact is considerably different between the two countries in the sample. Specifically, the stock market's reaction has been disproportionate to the increase and decrease in the number of Covid-19 cases in Canada, which is attributed to the uncertainties of Covid-19 in this country. Meanwhile, the stock market's reaction is relatively proportionate in the US. In addition, Zhang et al. (2020) believed that Covid-19 has a negative impact on the stock markets of Japan, South Korea, Singapore and 10 countries with the highest number of Covid-19 cases in March 2020.

There have been few studies examining the impact of Covid-19 on stock market returns with the data sample of a country. For example, Al-Awadhi et al. (2020) assumed that the stock market in China reacts negatively to the number of Covid-19 cases, and this level of reaction is higher than that to the number of Covid-19 deaths. Sharing the same view, Duan et al. (2020) stated that the Chinese economy was seriously affected by Covid-19, especially the activities of

small and medium-sized companies. In another study, Alfaro et al. (2020) found the negative impact of Covid-19 on stock market returns in the US. What's more, this study shows that the prediction for the number of Covid-19 cases can reduce the level of the negative impact of Covid-19 on stock market returns. Recently, Hatmanu and Cautisanu (2021) concluded that Covid-19 has a negative impact on the Romanian stock market in the long term.

In Vietnam, the impact of Covid-19 on stock market returns is rarely found in empirical studies. Particularly, the study of Anh and Gan (2021) found the negative impact of Covid-19 on the stock prices of 723 listed enterprises on the Vietnamese stock market. Accordingly, the impact level of Covid-19 on the stock prices of non-financial enterprises is lower than that of Covid-19 on the stock prices of financial enterprises. Recently, Hung et al. (2021) have also found the negative impact of Covid-19 on the stock prices of 733 listed enterprises on the Vietnamese stock market. This negative impact was strongly demonstrated for the enterprises in the financial sector, especially in the pre-lockdown period. In another study, Ngoc et al. (2021) reported that Covid-19 had the negative impact on the stock prices of 714 listed enterprises on the Vietnamese stock market. However, this impact level depends on the business line of the enterprises in the data sample. Specifically, the stock prices of the enterprises in the service industry are often affected dreadfully by Covid-19, whereas the stock prices of the healthcare industry are often affected less dreadfully.

Overall, the stock market's reaction to the Covid-19 pandemic is an interesting research topic and has been found in many empirical studies. Accordingly, most of these studies have concluded that the number of Covid-19 cases has the negative impact on stock market returns. However, empirical studies still have limitations when they often analyze the data sample of many countries in developed stock markets, such as the US, China, France, Germany, Italy, Japan, South Korea, Spain, and Canada. There

are not many studies that analyze the sample data of a country, especially for countries with nascent stock markets. In reality, the impact of Covid-19 on the economy as well as the stock market in each country can vary. Therefore, analyzing the data sample of a country will have great implications for that country, especially in adjusting policies to limit the negative effects of Covid-19 on the stock market. On the other hand, the stock market's reaction to the number of Covid-19 cases and the number of Covid-19 deaths can be different, which has been stated in the study by Al-Awadhi et al. (2020). However, there have been few studies that examine the impact of Covid-19 deaths on stock market returns. The Vietnamese stock market is still relatively nascent and can react significantly to the Covid-19 pandemic (Hung et al., 2021). Nevertheless, there are very few empirical studies examining this impact in Vietnam, such as the studies by Anh and Gan (2021), Hung et al. (2021), Ngoc et al. (2021). In particular, these studies usually measure Covid-19 through the number of Covid-19 cases, and almost no studies examine Covid-19 through the number of Covid-19 deaths. As for the stock market, empirical studies in Vietnam still have limitations when they have not been able to measure the stock market comprehensively. These studies just examine the stock prices of some listed enterprises on the stock market.

From the gaps mentioned above, it can be seen that the impact of Covid-19 on stock market returns in Vietnam is a vital research topic and there are some gaps to be explored. This study will fill the gaps in previous studies by measuring the stock market through the stock index. Furthermore, Covid-19 is defined by the number of Covid-19 cases and the number of Covid-19 deaths. By this measurement, Covid-19 will be fully defined in different aspects. The existing literature reveals that Covid-19 can have a negative impact on stock market returns; however, the level of this impact can vary in Covid-19 cases and Covid-19 deaths. Accordingly, the study proposes the following hypotheses:

Hypothesis H₁: the number of Covid-19 cases has a negative impact on stock market returns.

Hypothesis H₂: the number of Covid-19 deaths has a negative impact on stock market returns.

3. Econometric Methodology and Data

After the research problem is identified, this study proceeds to build a theoretical framework, research hypotheses and a research model. The research model is formulated on the basis of the results of previous studies and the actual situation, which will ensure the appropriateness of the research model in solving the research objectives. Next, the study will conduct the data collection and estimate the research model. Based on the model estimation results, the study will discuss the research results and make recommendations

The existing literature confirms that the number of Covid-19 cases has a negative impact on stock market returns. Besides, the stock market may react negatively to the number of

Covid-19 deaths (Al-Awadhi et al., 2020). In addition, a number of macroeconomic factors may act as control variables in the model for the impact of Covid-19 on stock market returns. These control variables (CV) include inflation (Hussainey & Ngoc, 2009) and interest rates (Hatmanu & Cautisanu, 2021; Hussainey & Ngoc, 2009). Accordingly, the research model is proposed as follows:

$$RE = f(\text{COVID}, \text{CV}) \quad (1)$$

In order to analyze the impact of Covid-19 on stock market returns in both the short and long term, this paper uses the Autoregressive Distributed Lag (ARDL) method to estimate the research model. This estimation method was proposed by Pesaran et al. (2001), and was also used in the study by Hatmanu and Cautisanu (2021). The ARDL method proved to be suitable for research models with short data series (Pahlavani et al., 2005), especially the data series which are not stationary in the same order (Türsoy, 2017). Therefore, model 1 will be developed specifically as follows:

$$\Delta RE_t = \alpha_0 + \sum_{j=1}^k \beta \Delta RE_{t-j} + \sum_{j=0}^k \lambda \Delta \text{COVID-19}_{t-j} + \sum_{j=0}^k \delta \Delta \text{CV}_{t-j} + \phi RE_{t-1} + \gamma \text{COVID-19}_{t-1} + \psi \text{CV}_{t-1} + \varepsilon_t \quad (2)$$

If there is cointegration between the variables in the research model, this paper will proceed to

estimate the short-run behavior of the variables by using the error correction model below:

$$\Delta RE_t = \alpha_0 + \sum_{j=1}^k \beta \Delta RE_{t-j} + \sum_{j=0}^k \lambda \Delta \text{COVID-19}_{t-j} + \sum_{j=0}^k \delta \Delta \text{CV}_{t-j} + \phi \text{ECM}_{t-1} + \varepsilon_t \quad (3)$$

Where RE represents stock market returns, measured through the monthly change of Vietnam stock index (VNI), and calculated with the formula: $RE_t = (\text{VNI}_t - \text{VNI}_{t-1}) / \text{VNI}_{t-1}$. Covid-19 is defined through the number of confirmed Covid-19 cases (COVID_CO) and the number of Covid-19 deaths (COVID_DE) during the month. The control variables (CV) in the research model include inflation (INF) and lending interest rates (IR).

The research data sample was collected on a monthly basis during the period from January

2020 to April 2022. Vietnam confirmed the first Covid-19 case on January 23, 2020; therefore, the data were collected in this period to achieve the maximum sample size. In addition, the data on control variables (INF and IR) are only published on a monthly, quarterly and yearly basis; accordingly, this study cannot collect the data on the basis of a shorter period (i.e. on a weekly or daily basis). The data on stock index were collected from Vietstock's source (<https://finance.vietstock.vn/>). Regarding the data on Covid-19, this paper collected from the source

of Vietnam's Ministry of Health (<https://ncov.vncdc.gov.vn/>). The control variables (INF and IR) were collected from the IMF source (<https://www.imf.org/en/Data>).

4. Empirical results

The results of the correlation analysis between the variables in the research model are presented in Table 1 below:

Table 1. The results of correlation matrix

	RE	COVID_CO	COVID_DE	INF	IR
RE	1.000				
COVID_CO	-0.100	1.000			
COVID_DE	-0.042	0.160	1.000		
INF	-0.381	-0.058	-0.124	1.000	
IR	-0.196	-0.213	-0.333	0.004	1.000

Table 1 shows that Covid-19 and control variables are negatively correlated with stock market returns. This result is consistent with the expectation in the research hypothesis.

Next, the study will test the stationarity of the data series in the research model. This test was proposed by Dickey and Fuller (1979).

Table 2. The results of stationarity test

Variable	At level	At Δ
	I(0)	I(1)
RE	-5.247*** (0.000)	-6.413*** (0.000)
COVID_CO	-3.298** (0.015)	-7.661*** (0.000)
COVID_DE	-2.535 (0.107)	-5.171*** (0.000)
INF	-4.939*** (0.000)	-6.295*** (0.000)
IR	-3.471*** (0.009)	-6.311*** (0.000)

Note: **, *** indicates significance at 5%, 1%.

Table 2 shows that COVID_DE is stationary at the first differential series I(1). Meanwhile, the remaining data series in the research model are stationary at the original data series I(0). **Accordingly**, the data series in the research

model are not stationary in the same order, which is one of the important conditions for using the ARDL method in estimating the research model.

Table 3. The results of bound test

F = 9.706	10%	5%	1%	p-value
I(0)	2.847	3.531	5.265	0.000***
I(1)	4.150	5.049	7.315	0.002***

Note: *** indicates significance at 1%.

In order to confirm the appropriateness in the use of the ARDL method to estimate the research model in both short and long term, this study uses bound test proposed by Pesaran et al. (2001). The results show that there is a

cointegration relationship between the data series in the research model (Table 3). In other words, the ARDL method can be used to estimate the research model of the impact of Covid-19 on stock market returns.

Table 4. The estimation results of the research model

Variable	RE
Long run results	
COVID_CO	-0.0003** (0.039)
COVID_DE	-0.0028 (0.779)
INF	-1.8939*** (0.002)
IR	-5.2479* (0.095)
Short run results	
Δ RE (-1)	0.4665** (0.015)
Δ COVID_CO	-0.0005** (0.050)
Δ COVID_DE	-0.0047 (0.778)
Δ INF	-3.2686*** (0.003)
Δ IR	-9.0571* (0.078)
ECM (-1)	-1.7259*** (0.000)
Constant	83.3337** (0.041)

Variable	RE
R-squared	76.48%
Significance level	10.30*** (0.000)
Skewness/ Kurtosis tests	3.23 (0.199)
White's test	26.00 (0.408)
Breusch-Godfrey LM test	3.447 (0.178)
Ramsey reset test	1.31 (0.301)

Note: ***,** indicates significance at 10%, 5%, 1%.

The estimation results of the impact of Covid-19 on stock market returns in Table 4 prove to be appropriate. Indeed, the estimation results of the research model are significant at the 1% level. Furthermore, 76.48% of the volatility of stock market returns can be explained by Covid-19 and the control variables

in the research model. Besides, the Skewness/Kurtosis, White's, Breusch-Godfrey LM and Ramsey reset tests are all satisfactory. In addition, CUSUM and CUSUM squared show that the model has stability within the standard range at 5% significance level (Figure 1).

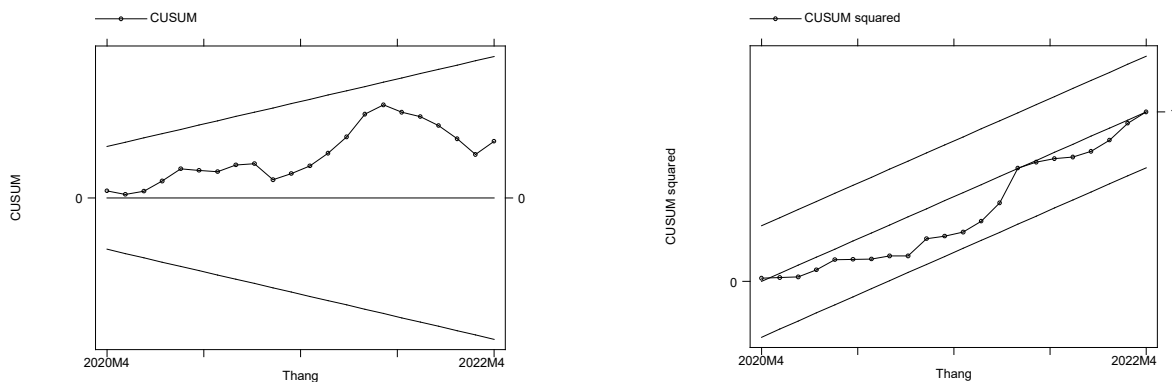


Figure 1. Stability tests

Table 4 shows that the number of Covid-19 cases has a negative impact on stock market returns in both the short and long term, which accepts hypothesis H_1 . However, the stock market's reaction to the number of Covid-19 deaths is insignificant. This result is consistent with the previous statement of Ashraf (2020). Accordingly, stock market returns decline as the number of Covid-19 cases increases. In other

words, the stock market reacts immediately to the number of confirmed Covid-19 cases. Regarding Covid-19 deaths, it usually takes a period of treatment; moreover, Vietnam has been relatively successful in treating Covid-19 cases. Therefore, the investors in the stock market often react insignificantly to the number of Covid-19 deaths.

This paper finds the negative impact of inflation and interest rates on stock market returns in both the short and long term. Accordingly, when inflation is high, the production and business activities of enterprises face many difficulties. There may be even a mood of pessimism among the investors in the stock market; therefore, the decline in stock market returns is understandable. This result is consistent with the previous statement of Hussainey and Ngoc (2009). Furthermore, stock market returns also decrease significantly when interest rates increase, which is also found in the studies by Hatmanu and Cautisanu, (2021), Hussainey and Ngoc (2009). This is completely in accordance with reality because the increase in interest rates cause many difficulties for companies in raising capital as well as in production and business. In addition, stock market returns in the past can have a positive short-term impact on the current stock market returns. This reveals that the stock market in the past can be used to predict the variation trend of the current stock market.

5. Conclusion and recommendations

This paper focuses on examining the stock market's reaction to the Covid-19 pandemic. In particular, Covid-19 is determined through the number of confirmed cases and the number of deaths. The estimation results through the ARDL method show that the stock market reacts negatively to the number of confirmed Covid-19 cases. This means that stock market returns decline as the number of Covid-19 cases increases. Meanwhile, the impact of Covid-19 deaths on stock market returns is negligible. This indicates that the stock market usually reacts immediately to the number of confirmed Covid-19 cases. However, the stock market's reaction to the number of Covid-19 deaths is insignificant. In addition, this study also finds the negative impact of inflation and interest rates on stock market returns. Besides, in the short term, the stock market returns in the past

can have a positive impact on the current stock market returns. Therefore, the stock market can react significantly to the number of Covid-19 cases, the control variables representing macroeconomics and the stock market returns in the past. Accordingly, the study proposes some recommendations as follows:

For the government and functional agencies: It is necessary to implement measures effectively and quickly to prevent and control the Covid-19 pandemic, and simultaneously, to support enterprises in the removal of difficulties and the restoration of production and business in the context of the pandemic.

For enterprises: Covid-19 has seriously affected the production and business activities of enterprises. Therefore, enterprises need to be proactive in production and business, in combination with focusing on the prevention of Covid-19 and ensuring the health of labourers.

For investors: Investors should actively grasp the information about Covid-19, macroeconomic developments and developments of the stock market in the past before making investment decisions because the research results show that the stock market can react significantly to this information. In addition, the effectiveness of measures to prevent the Covid-19 pandemic may change the level of the negative impact of Covid-19 on stock market returns. For this reason, investors should also consider this issue before making investment decisions.

The stock market can be influenced by domestic factors as well as global macroeconomic factors. However, this study only analyzes the stock market's reaction to the domestic factors of Vietnam, without examining global macroeconomic factors. That is the limitation of this study. Future studies can overcome this limitation by examining the reaction of the domestic stock market to the developments of the global macroeconomics.

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IMPACT OF ECONOMIC INTEGRATION ON BANKING PERFORMANCE IN VIETNAM

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ARTICLE INFO	ABSTRACT
<p>DOI: 10.52932/jfm.vi72.316</p> <p><i>Received:</i> August 23, 2022</p> <p><i>Accepted:</i> September 23, 2022</p> <p><i>Published:</i> December 25, 2022</p> <p>Keywords: Commercial bank; Economic integration; Operational efficiency.</p>	<p>Through the collection of secondary data, the study was conducted to understand the impact of economic integration on banking performance in Vietnam. The data of the article is taken from 21 commercial banks in Vietnam from the period 2010 - 2021. The research results show that economic integration has an impact on banking performance through economic freedom indexes and financial freedom. Besides, the results also show that many factors related to the internal characteristics of banks also have an impact on bank performance including bank size, diversification of banking products, cost of banking activities, and equity ratio. Economic environmental factors also have an impact on bank performance. GDP has a positive and statistically significant relationship with banking performance. From the research results, the article proposes governance implications for managers of Vietnamese commercial banks. The obtained results have contributed more empirical evidence on the impact of economic integration on the banking performance of developing countries.</p>

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1. Introduction

Efficiency in banking operations always receives attention during the process of banking management and administration (Chortareas et al., 2015). To survive and develop in an increasingly free and equal business environment, it is essential to improve the operational efficiency and financial capacity of Vietnamese commercial banks. Considered from a research and academic perspective, the role of economic integration in the economy in general and the banking industry, in particular, has become a topic that attracts a lot of attention and research from policymakers to academic studies.

The relationship between economic integration and banking performance is mainly approached by previous studies through the perspective of economic freedom and banking technical efficiency. These studies are divided into two groups, one that looks at the level of a set of countries and another that looks at banks in a single country. Most studies show that economic integration has an impact on the bank performance (Chortareas et al., 2015); (Beju & Ciupac-Ulici, 2012). In particular, economic integration has basic effects on the banking system (Beju & Ciupac-Ulici, 2012), the effect of economic integration on bank performance is relatively more pronounced in countries with more liberal politics, and more sound government policies, and better governance (Chortareas et al., 2015). In many cases, financial liberalization caused instability in monetary policy and the banking system (Beju & Ciupac-Ulici, 2012). Besides, many scholars also study the role of economic integration with many different case studies (Pattanaik & Nayak, 2014); (Farhadi et al., 2015); (Bumann et al., 2013); (Nordin & Ghani, 2015). However, the research results are still inconsistent because of the specifics of each case study.

There are two different results in the impact of economic integration on the performance of banks. After integration, the country will

borrow from other countries, that lead to a negative and significant influence of external debt on economic growth and bank operation (Al Kharusi & Ada, 2018). In the research of Shkolnyk et al. (2020), the economic categories of financial stability and financial security are closely related, since in both cases the ability of the country's financial system to absorb external and internal shocks is evaluated. Financial integration is generally associated with the development of synergies through cross-border banking and investment activities and increased competitiveness among banks, financial integration directly increases bank risk-taking behavior (Banyen, 2021).

Vietnamese commercial banks, financial intermediaries that play an important role in connecting the savings and investment sectors of the economy, are increasingly being competed by non-bank financial intermediaries and banks. Uncompetitive banks will be replaced by more efficient banks. This shows that only banks with good financial capacity and the most effective business operations can survive and develop. Over the years, Vietnam has been actively integrating deeply into the regional and world economy. This process creates many development opportunities but also poses many challenges for the Vietnamese economy. Although some studies on the role of economic integration and economic freedom in the Vietnamese economy (Herr et al., 2016). However, most of the studies focus on assessing the large scale of the economy in general. In contrast, in a narrower scope, the impact of economic integration on sectors in the economic system is still modest. Then, the article is conducted to analyze the impact of economic integration on the performance of commercial banks in Vietnam, and propose some solutions and recommendations to help Vietnamese commercial banks have better solutions. appropriate strategies to improve operational efficiency in the current context of deepening integration.

2. Literature Review

2.1. Bank performance

Efficiency is a commonly used category to assess an entity's ability to maximize its revenue output given input costs, in other words, efficiency is the benefits yielded from specific activity (Kopp, 2016). In the banking sector, a bank's operational efficiency is its ability to generate profits as well as ensure safety and limit risks for its operations (Haralayya & Aithal, 2021).

Operational efficiency of commercial banks through various quantitative indicators such as profit after tax, capital size, market share, stock value, and profit growth rate. The most common are return on equity ratios – ROE and return on total assets – ROA (Recap & Am, 2008).

2.2. Economic integration

Economic integration is the process of institutional connection between economies together. This is the process of proactively implementing both aspects at the same time, including linking each country's market and economy to regional and global markets by opening up the economy and promoting economic liberalization; and breathe members and together build economic institutions at the regional and international level (Pattanaik & Nayak, 2014). Thus, the process of economic integration goes hand in hand with the process of opening the economy and liberalizing the economy.

To assess the level of the economic integration of a country, major financial institutions in the world often evaluate through a set of indicators reflecting economic freedom (Miller & Kim, 2015). Which, three important factors include free trade (business freedom), monetary freedom, and financial freedom. Business freedom is the ease with which a start-up business can obtain an operating license or an investment certificate, and the ease in closing a company (Sufian & Habibullah, 2014). Monetary freedom refers to a country

having a stable currency and following a price mechanism that is determined by market supply and demand (Miller & Kim, 2015). Financial freedom refers to the independence of the banking industry from government control. Financial freedom leads to an accessible and efficient formal financial system that ensures a wide range of savings, credit, payment, and investment services are available to all participants (Sufian & Habibullah, 2014).

2.3. The relationship between economic integration and banking sector performance

Economic integration can have both positive and negative effects on banking performance in different countries (Sufian & Habibullah, 2014; Beju & Ciupac-Ulici, 2012).

Economic integration creates new capital sources, helps to effectively circulate capital, and promotes the application of international practices in banking supervision. The participation of foreign banks in the domestic market contributes to improving the operational efficiency of the domestic banking system. This is due to foreign banks' involvement in improving the quality, price, and supply of new financial instruments to the domestic market, improving management skills and qualifications as well as increasing increase competition in the domestic market. Besides, economic integration contributes to the stability of the domestic banking system, resulting in a better quality of financial services at lower costs (Sufian & Habibullah, 2014).

However, the increasing and deepening participation of foreign banks in the domestic market can have a negative impact on the financial system and the economy in developing countries. In some cases, in response to shocks from the parent bank's own country, foreign bank branches often adopt policies or mechanisms that may have a negative impact on the banking system. goods and finance in the host country. Besides, the participation of foreign banks in the domestic market contributes to the improvement of staff

quality and banking inspection and supervision standards, banking activities outside of a single country are difficult to achieve complicated monitoring and management issues (Beju & Ciupac-Ulici, 2012).

3. Research model, research data and research methods

3.1. Research model

Based on the research model of Sufian & Habibullah (2014) and the situation in Vietnam, the research model as following:

$$ROA_{it} = \alpha + \beta_1 Loan_TA_{it} + \beta_2 TA_{it} + \beta_3 LLP_TL_{it} + \beta_4 NII_TA_{it} + \beta_5 NIE_TA_{it} + \beta_6 ETA_{it} + \gamma_1 GDP_t + \gamma_2 INF_t + \delta_1 BUSI_FREE_t + \delta_2 MONE_FREE_t + \delta_3 FINA_FREE_t + \delta_4 N\grave{a}m + \epsilon_{it} \tag{1}$$

$$ROE_{it} = \alpha + \beta_1 Loan_TA_{it} + \beta_2 TA_{it} + \beta_3 LLP_TL_{it} + \beta_4 NII_TA_{it} + \beta_5 NIE_TA_{it} + \beta_6 ETA_{it} + \gamma_1 GDP_t + \gamma_2 INF_t + \delta_1 BUSI_FREE_t + \delta_2 MONE_FREE_t + \delta_3 FINA_FREE_t + \delta_4 N\grave{a}m + \epsilon_{it} \tag{2}$$

Which, economic integration is measured through 3 aspects include the degree of business freedom, monetary freedom, and financial

freedom, i represents each bank, t represents each time. The description of the variables in the research model is presented in Table 1.

Table 1. Description of variables in the research model

Variables	Symbol	Calculate	Expected	Data Source	Authors
Dependent variable					
Bank efficiency	ROA	Return/ Total assets		Bank Scope Database	Sufian & Habibullah, (2014)
Bank efficiency	ROE	Return/ Equity		Bank Scope Database	Sufian & Habibullah (2014)
Independent variables					
Internal factors					
Loan-to-total assets ratio	Loan_ TA	Total loans/ Total assets	+	Bank Scope Database	Sufian & Habibullah (2014), Barry & Heather (2014)
Bank size	TA	ln (Total assets)	+	Bank Scope Database	Sufian & Habibullah (2014), Bikker & Hu (2002)
Risk ratio	LLP_TL	Provisions for credit losses/ Total loans	+/-	Bank Scope Database	Sufian & Habibullah (2014)
Diversification	NII_TA	Non-interest income/Total assets	+/-		Sufian & Habibullah (2014)
Operating costs	NIE_TA	Operating expenses/ Total assets	+/-	Bank Scope Database	Sufian & Habibullah (2014)
Equity ratio	ETA	Equity/total assets	+	Bank Scope Database	Sufian & Habibullah (2014)
External factors					
Economic growth	GDP	Annual economic growth rate	+	IMF	Demirgüç-Kunt & Huizinga (1999), Sufian & Habibullah (2014)

Variables	Symbol	Calculate	Expected	Data Source	Authors
Inflation	INF	Inflation rate	+	IMF	Sufian & Habibullah (2014), Demirgüç-Kunt & Huizinga (1999)
Economic integration					
Business Freedom	BUSI_FREE	Business Freedom ratio	+	Heritage Foundation	Sufian & Habibullah (2014)
Monetary freedom	MONE_FREE	Monetary freedom ratio	+	Heritage Foundation	Sufian & Habibullah (2014)
Financial freedom	FINA_FREE	Financial freedom ratio	+	Heritage Foundation	Sufian & Habibullah (2014), Beju & Ciupac-Ulici (2012)

3.2. Research data

Data related to banking characteristics are collected from the financial statements of 21 Vietnamese commercial banks in the period from 2010 to 2021. Data representing the macroeconomic factors of the economy are collected from the statistics of the International Monetary Fund (IMF). Data related to the economic freedom index is collected by the author from the report of the Heritage Foundation.

3.3. Research methods

The study uses estimation methods with panel data including OLS, FEM, REM, and GLS methods to provide empirical evidence on the impact of economic integration on the performance of Vietnamese commercial banks.

4. Research results

4.1. Descriptive Statistics

Descriptive statistics results show the basic characteristics of the data sample such as the number of observations, the mean value, the standard deviation, the minimum value, and the maximum value. The data sample includes 21 Vietnamese joint-stock commercial banks, in the research period from 2010 to 2021, the largest number of observations for each variable is 252 observations and the lowest is 222 observations, the data is unbalanced panel data. because some banks do not fully disclose financial statements and/or some items in the financial statements are not available.

Table 2. Descriptive statistics

Variables	Observations	Mean	S.deviation	Min	Median	Max
ROE	233	0,11	0,07	0,0007	0,10	0,44
ROA	233	0,01	0,02	0,0001	0,01	0,19
LLP_TL	224	0,01	0,01	0,0001	0,01	0,04
LOAN_TA	246	0,53	0,13	0,11	0,54	0,87
TA	248	17,58	1,46	11,88	17,61	20,81
NII_TA	222	0,02	0,04	-0,07	0,01	0,29
NIE_TA	232	0,02	0,01	0,004	0,02	0,03
ETA	245	0,12	0,08	0,04	0,10	0,71
GDP	252	0,06	0,01	0,05	0,06	0,07

Variables	Observations	Mean	S.deviation	Min	Median	Max
INF	252	0,08	0,06	0,01	0,07	0,23
BUSI_FREE	252	60,99	1,32	58,3	61,15	63,8
MONE_FREE	252	69,22	5,73	58,1	67,45	79,1
FINA_FREE	252	31,67	3,73	30	30	40

4.2. Correlation coefficient matrix

Research results show that the correlation coefficient between the pairs of variables is lower than 0.8; Therefore, there is no possibility of serious multicollinearity in the model (Wooldridge, 2003).

4.3. Regression analysis

First, the author uses the POOLed OLS to test the impact of the variable on the return on total assets (ROA). However, the test results are not effective. Accordingly, the author uses both fixed effect estimation (FEM) and random effects estimation (REM) methods in panel data to evaluate the impact of explanatory variables on the dependent variable. However, after the author performed the tests including the non-fixed variance test and the series correlation test

for the model to ensure the results is stable, the result is that the model exists the phenomenon of variable variance and no autocorrelation. Therefore, the author applies the method of FGLS in panel data to regress the research model instead of FEM and REM methods. At the same time, the estimated results from the FGLS method are the main basis for analyzing and discussing the research results on the impact of economic freedom on the ROA rate. However, the model estimation results by FGLS method are not significantly different from the other two estimation methods, FEM and REM.

Table 3 presents the results of the model for the effects of economic freedom and other factors on the return on assets (ROA). Most of the effects of the variables are compatible with the expected trend of impact.

Table 3. Regression results with ROA

Variables	ROA (FEM)		ROA (REM)		ROA (FGLS)	
	Coefficient	P value	Coefficient	P value	Coefficient	P value
LLP_TL	-0,52**	0,04	-0,32	0,15	-0,18	0,36
Loan_TA	-0,01	0,51	-0,02	0,18	-0,02	0,12
TA	0,02***	0,00	0,01***	0,01	0,01***	0,00
NII_TA	0,01	0,96	-0,02	0,59	-0,03	0,42
NIE_TA	0,85**	0,02	0,63**	0,04	0,52**	0,05
ETA	0,11***	0,00	0,09***	0,01	0,09***	0,00
GDP	0,48**	0,02	0,45**	0,03	0,47**	0,02
INF	-0,04	0,13	-0,03	0,29	-0,03	0,27
BUSI_FREE	0,01**	0,03	0,01**	0,04	0,01**	0,05
MONE_FREE	0,00	0,86	0,00	0,94	0,00	0,92
FINA_FREE	0,01***	0,00	0,01***	0,00	0,01***	0,00
Nam	-0,01***	0,00	-0,00***	0,00	-0,01***	0,00
Coefficient	9,99***	0,00	5,97***	0,00	5,61***	0,00
F stat	4,30	0,00	43,98	0,00	44,09	0,00
Observations	207		207		207	

Source: Results calculated from Stata

The results of Table 3 show that there is statistically significant evidence of the impact of entrepreneurship and financial freedom on ROA, however, there is no evidence of the impact of monetary freedom on ROA. More specifically, entrepreneurial freedom has a positive relationship with ROA, with a statistical significance of 5%. This result shows that, as Vietnam moves towards integration and economic freedom, gradually removing trade barriers and creating a more favorable environment for foreign participation in Vietnam, the efficiency of the economy is greatly improved. The performance of the domestic banking industry has improved. The positive relationship between entrepreneurial freedom and bank performance (ROA) is similar to the results of the author's previous study in Asia (Sufian & Habibullah, 2014).

Financial freedom has a positive relationship with ROA, statistically significant at the 1% level. This result is similar to the results of Sufian & Habibullah (2014). This result further shows that the separation of control of the bank from the government (financial freedom) is the driving force behind the profit growth of commercial banks. Banks have more opportunities to finance good private businesses and bring more benefits while controlling risks without having to be dominated by power from the Government (Sufian & Habibullah, 2014). In Vietnam, banking operations are nominally regulated by the State Bank. However, government intervention in the Vietnamese

banking system is not uncommon. This is sometimes appropriate because the context of Vietnam is currently a developing country, and the government's intervention sometimes helps the bank to solve some common risks for the economy as well as the economy. for the development of the banking industry. In the opposite direction, the government's excessive intervention sometimes becomes an obstacle to the development of banking.

Monetary freedom does not show an impact on ROA in the case of Vietnam. This result is different from the result of a negative relationship between monetary freedom and ROA in the study of Sufian & Habibullah (2014). In other words, in the case of Vietnam, the government's intervention in the market has not shown an impact on the efficiency of commercial banks.

Table 4 shows the results of the regression model of the impact of economic integration on the return on equity (ROE) of Vietnamese commercial banks. The results show that there is statistically significant evidence for the impact of financial freedom on ROE, while business freedom and monetary freedom have no evidence to affect a bank's ROE. The positive relationship between financial freedom and ROE is similar in meaning to the relationship between financial freedom and ROA. In other words, less government intervention in the banking industry improves the bank's performance including ROE and ROA.

Table 4. Regression results with ROE

Variables	ROE (FEM)		ROE (REM)		ROE (FGLS)	
	Coefficient	P value	Coefficient	P value	Coefficient	P value
LLP_TL	-1,31	0,11	-1,24	0,11	-1,14	0,12
Loan_TA	-0,06	0,16	-0,09**	0,02	-0,08**	0,02
TA	0,09***	0,00	0,05***	0,00	0,04***	0,00
NII_TA	0,02	0,87	-0,09	0,39	-0,23*	0,07
NIE_TA	2,43**	0,04	2,82**	0,01	3,87***	0,00
ETA	0,15	0,12	-0,02	0,79	-0,05	0,59
GDP	2,88***	0,00	2,87***	0,00	3,16***	0,00

Variables	ROE (FEM)		ROE (REM)		ROE (FGLS)	
	Coefficient	P value	Coefficient	P value	Coefficient	P value
INF	-0,18**	0,02	-0,13	0,11	-0,15	0,10
BUSI_FREE	0,01	0,17	0,01	0,16	0,01	0,17
MONE_FREE	0,00	0,13	0,00	0,25	0,00	0,40
FINA_FREE	0,01***	0,00	0,01***	0,00	0,01***	0,00
Nam	-0,04***	0,00	-0,03***	0,00	-0,03***	0,00
Coefficient	67,77***	0,00	51,01***	0,00	49,72***	0,00
F stat	18,34	0,00	206,87	0,00	233,66	0,00
Observations	207		207		207	

Besides, the research results also show that the larger the banks, the higher the profit margin in terms of ROA and ROE due to taking advantage of the advantages of scale. Besides, large-scale banks often have good input resources and quality output customers, so the bank's income is improved. These results are consistent with those of Sufian & Habibullah (2014).

Income diversification has a negative relationship with bank performance. In other words, banks focus too much on diversification and forget to improve their traditional activities of depositing and lending, further eroding corporate efficiency. Diversification can be considered in many aspects, but it is necessary to focus on and promote the main activities of depositing and lending, such as diversifying the group of loan customers, diversifying credit lines, and savings products... so the bank has both achieved the goal of diversification to attract resources and improve the efficiency of banking operations. The ability to manage operating costs has an impact on bank performance. The higher the management cost per total asset, the better the operational efficiency. This shows that the increase in operating costs is "intentional" such as increasing the cost of personnel quality and increasing resources for the banking administration system. These are intangible factors that contribute to improving the efficiency of banking operations. The equity ratio has a positive relationship with

bank performance (ROA). The greater the participation of equity in the bank's source structure, the better the return on total assets. These results are similar to those in the study of Sufian & Habibullah (2014). In Vietnam over the past time, the State Bank has always set constraints related to improving the financial capacity of the banking system and required an increase in the bank's participating equity to meet the capital adequacy ratio requirements of the Basel standards. The greater the participation of equity, the greater the responsibility of the banker, in addition, the larger the equity, the lower the cost of capital, reducing risks in the face of economic uncertainties, thereby improving the efficiency of banking operations (Sufian & Habibullah, 2014).

The test results show that the economic growth index has clear and statistically significant evidence that has an impact on bank performance. GDP has a positive relationship with bank performance. The macroeconomic environment with a sustained economic growth rate further promotes and facilitates banking activities to become better. In other words, when economic growth is higher, banks will lend more and with a higher interest rate, and at the same time, the quality of bank assets will improve. On the other hand, the test results also show that the inflation factor does not have enough evidence to have an impact on bank efficiency.

5. Conclusion and management Implications

The results show that economic integration and internal factors of the bank have a significant impact on the performance of the bank. Vietnam is increasingly participating in integration, so the trend of economic integration and globalization is inevitable. Accordingly, banks need to actively innovate to be suitable and successful in the new context. More specifically, the research results show that entrepreneurial freedom increases bank efficiency. This can be seen that entrepreneurial freedom creates a good environment to increase the participation of new businesses in Vietnam, thereby increasing the amount of demand for banking services. However, this also means more competition, increased profits coupled with increased risks. Therefore, the strategy to maintain stability in business operations and minimize risks is that the bank needs to increase its competitiveness, develop and enhance its inherent strengths, and above all, change according to international standards.

For policymakers, it is necessary to improve the legal framework, minimize unnecessary trade barriers and create a good environment to attract foreign investment, which is also an effective and necessary solution to develop the economy in general and increase the efficiency of the banking industry in particular. As mentioned above, the research results show that entrepreneurship increases the efficiency of banking operations. From an overall perspective, economic integration is a common policy of the State bank, so the simplification of administrative procedures, legal reform, and investment attraction are tasks that policy-making agencies need. must execute. Besides, it is necessary to further reform administrative and legal procedures for investment, and the procedures for establishing and allowing bankruptcy of enterprises, which need to be improved in a simpler direction, and come closer to common standards. international standards, removing barriers to administrative procedures, and harassment in licensing stages.

The government needs to reduce interference in the banking system. As defined by the ranking organization The Heritage Foundation, financial freedom is about reducing government control over the banking system. The role of government should only create an enabling, fair and transparent environment. Besides, the research results also show that financial freedom and bank performance have a positive relationship. Therefore, the author also advocates the reduction of government intervention in the operation of the Vietnamese banking system to be in line with global standards and to improve the efficiency of banking operations. More deeply, reducing government intervention in banking activities can partly make the operating system transparent, increase the efficiency of resource allocation among sectors of the economy, and promote competition. healthier competition among banks.

In the trend of economic integration, internal factors also strongly affect the efficiency of banking operations. Factors such as bank size, diversification, cost management ability, and bank's equity ratio all have statistical evidence to show a significant impact on bank performance. Therefore, banks need to actively improve the quality of internal factors such as increasing the bank size, diversifying, and effectively controlling costs to increase competitiveness and develop strengths. have advantages, and absorb new technology as well as international standards.

Macro factors also have a significant impact on the efficiency of banking operations in Vietnam. Therefore, the government needs to have solutions to run the economy appropriately and effectively. Research results show that GDP growth and bank efficiency have a positive relationship. Therefore, to contribute to increasing the operational efficiency of the banking industry, the Government should take measures to promote stable and sustainable economic growth. Since then, the bank is confident enough to have sustainable development strategies and contribute more to the overall growth of the economy.

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ADOPTING DIGITAL TRANSFORMATION IN SMALL AND MEDIUM ENTERPRISES: AN EMPIRICAL MODEL OF INFLUENCING FACTORS BASED ON TOE-TAM INTEGRATED

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ARTICLE INFO	ABSTRACT
<p>DOI: 10.52932/jfm.vi72.352</p> <p><i>Received:</i> November 10, 2022</p> <p><i>Accepted:</i> November 22, 2022</p> <p><i>Published:</i> December 25, 2022</p> <p>Keywords: Adoption of digital transformation; Factors affecting adoption of digital transformation; Integrated TOE with TAM; SMEs.</p>	<p>This study examined relations between factors impacting the adoption of digital transformation of small and medium enterprises (SMEs) in the Vietnam context by mixed method research. The qualitative research was carried out by a group discussion with 11 participants and a cross-sectional survey with 346 valid questionnaires. The results show the relative advantage, perceived benefits of digital transformation, compatibility, security concern, competitive pressure, vendor support, top management support, investment readiness, perceived usefulness, and attitudes toward adoption have impacted the adoption of digital transformation in SMEs in Vietnam. This research contributed to extending the academic framework and examining causal relationships by adopting new characteristics from the integrated perspective of TOE with TAM beyond the existing research models. The findings are the basis for the government to propose policies to promote digital transformation and for SMEs to prepare technological and organizational readiness for successful digital change.</p>

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1. Introduction

Digital transformation is one of the important drivers of economic growth (Vu et al., 2020). There has been much academic research on the adoption by businesses. However, the core question is what are the factors influencing the digital transformation of SMEs? has not yet been answered. That's because of the complexity of identifying small and medium-sized enterprises (SMEs). SMEs play a crucial role in developing and developing nations' economic growth. In Vietnam, SMEs account for 97%, contributing 45% of GDP, 31% of total budget revenue, and attract more than 5 million employees (SMEs account for 97%, contributing 45% of GDP, 31% of total budget revenue, and attracting more than 5 million employees (Vietnam MPI, 2021). Nadkarni and Prügl (2021) stated that despite the diversity in the theoretical foundations for digital transformation research, the available literature is generally scarce on quantitative empirical evidence. This study uses a technology, organization, and environment (TOE) framework integrated with the TAM model to examine the drivers of digital transformation adoption in the SME sector. The use of the integrated model TOE with the TAM can be justified as follows. Firstly, the factors that impact the adoption of digital transformation are influenced by human, organizational, and environmental factors (Petter et al., 2008) and these factors are present in the TOE framework. Secondly, several researchers used the TOE framework or TAM model to understand the adoption of new technology. The research results on the determinants of digital transformation in Vietnam's SMEs are expected to give many implications for developing countries that are pursuing digital transformation.

2. Literature review and hypotheses

2.1. Adoption of Digital Transformation

Digital transformation is a transformation concerned with the changes digital technologies can bring about in a company's business model,... products, or organizational structures (Hess et al., 2016). The researchers

looked at the digital transformation of SMEs from 12 different angles: (1) e-commerce, (2) social commerce, (3) Industry 4.0, (4) digital platform (CRM/SCM), (5) cloud computing, (6) sterilization, (7) adoption social media, (8) blockchain, (9) RFID, (10) Portal (website), (11) Accounting Information System & (12) Smart Manufacturing. The adoption of digital transformation will give an impact on businesses such as innovative (Nambisan et al., 2019), by using the internet, online communication, online transactions, e-commerce, e-tax, e-service, and enterprise systems (Azam & Quaddus, 2012). According to Bloomberg (2018) and Peter (2017), digital transformation is customer-driven and requires cross-cutting organizational change along with the implementation of digital technologies.

2.2. Technological Context

The research literature identified relative advantage as the degree to which a new system is more advantageous to the organization than a similar conventional method or technology. It is a variable influenced by knowledge, a variable of behavioral factors (Ostlund, 1974). Heinze et al. (2018) state that digital transformation's relative advantage is Information within organizations is more easily accessible. The higher the relative advantage, the greater the acceptance of digital technologies. Digital transformation is not only new technology but also a great change, so it can be said that its relative advantage is high. Perceived benefits from digital transformation indicate the extent to which businesses perceive benefits such as time savings, cost reductions, and decision support (Gartner, 2014). One of the key features of transformation applications is that they save time and effort (Lytras & Visvizi, 2019). The benefits of digital transformation manifest in aspects such as increased innovation capacity; improve customer satisfaction; shorten time to market; enhance competitiveness (European Commission, 2015). The Covid-19 pandemic context spurred the digital transformation into an urgent matter that can not hesitate (Lesser & Reeves, 2020). In particular, the digital transformation taken both in the public

sector and private organizations contributes significantly to improving ways to better serve citizens (OECD, 2018).

Compatibility with existing systems is the degree to which digital transformation is compatible and consistent with current information systems. Borgman et al. (2013) argued that compatibility has a significant positive impact on the adoption of new technologies. Firm-level system compatibility drives the adoption of digital transformation (Cao et al., 2014). Security concerns are consistently identified as one of the issues for digital transformation managers. Self-learning, self-improvement, and standardization can help overcome privacy and security challenges (Yin et al., 2016). Viriyasitavat (2016) states that an appropriate selection process is needed to accommodate the dynamics in real-time service process interaction that creates complexity. Many studies have shown that SMEs adopting digital transformation can lead to overcoming challenges of security concerns, being able to access new market opportunities, and boosting business efficiency better business (Marchand et al., 2002). As the independent variable of the integrated model, we incorporated four variables to integrating the TOE framework and TAM model. Hence, the following influencing factors related to the technical context are hypothesized:

H1. The relative advantage of digital transformation has a positive effect on perceived usefulness.

H2. Compatibility with existing systems has positively influenced perceived usefulness.

H3. The perceived benefit of digital transformation has positively influenced perceived usefulness.

H4. Security concern has positively influenced perceived usefulness.

2.3. Environment Context

The variables relate to the external environment in which an organization operates include competitive pressure and vendor support. To compete in the knowledge-based economy, firms must consider adopting new

technologies, especially digital-based ones (Alsaad et al., 2018). According to Tyler et al. (2020), the expectations of competitive pressure by SMEs affect their decision-making switch toward digital transformation. In addition, market globalization and business internationalization are factors of new competitive pressures (Karlton, 2017). Therefore, many businesses are switching to digital transformation measures to gain a competitive advantage, to satisfy consumers with increased demand for digital solutions, or simply because it is important for survival (Karlton, 2017). Vendors in digital transformation involve software providers, cloud service providers, and data collection and analysis. Vendors are required to make sure digital transformation is always available when they need it. Moreover, support is the main need to solve the problem in the case of digital transformation that firms pay the support vendors. Therefore, digital transformation service vendors recruit and train adequate support teams to provide the best possible support to their customers (Kim & Suwon, 2009). Vendors' support drives the adoption of digital transformation. Therefore, the following influencing factors related to the environmental context are hypothesized:

H5. Competitive pressure has positively impacted attitudes toward the adoption of digital transformation.

H6. Vendor support has positively impacted attitudes toward the adoption of digital transformation.

2.4. Perceived Usefulness

The term perceived utility (PU) was proposed by Davis in 1989 to refer to the extent to which an individual believes that using a particular system will enhance their job performance. According to Mathwick et al. (2001), the perceived usefulness of technology is the extent to which a person believes that using technology would enhance their job performance. Venkatesh et al. (2016) stated that employees attitude prefer digital technology

because they believe it can help them do their tasks more efficiently. Therefore, perceived usefulness is important in predicting attitudes toward the adoption of digital transformation and long-term sustainable digital technology adoption (Navimipour & Soltani, 2016). The perceived usefulness of technology is a fundamental factor that indirectly influences user adoption decisions (Joshi et al., 2005). The perceived usefulness of technology is the fundamental determinant of user acceptance (Joshi et al., 2005). From the above argument, the hypothesis proposed is:

H7. Perceived usefulness has positively affected the attitude toward the adoption of digital transformation.

2.5. Organization Context

Tan et al. (2007) described organizational readiness as the support of managers and the level of investment readiness to adopt new technology. According to Sin et al. (2016) technology context will help businesses outperform their competitors. Perceptions and actions of top management about the use of technological innovation in creating sustainable values. It ensures long-term vision and manager support, reinforces values, commits resources, and supports overcoming barriers resistance, and resistance to change (Salleh & Janczewski, 2016). Borgman et al. (2013) suggest that top management support sustains the effective adoption of new technologies. It means that only when new technologies are integrated into key business processes can enterprises have core competencies (Shen, 2018). In addition, enterprise resources will influence digital adoption. Investment readiness has a significant positive relationship with firms' ability and willingness to adopt innovation (D'Ambra, 2001). The marketing materials focused on customer-centric digital transformation and yielded insights into how to improve the effectiveness of digital advertising and develop multi-channel and multi-channel environments effective channel (Kannan, 2017). Advanced technology will

help businesses outperform competitors (Sin et al., 2016). An important factor that can affect the adoption of digital transformation is the investment readiness of the organization. Financial investment is required for equipment and consulting to apply digital transformation and operate systems (Gartner, 2014). Therefore, the following hypotheses are proposed:

H8. Top management support has positively affected the adoption of digital transformation.

H9. Investment readiness has positively affected the adoption of digital transformation.

H10. The strategy has positively affected the adoption of digital transformation.

2.6. Attitude Toward Adoption of Digital Transformation

Attitude is defined as an individual's positive or negative feelings about performing the target behavior (Davis, 1989). According to the TAM model, consumers' decisions and attitudes are predictable. Bakar et al. (2020) stated that attitude is **de-ned** as a tendency to react favorably or adversely to firms. Some previous research has found that the attitude of leaders and employees favors conducting new technology and this relationship has received solid empirical evidence (Farahnak et al., 2020). Employees are more likely to execute an activity if they have a positive attitude and are less likely to do so if they have a negative attitude. Employees and leaders move towards sustainable digital adoption as they realize the technology's optimistic outlook (Nguyen et al., 2017). In some studies of new technology using the TAM model, it has been shown that firms' positive attitudes have a positive effect on the adoption of new technology systems. Therefore, we propose a hypothesis:

H11. Attitude toward adoption has positively affected the adoption of digital transformation.

2.7. Conceptual model

There have been many models used in research and application of new technologies such as TRA, TBP, TAM, UTAUT, DOI, TOE,

etc, but the two most widely used models that have proven to be relevant for new technology adoption are the Technology Acceptance Model (TAM) and the Technology Organizational Environment Framework (TOE) (Nguyen et al., 2022). TAM has the limitation of looking at future behavior, not actual behavior (Wu, 2011), and the external variables of TAM extrinsic variables in the extended models of TAM are not well defined. The TOE is particularly suitable for innovative internet-based explanations of organizational behavior in terms of information technology (Abualrob & Kang, 2016). However, the TOE framework has major structures that are unclear and general. Therefore, this research has integrated TOE and TAM so that the predictive power of the resulting model can be improved and some individual limitations of both TAM and TOE. The TOE complements TAM as external variables affecting technology adoption behavior. The study integrated the TAM-TOE model consisting of 9 independent and 2 mediating variables utilized to figure the impact degree and causal level of factors on the adoption of digital transformation.

3. Methodology

3.1. Research Design

This study used mixed method research by qualitative and quantitative research. The qualitative research was carried out by a focus group with 11 participants. It includes two sections primarily concerned with answering ‘what’ and ‘why’ questions within the adoption of digital transformation of the SME. In section 1, a discussion is based on an unstructured questionnaire to unfold the core issues related to the adoption of digital transformation and reviews variables and measurement items inherited from previous studies. Section 2 is testing the content validity of variables and measurement items that were chosen through section 1. According to Ayre and Scally (2014), $CRV_{critical} = ((z\sqrt{N}) + 1) / N$. Where N is the total number of panel members, ne is the number of experts agreeing “essential,” p is the probability of agreeing each item essential

= $\frac{1}{2}$, 0.5 is the continuity correction, z is the normal approximation of the binomial, $z = \{(ne - Np - 0.5) / (\sqrt{[Np(1-p)]}) \sim (N(0.1))\}$. In this focus group with 11 experts, if CVR Critical ≥ 0.636 , the variables and measurement items were accepted (Ayre & Scally, 2014). The quantitative study used a cross-sectional method with non-probability and convenience sampling was carried out in all territories of Vietnam.

3.2. Quantitative Research

The survey questionnaire consists of three parts, not to mention the introduction. The first part consists of two screening questions to ensure that the respondent is competent to represent the SME and that the business has been adopting digital transformation. The second section ordered a 5-point Likert scale for each five measurement items of a variable. The 5-point Likert scale (1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree). Measurement items were adapted from previous research as sequence follows: Five measurement items of each independent variable belonging to context: “technological, organizational, and environmental” were adaption from Sun et al. (2018); Salleh and Janczewski (2016); Chen et al. (2015). Five measurement items of each mediating variable: perceived usefulness and attitude toward the adoption of digital transformation were adaptations from (Nguyen & Luu, 2020); Truong, 2018; Davis, 1989). The dependent variable (adoption of digital transformation) was adaptations from Nguyen and Luu (2020) and Palmatier and Martin (2019). The third section addressed information, including the firm’s age, number of employees, revenue, and business industry.

3.3. Data Collection and Analysis

This study uses Smart-PLS software for SEM analysis. According to the 10-fold rule for PLS-SEM, with 10 numerical links pointing to the variables in the model, the minimum sample size in this study is $(10 \times 11) = 110$. With the number of obtained 346 valid questionnaires rate, this study warrants the sample size. This

study uses a non-probability sampling method with a convenient technique. The questionnaire was distributed across both in-person and online processes in April 2022. Collected data were analyzed using SPSS and SmartPLS software. According to Hair et al. (2021). The external load indicator of the measured item is > 0.708 and the AVE is > 0.50 convergence effect gain variable. The confidence interval of the Heterotrait-Monotrait ratio (HTMT) should be less than 0.85, and the relevant threshold level statistic should not include a value of 1 for all combinations of variables. The significant confidence level for the estimates is 0.05.

4. Results and Discussion

4.1. Qualitative Research

The conceptual model was developed from theories and previous research consisted of 12 variables and 60 measurement items. The results of the focus group were that 3 measurement items (RA1, CP4, AD4, and AD5) were deleted because the validation $CVR_{\text{Critical}} < 0.636$ was not valid. The remaining 56 measurement items were then conducted for the quantitative research.

4.2. Descriptive Analysis

This study collected 346 valid questionnaires from 346 respondents who represent SMEs. As for the age establish of the firms, there are 35 SMEs were operating under 2 years (10.12%), 121 SMEs from 2 to 5 years (34.97%), 135 SMEs from 5 to 10 years (39.02%), and 55 SMEs over 10 years (15.89%). Regarding the number of employees, the result showed that 38 SMEs have less than 10 employees (10.98%), 266 SMEs have 10-49 employees (76.88%), and 42 SMEs have 51-100 employees (12.14%). For the main business sector, the result showed that 12 SMEs in the agriculture sector (3.47%), 76 SMEs in the industry sector (21.97%), 130 SMEs service sector (37.57%), and 128 SMEs in two or three sectors (36.99%). As for the market of the firm, the result showed that 7 SMEs (2.02%) have the international market, 270 SMEs (78.03%) have only the domestic market, and 69 SMEs (19.94%) have domestic and export markets.

4.3. Valuation of the Measurement Model

Reliability and Validity. The construct gains internal consistency reliability if a factor displayed its reliability if its Cronbach's Alpha and composite reliability (CR) are greater than 0.7 Hair et al. (2021). The result showed that Cronbach's Alpha ranged from 0.862 to 0.933, and CR ranged from 0.904 to 0.949 (Appendix 1). Thus, all 11 variables had high levels of internal consistency reliability.

Convergent Validity. To evaluate the convergent validity of reflective variables, researchers considered the outer loadings of the indicators and the average variance extracted (AVE). According to Hair et al. (2021), the construct was convergent validity if the Average variance extracted (AVE) was higher than 0.50, outer loading higher than 0.6, and indicator reliability higher than 0.5. The results showed that the outer loading of 51 measurement items was from 0.764 (PU3) to 0.904 (PS4) larger than 0.60 and the AVE of 11 variables ranged from 0.655 to 0.788 larger than 0.5. Therefore, 11 variables were considered to have achieved convergent validity (Appendix 1).

Discriminant Validity. The confidence interval of the Heterotrait-Monotrait Ratio (HTMT) should be lower than 0.85, and the relevant threshold level statistic should not include the value 1 for all combinations of variables (Hair et al., 2021). The results showed that all HTMT values ranged from 0.336 to 0.783 lower than the conservative threshold value of 0.85. However, when examining the HTMT ratios, the HTMT values were significantly different from 1. Hence, all 11 variables were already discriminant validity (Appendix 2).

4.4. Structural Equation Modeling (SEM)

Collinearity Test. A related measure of collinearity was the variance inflation factor (VIF). According to Hair et al. (2021), VIF values must be lower than 5. This study's results show that the VIF of the PU3 had the lowest (1.719) to the highest value of TS4 (3.621). Therefore, 51 measurement items all had a VIF value below the threshold value of 5. Therefore,

collinearity among the predictor variables was not a critical issue in the structural model, and we can continue examining the results report.

Model fit. Model fit is measured by Standardized Root Mean Square Residual (SRMR). The SRMR was defined as the difference between the observed and model-implied correlation matrix. A value less than 0.10 or 0.08 (Hu & Bentler, 1999) was considered a good fit. The result of this research showed that SRMR = 0.040 (< 0.08) indicates a good fit.

Hypotheses Testing

The hypotheses and conceptual model were tested by bootstrapping with 5,000. First, when

examining the p-value, which should be lower than 0.05 (Hair et al., 2021). The research results show that all p-values ranged from 0.000 to 0.009, lower than 0.05 so the eleven hypotheses were supported. Overall, all the path coefficient-related hypotheses were from 0.133 to 0.378 (Table 1). The R² value of the variables ranged from 0.529 to 0.592, showing the interpretation level of the independent variables on the dependent variables perceived usefulness (PU), attitude toward adoption (AT), and adoption of digital transformation (AD) as a medium level. The f² values indicated an exogenous construct ranging from 0.024 (H9) to 0.274 (H5) respectively on an endogenous construct from small to medium level.

Table 1. Hypothesis Test

Relationship	Hypothesis	Original Sample (O)	T Statistics (O/STDEV)	P-Values	f ²	Hypothesis test
RA -> PU	H1	0.235	5.320	0.000	0.090	Supported
PB -> PU	H2	0.189	3.943	0.000	0.052	Supported
CO -> PU	H3	0.292	6.733	0.000	0.125	Supported
SC -> PU	H4	0.261	5.725	0.000	0.107	Supported
CP -> AT	H5	0.378	8.178	0.000	0.260	Supported
VS -> AT	H6	0.378	8.449	0.000	0.274	Supported
PU -> AT	H7	0.227	5.845	0.000	0.108	Supported
AT -> AD	H8	0.279	5.021	0.000	0.101	Supported
TS -> AD	H9	0.133	2.627	0.009	0.024	Supported
IR -> AD	H10	0.307	5.304	0.000	0.114	Supported
ST -> AD	H11	0.197	3.729	0.000	0.048	Supported

Predictive Relevance

The results show that the Q² values are all greater than 0 indicating that the exogenous variables had predictive relevance for the endogenous construct under consideration. The Q² of attitude toward adoption (AT) has the largest value (0.496), the next adoption digital transformation (0.456), and the smallest perceived usefulness (0.340). Therefore, attitude toward adoption, perceived usefulness, and adoption of digital transformation are supporting the model's predictive relevance regarding the endogenous latent variables.

Indirect Effect

The mediating effects of PU and AT were analyzed. As shown in Table 2, the effect of co-created value on AB is mediated by PU and AT. The results show that all indirect effects are significant since neither 95% confidence intervals include zero and p-values < 0.05. Hence, seven variables have significant indirect effects on AD. The empirical β of the indirect effect smallest (0.012) for the PB -> PU -> AT -> AD yielded a p-value of 0.008. The indirect effect biggest (0.106) for the VS -> AT -> AD, yields a P-value of 0.014. Similarly, the indirect effect (0.048) for the CS → PU → AB, yields a p-value of 0.000.

Table 2. Specific Indirect Effects

Relationship	β	Standard deviation	T Statistics	P-Values
CP -> AT -> AD	0.106	0.024	4.327	0.000
CO -> PU -> AT -> AD	0.018	0.006	3.027	0.002
PB -> PU -> AT -> AD	0.012	0.005	2.658	0.008
RA -> PU -> AT -> AD	0.015	0.005	3.113	0.002
PU -> AT -> AD	0.063	0.017	3.635	0.000
SC -> PU -> AT -> AD	0.017	0.006	2.975	0.003
VS -> AT -> AD	0.106	0.025	4.271	0.000
CO -> PU -> AT	0.066	0.016	4.073	0.000
PB -> PU -> AT	0.043	0.013	3.284	0.001
RA -> PU -> AT	0.053	0.013	4.029	0.000
SC -> PU -> AT	0.059	0.015	4.005	0.000

Importance-Performance Map Analysis (IPMA)

The IPMA was divided into four quadrants of variables based on two dimensions (importance and performance) for further exploration. The results showed that the average total effects of all variables were 0.114, and the average performance of the construct was 55.849. As can be seen, the PU, CP, and VS located in the higher right area of the importance-performance map have high performance and low importance for the target construct AD. Therefore, there

is a particularly high potential for improving the performance of the variables positioned in this area. On the other hand, the AT, ST, and TS variables in the higher right area have high importance for the target construct AB and show high performance. Hence, there is a need to keep up the good work. Meanwhile, the PB, RA, and CO variable is in the lower-left area, showing low performance and low importance for the target construct AD. Hence, there is a lower priority for performance and important improvements.

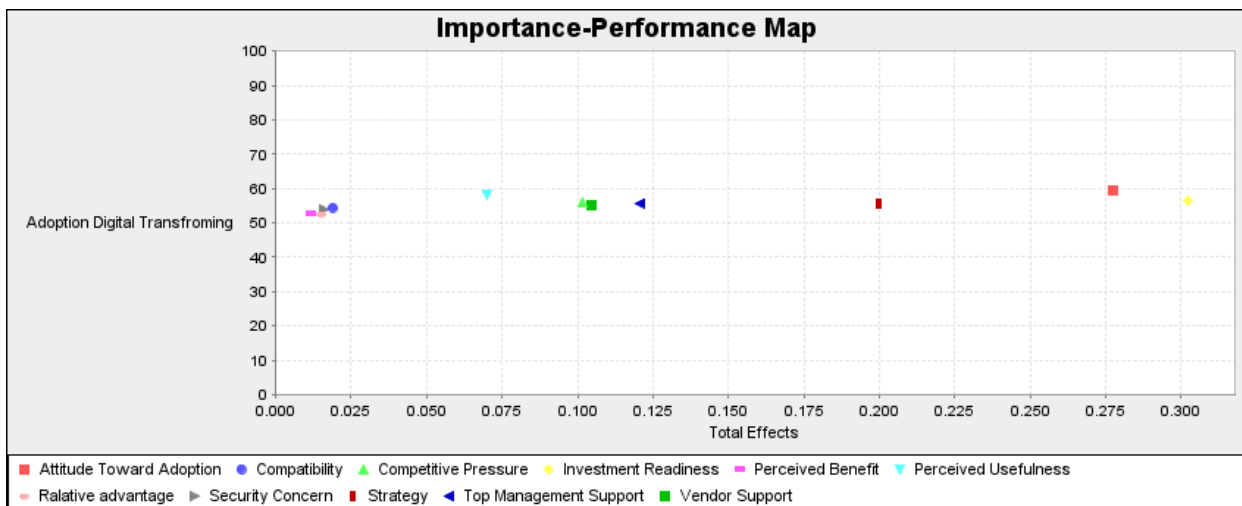


Figure 1. Importance-Performance Map

4.5. Discussion

The study identified relative advantages, perceived benefits of digital transformation, compatibility, security concern, competitive pressure, and vendor support as important variables for affecting the adoption of digital transformation using perceived usefulness and attitude as mediating variables. Also, top management support, investment readiness, and strategy were found directly affect the adoption of digital transformation. The results of this study are as the study of Cabrera-Sánchez and Villarejo-Ramos (2019); Sam and Chatwin (2018) when confirming the factors of business resources... affecting the adoption of digital transformation. The findings also indicate the adoption of digital transformation on top management support, investment readiness, and strategy. Firms with a high level of readiness for digital transformation are more likely to use digital platforms. Therefore, managers and policymakers need to focus on financial resources such as physical infrastructure, knowledge, and hiring staff with digital skills. Furthermore, for SMEs, leadership styles are often thin and flat, so technology adoption is often done with a top-down approach. The top management has an important role in persuading employees with words of encouragement and rewards to promote their work behavior. The manager must demonstrate ongoing commitment and support to develop an enabling environment for the adoption of digital transformation. Training employees to help them understand the functional and technical perspectives of digital technology and gain first-hand information and experience. Therefore, managers must strongly support the training of employees serving digital skills.

5. Conclusions and implications

This study developed an integrated TOE-TAM framework for analyzing the adoption of digital transformation. The TOE-TAM integration model has been confirmed to be suitable for this study as well as to address the

same important areas related to the adoption of transformation. The contribution of the study is that it provides evidence from an empirical survey with an objective interpretation of the findings. The research findings and discussion presented in this paper confirmed that relative advantages, perceived benefits of digital transformation, compatibility, and security concerns significantly direct affect perceived usefulness and indirectly on the adoption of digital transformation. The variables which affect attitude toward adoption are competitive pressure, and vendor support. Top management support, investment readiness, attitude toward adoption, and perceived usefulness direct impact the adoption of digital transformation. The research results presented in this paper serve as the basis for the implications of spreading the adoption of digital transformation.

The study contributes to providing information for managers and businesses applying digital transformation to consider and propose specific solutions to improve quality when adopting digital transformation. It is crucial to improve the awareness of SMEs about how easy it is to learn and use digital transformation. Besides, it is necessary to raise a positive attitude for SMEs that adopting digital transformation will bring many beneficial values to businesses. Practices to do it could be through forms such as providing more information about the benefits of digital transformation, and at the same time training and organizing seminars to help businesses gain positive experiences and awareness about the benefits of digital transformation. In addition, the government needs to have more policies to encourage and support businesses in digital transformation adoption activities. Finally, business solutions for the adoption of digital transformation would be provided to minimize competitive pressure from competitors and minimize possible risks when applying digital transformation in the future. The partners are encouraged to form networks with other players so that they can support and satisfy the needs of rapidly changing and diverse customers.

This study is a special attempt to contribute to the adoption of digital transformation literature. However, it is limited in terms of using a limited set of variables and exclusion of non-acceptors. Future research should validate the findings of the study in other contexts. Besides, this study is limited to SMEs

in Vietnam, where the number of SMEs is overwhelming compared to large firms and the adoption of digital transformation is growing rapidly. The results in other countries should therefore be considered in future research.

Conflicts of interest: The authors declare no conflict of interest

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Appendix 1. Reliability and Validity of the Measurement Model

Variable/ measurement item	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Adoption Digital Transforming	0.862	0.916	0.784
Attitude Toward Adoption	0.913	0.935	0.742
Compatibility	0.901	0.926	0.716
Competitive Pressure	0.905	0.934	0.779
Investment Readiness	0.918	0.938	0.753
Perceived Benefit	0.917	0.938	0.75
Perceived Usefulness	0.868	0.904	0.655
Relative advantage	0.874	0.914	0.726
Security Concern	0.915	0.937	0.747
Strategy	0.911	0.933	0.737
Top Management Support	0.933	0.949	0.788
Vendor Support	0.914	0.936	0.744

Appendix 2. Heterotrait_Monotrait Ratio (HTMT)

	AD	AT	CO	CP	IR	PB	PU	RA	SC	ST	TS
AT	0.740										
CO	0.568	0.618									
CP	0.623	0.783	0.577								
IR	0.758	0.662	0.517	0.622							
PB	0.541	0.518	0.503	0.426	0.524						
PU	0.611	0.677	0.653	0.582	0.623	0.592					
RA	0.390	0.448	0.425	0.425	0.500	0.465	0.572				
SC	0.476	0.477	0.477	0.421	0.421	0.46	0.598	0.336			
ST	0.706	0.658	0.575	0.544	0.665	0.468	0.516	0.429	0.401		
TS	0.648	0.589	0.516	0.507	0.643	0.442	0.525	0.536	0.381	0.628	
VS	0.631	0.77	0.476	0.631	0.503	0.457	0.537	0.368	0.442	0.563	0.402



TACIT KNOWLEDGE SHARING AND INDIVIDUAL WORK PERFORMANCE IN THE VIET NAM AVIATION INDUSTRY

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ARTICLE INFO	ABSTRACT
<p>DOI: 10.52932/jfm.vi72.232</p> <p><i>Received:</i> January 01, 2022</p> <p><i>Accepted:</i> October 06, 2022</p> <p><i>Published:</i> December 25, 2022</p> <p>Keywords: Aviation; Performance; Personal motivation; Social capital; Tacit knowledge sharing.</p>	<p>This study aims to develop a theoretical model and verify the relationship between tacit knowledge sharing and individual performance in the aviation industry with the motivating role of personal motivation and social contextual factors. The individual motivators are social status, reciprocity, while social capital is a social contextual factor. The research hypotheses are verified by a structural equation modeling (SEM) based on survey data from 369 respondents who are flight attendants working in aviation companies in Ho Chi Minh City. The findings revealed that all factors such as social status, reciprocity, and social capital have positively impacted tacit knowledge sharing. In addition, tacit knowledge sharing and social capital are found to enhance individual work performance. This paper offers some implications for managers in the airlines to stimulate tacit knowledge sharing and enhance employees' performance.</p>

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1. Introduction

In organizations, knowledge is divided into two types: explicit and tacit knowledge. The origin of tacit knowledge is an individual's experience and values. It is an intangible asset that is not subject to the law of diminishing returns and its value increases as more people share it. The essential role of tacit knowledge has been verified in relation to decision-making, time management, quality and competitive capability in firms (Mohajan, 2016). The understanding of tacit knowledge is especially crucial because it refers to practical intelligence and employee behavior that is acquired through experience. The implicit knowledge is also known to be particularly useful in explaining individual differences in job performance that arise from the processes of learning and practice (Manaf et al., 2018). In the last decade, the development of the air-transport market in Vietnam has been remarkable. The country has become one of the world's fastest growing air-transport markets. The deregulation policy has contributed greatly to the development of the aviation sector in Vietnam in the last decade. Vietnam is viewed as one of the world's fastest growing aviation markets. In 2016 alone, the total volume of passengers was estimated to be approximately 81 million, a 29% increase over the same period in 2015. The International Air Transport Association (IATA) anticipates that in the next five years Vietnam will be the fifth fastest-growing aviation market in the world, averaging nearly 14% and will reach 150 million passengers by 2035 (Pham, 2020). Airline companies need to provide new, high-quality, and enhanced services to create unique customer experiences in order to succeed. To achieve this goal, managers should establish regular and frequent knowledge sharing among employees to create value-added services. The flight attendants' knowledge is very important for airline companies to retain and attract new customers, satisfy their demands, and improve services delivered to them. To create new and unique customer experiences, managers have recently been interested in knowledge sharing (Afsar et al., 2017). However, transfer and sharing of tacit knowledge is not an easy task, tacit knowledge sharing may cause risks to an

individual (Mohajan, 2016). Motivation is one of the most key factors influencing employees' behavior to share their knowledge. Knowledge sharing seldom occurs unless participants have strong individual motivation (Hau et al., 2013). Previous studies on individual motivations have identified extrinsic motivations, such as reciprocity and social position are the outstanding benefits an employee can receive from knowledge sharing (Hau et al., 2013; Kankanhalli et al., 2005; Wasko & Faraj, 2005; Zhao & Detlor, 2021). Furthermore, social capital is an intermediary form of intellectual capital consisting of knowledge in groups and networks of people. More specifically, social capital consists of knowledge resources embedded within, available through, and derived from a network of relationships (Youndt et al., 2004). Social capital has been identified as one of the critical enablers of tacit knowledge sharing. On this topic, most prior research concentrated on knowledge in general and have failed to simultaneously integrate the antecedents and results of tacit knowledge sharing behavior in a complete model. Besides, research on individual motivators and knowledge sharing mainly have been done in virtual community context. The current study is a step toward filling these gaps. The purpose of this article is to identify the antecedents that support an individual's tacit knowledge-sharing behavior from the perspectives of social exchange theory. This study explores the nature of the social exchange benefits and social context and divides them into three constructs (social status, reciprocity, social capital) to examine their impacts on tacit knowledge sharing and job performance from the aviation industry. These findings impress the key role of implicit knowledge sharing on the managers in enhancing employees' job performance.

2. Theoretical background and research model

2.1. Theoretical background

Social exchange is defined as the exchange of activity, tangible or intangible, and more or less rewarding or costly, between at least two actors, the nature of the social processes that result in associations between individuals (Homans,

1961). The exchange behavior must be oriented toward ends that can only be achieved through interaction with other persons, and it must seek to adapt means to further achievement of these ends. Social exchange processes give rise to differentiation in social status and power based on the dependence of some actors on others for the provision of valued goods and services (Cook et al., 2013). Social exchange theory defines social behavior as “*voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others*” (Blau, 1964). Resources, including intangible ones such as knowledge and symbols of approval or prestige, are the currency of social exchange (Zhao & Detlor, 2021). Social exchange theory indicates that tacit knowledge sharing is essentially and initially a social exchange behavior between a knowledge provider and a knowledge receiver (Jiang & Xu, 2020). Resources received as a result of social exchange or positive outcomes of exchange can be seen as benefits. Social exchange theory shows that people behave in ways that maximize their benefits and minimize their costs (Kankanhalli et al., 2005). Social capital have been offered as antecedents for a variety of pro-social behaviors, including collective action, community involvement, and differential social achievements that the concept of individual based capital (such as human or financial capital) is unable to explain. Social capital resides in the fabric of relationships between individuals and in individuals’ connections with their communities (Wasko & Faraj, 2005). Clearly, such relationships are not limited to internal knowledge exchanges among employees, but also extend to relationships with customers, suppliers, alliance partners, and the like (Youndt et al., 2004).

2.2. Research model and hypotheses

2.2.1. Motivation factors and tacit knowledge sharing

2.2.1.1. Social status and tacit knowledge sharing

Social exchange theory (Blau, 1964) shows that individuals engage in social interaction based on an expectation that it will lead in some ways to social rewards such as approval, status, and respect. This suggests that one potential way

a person can benefit from active participation is the perception that participation enhances his or her personal status in the network. Status refers to an actor’s relative position in a group when this standing is based on “prestige, honor, or deference”. Status brings many benefits for individuals who possess it (Zhao & Detlor, 2021). The standing of an actor in a network was viewed as the key determinant of his/her power and influence (in the form of control over needed resources such as knowledge, information) (Cook et al., 2013). Thus, the perception that contributing tacit knowledge will improve one’s status and reputation in the profession may stimulate flight attendants to share their valuable, personal experience to others in the team. This leads to the first hypotheses.

Hypothese H1: Social status seeking is positively related to tacit knowledge sharing.

2.2.1.2. Reciprocity and tacit knowledge sharing

Reciprocity has been seen as a benefit for individuals to engage in social exchange (Blau, 1964). Knowledge sharing is also facilitated by a strong sense of reciprocity (Chang & Chuang, 2011). Many consequences have revealed that reciprocal knowledge exchange relationships promote employees’ knowledge sharing intentions (Wasko & Faraj, 2005). Once a flight attendant donates valuable knowledge to others, the knowledge receivers are indebted to transfer equivalent knowledge to the knowledge provider. Such reciprocity based on a knowledge exchange relationship has been pointed out as a major antecedent to encouraging employees to share their tacit knowledge (Hau et al., 2013). In workplace, employees who are more willing to share their high-quality ideas expect others to respond to their ideas and generate new ones (Hung et al., 2011). If reciprocity is a strong norm in the collective, individuals trust that their knowledge sharing efforts will be reciprocated, thereby rewarding individual efforts and ensuring ongoing sharing. These generate the hypothesis:

Hypothese H2: Reciprocity stimulates tacit knowledge sharing.

2.2.2. Social capital and tacit knowledge sharing

Social capital (SC) is “the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit” (Nahapiet & Ghoshal, 1998). At the organizational level, SC includes diverse aspects of social context, including social relationships, trust, and value systems that bond individuals or groups (Terry Kim et al., 2013). This study has addressed social capital from an intellectual capital perspective, arguing that related knowledge derives from interpersonal interactions, including internal and external relationships of an organization. These connections facilitate knowledge diffusion, transfer, and combination (Youndt et al., 2004). A network of relationships provides access to information, knowledge, and resources. Tacit knowledge is transferred through observing behavior, communicating or coordinating among employees (Mohajan, 2016). To transfer tacit knowledge it requires extensive personal contact, regular interaction and trust. It is sometimes captured when the knowledge holder joins a network or a community practice (Goffin & Koners, 2011). It can only be revealed through practice in a particular context and transmitted through social networks (Mohajan, 2016). Flight attendants have essential role in understanding how passengers react to the services provided by airlines. Their frequent interactions with coworkers make them more aware of customers’ needs and preferences regarding the airlines’ services. As a result, flight attendants would seek more ideas and good skills for his/her professional development. Based on these arguments, it is reasonable to formulate the hypothesise as below.

Hypothesise H3: Social capital positively impacts on tacit knowledge sharing.

2.2.3. Tacit knowledge sharing and individual work performance

Flight attendants who seek tacit knowledge from others gain access to completely new and diverse ideas, which in turn leads to cognitive stimulation of knowledge recipients. This enriches their knowledge depth and breadth, thereby improving capability to generate

novel ideas and solutions (Mohammed & Kamalanabhan, 2020). Tacit knowledge makes work go smoothly, it increases the quality of the work and it often characterizes a master of his/her profession. The role of tacit knowledge in the knowledge resources of firms can be considered significant and has been pointed out in relation to decision-making, time-management, quality and competitiveness (Ganguly et al., 2019). By sharing tacit knowledge, it is highly likely that flight attendants would initiate more ideas related to enhancing their job performance. Consequently, this study expects that flight attendants who gain new insights by engaging in tacit knowledge sharing from colleagues, go through experiences which broadens their knowledge base and helps see work-related problems from different aspects which eventually promotes their work performance.

Hypothesise H4: Tacit knowledge sharing has a positive effect on individual work performance.

2.2.4. Social capital and individual work performance

Social capital facilitates the actions of individuals within the structure (Coleman, 1990). Social capital makes possible the achievement of ends that would be impossible without it or that could be achieved only at extra cost (Nahapiet & Ghoshal, 1998). In examining the consequences of social capital for action, this study can identify two distinct themes. First, social capital increases the efficiency of action. Networks of social relations, particularly those characterized by weak ties or structural holes (i.e., disconnections or nonequivalencies among players in an arena), increase the efficiency of information diffusion through minimizing redundancy (Burt, 1992). The second theme centers on the role of social capital as an aid to adaptive efficiency and to the creativity and learning it implies. Social capital was found is to encourage cooperative behavior, thereby facilitating the development of new forms of association (Nahapiet & Ghoshal, 1998). A relative network also facilitates building a strong culture that shapes how all members perceive problems, interact, approach decisions, and solve problems, as well as motivates individuals to forgo self-interest when it is in conflict with the organization’s

goals (O'Reilly & Chatman, 1986; Zou & Ingram, 2013). Networks rich in structural boles provide an individual with some benefits: more unique and timely access to information, greater bargaining power and thus control over resources and outcomes, and greater visibility and career opportunities throughout the social system. An employee's contact with members of other organizational functions will provide access to information not available within his or her own functional group. greater access

to information and resources should enhance individual work performance (Seibert et al., 2001). Individuals can use their network positions to fill a broker or boundary spanner role within an organization add greater value to the organization (Burt, 1992). Based on the above arguments, hypothesis H5 is proposed as follows:

Hypothes H5: Social capital has a positive effect on individual work performance.

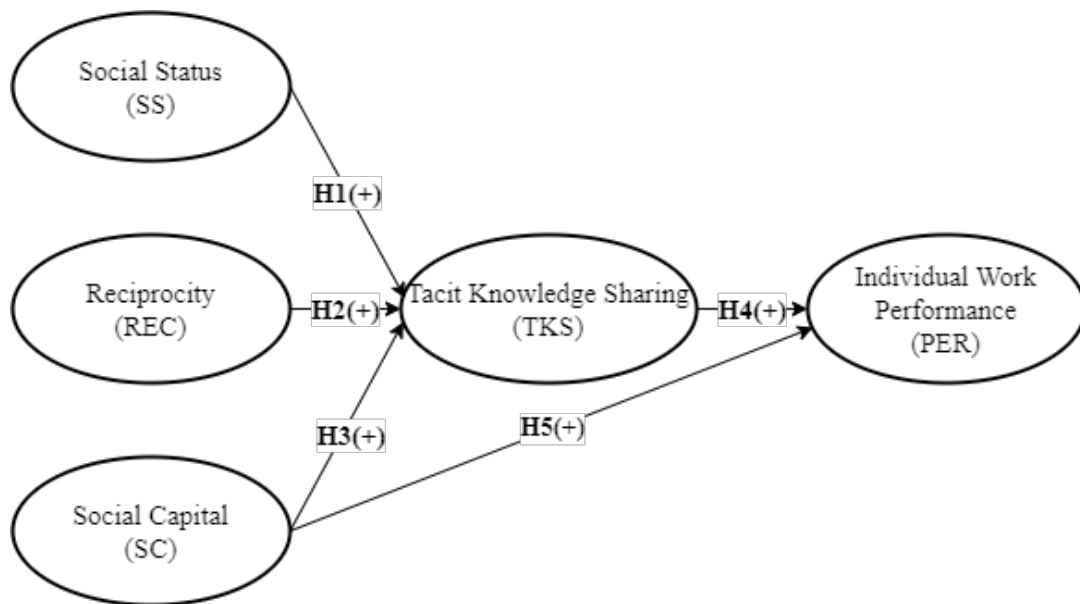


Figure 1. The hypothesized model of the study

3. Research methodology

3.1. Data collection and sampling

The questionnaire was available in both English and Vietnamese, with the Vietnamese version produced following the translation procedure recommended by Brislin (1970). Using convenience and judgmental sampling techniques, this study used the convenience sampling approach and contacted the managers for inviting them to participate in the survey. After obtaining their approval, the author asked them to deliver the survey website link to the flight attendants who worked with them. Following the criteria to select the eligible participants, this study collected a sample size of 500 from flight attendants who work for Vietnam Airlines (200 respondents), Jetstar Pacific (150 respondents) and VietJet Air (150

respondents) located in Ho Chi Minh city more than six months. Data collection took place between March and May of 2021. With 500 questionnaires distributed, a total of 369 valid questionnaires were returned, accounting for a 73.8 percent response rate.

3.2. Measurement of variables

The measurement items were developed by adopting the existing validated scales with slight modifications to reflect the context of the research. The social status (SS) seeking was measured using the four-item scale adopted from Zhao and Detlor (2021). To measure reciprocity (REC), study chose the four-item scale developed by Kankanhalli et al. (2005). The five items for measuring social capital (SC) were adopted from Youndt et al. (2004). Tacit knowledge sharing (TKS) which include five

items were adapted from Reyhav and Weisberg (2009). This research adapted the five-item scale from Becker et al. (1996) for individual work performance. The items were measured with a 5 points Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

3.3. Data analysis

Data analysis was conducted in accordance with the two-step approach recommended by Anderson and Gerbing (1988). A measurement model was first established via a confirmatory factor analysis and then, using AMOS 24 a path analysis was conducted and the path coefficients were estimated. In order to evaluate the validity of the measurement model, two tests were conducted: convergent validity and discriminant validity. The convergent validity is tested by assessing the standardized factor loading, which should be significant for all indicators (Anderson & Gerbing, 1988); the squared multiple correlation (SMC), which should be more than 0.40 for all indicators (Bollen, 1989); the composite reliability (CR), which should exceed 0.70 (Fornell & Larcker, 1981); and the average variance extracted (AVE), which should be more than 0.50 for all constructs. To assess discriminant validity, the

AVE for each construct should be higher than the squared correlation between the construct and any of the other constructs (Fornell & Larcker, 1981).

Several measurement model and structural model fit measures, such as Chi square (df), p value, root mean square error of approximation (RMSEA), Tucker-Lewis index (TLI), and comparative fit index (CFI), were employed. The TLI and CFI statistics should exceed the recommended 0.92 threshold level (Hair et al., 2014). The RMSEA should be less than the cutoff value of 0.08 (Bollen, 1989).

4. Research findings

4.1. Exploratory factor analysis (EFA)

The EFA uses Maximum likelihood with the Promax rotation method, which is in accordance with Hair et al. (2014). The Kaiser-Meyer-Olkin (KMO) value was 0.917, which is above the recommended value (0.8). Bartlett's test of sphericity was significant (p-value less than 0.05) It shows that the data are suitable for the analysis. The item SC5 was removed because it presented a factor loading (0.427) under 0.6. Cronbach's alpha is above 0.8 for all constructs (Hair et al., 2014).

Table 1. Measurement items and scale reliabilities

Constructs, indicators	Loading	Cronbach's Alpha	SMC
1. SS		0.861	
SS1	0.781		0.610
SS2	0.692		0.479
SS3	0.826		0.682
SS4	0.819		0.671
2. REC		0.829	
REC1	0.652		0.425
REC2	0.807		0.651
REC3	0.827		0.684
REC4	0.684		0.468
3. SC		0.838	
SC1	0.727		0.529
SC2	0.805		0.648
SC3	0.828		0.685
SC4	0.790		0.624
SC5	-		-

4. TKS		0.910	
TKS1	0.737		0.543
TKS2	0.799		0.638
TKS3	0.813		0.662
TKS4	0.865		0.749
TKS5	0.870		0.757
5. PER		0.872	
PER1	0.800		0.640
PER2	0.754		0.568
PER3	0.775		0.601
PER4	0.759		0.576
PER5	0.719		0.517

Notes: SMC: Squared Multiple Correlations.

4.2. Measurement model

Analysis of model fit measures shows that Chi-Square = 471.143, Degrees of Freedom (DF) = 199 CMIN/df = 2.368, p-value = 0.000, Comparative Fit Index (CFI) = 0.944, Tucker Lewis Index (TLI) = 0.935, Standardized Root Mean Square Residual (SRMR) = 0.0394 and Root Mean Square Error of Approximation (RMSEA) = 0.061. These results pass the cut-off values as suggested by (Hair et al., 2014). Therefore, our data fit the model well.

We assessed convergent validity by checking the standardized loading estimates and the Average Variance Extracted (AVE) values. As

shown in Table 2, all of the standardized factor loadings of the items of substantive variables exceed 0.6; all of the AVE values ranges from 0.557 for REC to 0.670 for TKS are higher than the threshold of 0.5 and composite reliability (CR) of all five latent variables ranges from 0.833 for the REC construct to 0.910 for the TKS construct exceed the threshold of 0.7 as recommended by (Hair et al., 2014). This implies that the model achieves convergent validity. In addition, none of the correlations between the construct exceed the square root of the AVE of each construct (Table 2), implying that all latent variables or constructs receive adequate discriminant validity (Fornell & Larcker, 1981).

Table 2. Results of Validity Analysis

	CR	AVE	MSV	Square root of AVE	PER	TKS	SS	REC	SC
PER	0.874	0.580	0.521	0.762	1				
TKS	0.910	0.670	0.521	0.818	0.722***	1			
SS	0.862	0.611	0.370	0.781	0.418***	0.517***	1		
REC	0.833	0.557	0.370	0.746	0.400***	0.492***	0.608***	1	
SC	0.868	0.621	0.484	0.788	0.696***	0.696***	0.429***	0.482***	1

Notes: ***: $p < 0.001$.

4.3. Structural model

An analysis of the structural model is subsequently carried out to verify all proposed hypotheses. The subsequent step involves an

estimation that uses maximum likelihood estimation to validate all the hypothesized relationships postulated from the research model (Byrne, 2016). Model fit measures reveal that

CMIN/df = 2.346, p-value = 0.000, CFI = 0.944, TLI = 0.936, SRMR = 0.0397, RMSEA = 0.060. It can be concluded that research data fit the model well (Hair et al., 2014). Hypothesis testing

was performed and summarised in Table 3. All hypotheses are statistically significant at different levels. Research result model is described in Appendix 1.

Table 3. Hypotheses testing of the structural model

Hypothesized relationships	SRW	p-value	Remark
H1 (SS → TKS)	0.267	***	Supported
H2 (REC → TKS)	0.148	0.003	Supported
H3 (SC → TKS)	0.602	***	Supported
H4 (TKS → PER)	0.457	***	Supported
H5 (SC → PER)	0.376	***	Supported

Notes: ***: $p < 0.001$.

SRW: Standardized Regression Weight

5. Discussion and implications

5.1. Discussion

This study aimed to examine the structural relationships among tacit knowledge sharing enablers, and outcome in the aviation industry from an integrative perspective by using social exchange theory (Blau, 1964) and intellectual capital theory (Youndt et al., 2004). These results support for the theoretical model and qualified support for all hypothesized relationships. The findings indicate that social status is a significant predictor of flight attendants' tacit knowledge sharing behaviour. The current results are also consistent with prior researches (Kankanhalli et al., 2005; Wasko & Faraj, 2005; Zhao & Detlor, 2021), providing additional evidence that status seeking is a strong motivator for implicit knowledge sharing. Empirical results also show that reciprocity significantly influence tacit knowledge sharing. Prior studies have revealed that reciprocal knowledge exchange relationships increase employees' knowledge sharing intentions (Hau et al., 2013; Wasko & Faraj, 2005). When an employee sharing valuable knowledge for others, the knowledge collectors are indebted to transfer equivalent knowledge to the knowledge provider. Such reciprocity based on a knowledge exchange relationship is a major factor to encourage employees to share their knowledge. In addition

to individual motivations, this paper shows evidence that social capital develops and plays an important role underlying tacit knowledge exchange. Scholars, therefore, argued that social capital provides important social context and conditions for social exchange in general (Cropanzano & Mitchell, 2005, p.874), and for knowledge exchange in particular (Zhao & Detlor, 2021). As such, it is possible that the impacts of social context pertaining to social exchange theory is contingent upon social capital. Social capital emphasizes interpersonal linkage within internal and external relationships of firms. These network relationships strengthen information and knowledge exchange.

Social capital is showed to significantly predict job performance. These results are supported by previous studies (Burt, 1992; Seibert et al., 2001) which have elaborated that employees who gain social capital gain access to a variety of people with the necessary information and the chance to contribute to organizational functioning, thereby gaining more positive career outcomes, such as faster promotions and career outcomes. Moreover, several researchers have indicated that an individual who is central in the social network is, over time, able to accumulate knowledge about task-related problems and workable solutions. This expertise not only enables the central individual to solve problems readily, but also

serves as a valued resource for future exchanges with coworkers (Zou & Ingram, 2013).

Last but not least, finding is that job performance is strongly driven by tacit knowledge. This result support to the findings of Reyhav and Weisberg (2009), Zaout and Abbas (2012), who found that effectiveness is stimulated by implicit knowledge sharing. Tacit knowledge associated with managing tasks refers to knowledge about how to establish careers, how to enhance positions, and how to convince superiors about ideas or products (Manaf et al., 2018). Tacit knowledge makes work go smoothly, it increases the quality of the work and it often characterizes a master of his/her profession.

5.2. Implications

The findings demonstrated that social status and reciprocity have strong impact on tacit knowledge sharing between flight attendants and showed how social exchanges are contingent upon social context, such as social capital in the airline firms. The study contributes to extant social exchange theory as follows. First, this study adds to the current literature of social exchange on the complicated relationship of benefits and exchange by providing additional evidence from status and reciprocity factors. Second, this article adopt an intellectual capital perspective to examine social context and conditions for social exchange that is social capital. Third, this study concentrate on the intangible resources such as tacit knowledge. It is viewed as the currency of social exchange.

This article provides practitioners in the airlines with some insights that can facilitate knowledge employees' work performance by some managerial implications drawn from tacit knowledge sharing behaviour. Firstly, a important method to promote individual participation in the tacit knowledge sharing process is to develop solutions that help establish individuals' status, reputation in their profession. For example, it could be potential to assign standing to flight attendants and make this status apparent both within the teams, units. Besides, efforts to foster the reciprocal

relationships and interpersonal interactions of employees are necessary for creating and maintaining a positive knowledge sharing culture in aviation industry firms. Particularly, managers can improve perceptions of reciprocal benefits among flight attendants, which are important in implicit knowledge sharing intentions.

Results also demonstrate that social capital has a positive influence on participants' behavior to share tacit knowledge and individual work performance. Therefore, managers in the aviation industry should encourage employees to actively participate in the network of relationships within departments as well as customers to create and facilitate tacit knowledge transfer. In addition, managers should allocate more resources in building trust and enhancing cooperation among flight attendants within and between departments and extend to linkages with customers, suppliers, alliance partners. To develop and nurture trust, it is necessary to create a truly open and consistent working atmosphere. To promote collaboration at workplace, managers need to focus on and create favorable conditions for the working environment, equipments, and working facilities for employees.

5.3. Conclusion and future research

The present study is an attempt to analyse the determinants and outcome of tacit knowledge sharing in airline companies. To this end, drawing from the social exchange theory and intellectual capital theory, a theoretical model is explored, which discusses the distinct impact of individual motivators and social capital on employees' engagement in tacit knowledge sharing from teammates and the subsequent effect on job performance of flight attendants. Tacit knowledge sharing has a direct effect on performance at personal level, whereas tacit knowledge sharing behaviour is contingent upon social status, reciprocity norm and social capital in the workplace environment.

This article acknowledges its limitations. First limitation is that knowledge sharing with

others in organizations may require the costs to a knowledge donator. If the costs are high, they may exclude an actor from this sharing process. Future researchs would explore impacting of cost factors on tacit knowledge sharing. Further, organizational-level intellectual capital

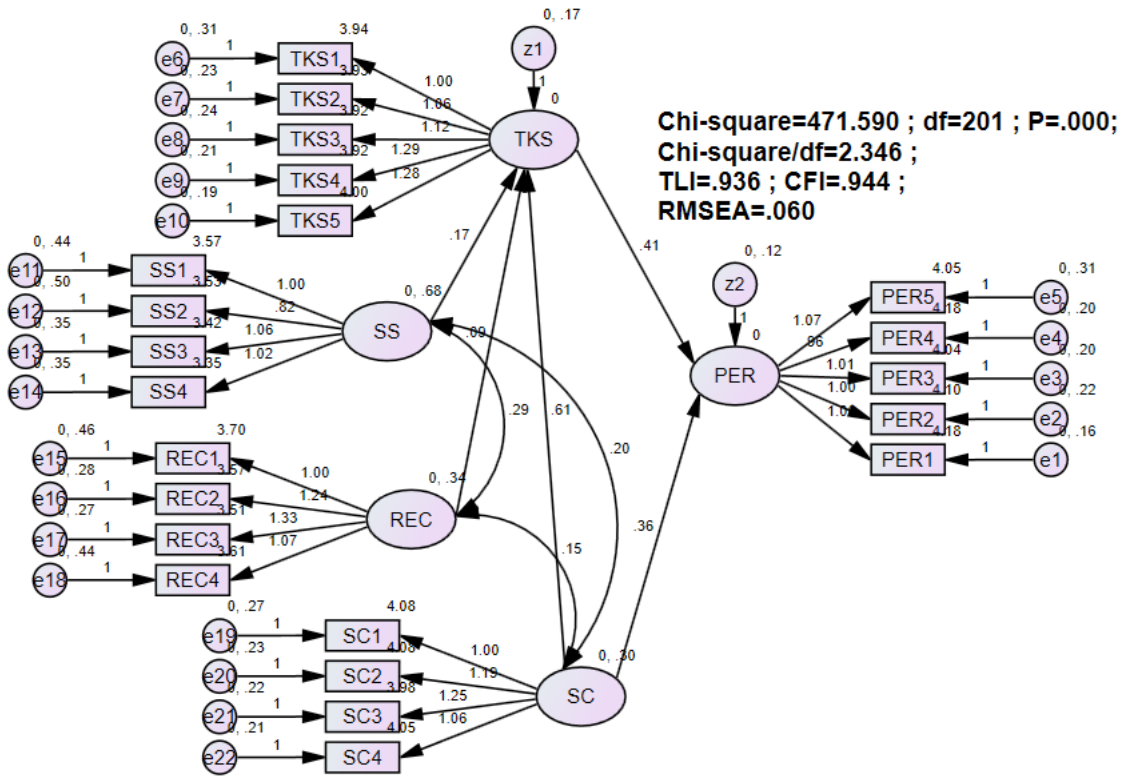
is regarded as comprising the components: human capital, organizational capital and social capital. Therefore, future studies may examine knowledge sharing behaviour in association with human capital and organizational capital.

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Appendix 1. Results of the structural model





DEVELOPING AN INNOVATIVE ENTREPRENEURIAL ECOSYSTEM: WHAT DO WE FIND FROM TIEN GIANG CONTEXT?

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ARTICLE INFO	ABSTRACT
<p>DOI: 10.52932/jfm.vi72.350</p> <p><i>Received:</i> October 05, 2022</p> <p><i>Accepted:</i> November 15, 2022</p> <p><i>Published:</i> December 25, 2022</p> <p>Keywords: Ecosystem structure; Innovation, Startup Ecosystem.</p>	<p>Promoting the development of an innovative start-up ecosystem is the driving force for the development of all economies, contributing positively to economic growth and restructuring. The purpose of the article is to assess the feelings of experts and businesses about the elements of the startup ecosystem in the context of Tien Giang province. The survey results of 150 experts and 300 businesses show that Tien Giang is doing very well in training and promoting entrepreneurship. In addition, direct support policies for start-ups such as: supporting information registration on the national portal quickly, shortened business registration time, tax incentive programs for innovative enterprises... is also a bright spot in Tien Giang's policy. However, startups are currently facing problems accessing financial resources as well as indirect support programs for startups as there are not many startup competitions that attract many participants. Tien Giang's current research and development programs are also not highly appreciated. In addition, the number of state-owned business incubators has not developed strongly and the success rate of startups from these incubators is not high. The estimated results also showed that there are statistically significant correlations between the business results of startups and most factors in the startup ecosystem. In particular, success story, culture, and market are the 3 factors that have the strongest correlation to the performance result of the business in the context of the early stages of the innovative startup ecosystem in Tien Giang province.</p>

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1. Introduction

Starting a business and building an innovative startup ecosystem has been a topic of great interest in Vietnam, especially in the context of the country's strong integration with the world economy. Start-ups are expected to create economic growth, contribute positively to socio-economic development, contribute to meeting the growing and diverse needs of society, create a large number of jobs for the community and society, mobilize social resources, contribute to the dynamic economy in the market mechanism, contribute to accelerating the process of economic restructuring, incubating business talents. Vietnam's innovation startup ecosystem in recent years, especially in 2018, is of particular interest to the Government and businesses. According to the Vietnam Entrepreneurship Index Report 2015 conducted by VCCI based on the Global Entrepreneurship Monitor (GEM) report, the constituent elements of the startup ecosystem include: (1) Infrastructure; (2) Dynamics of the domestic market; (3) Culture and social norms; (4) Government Policy; (5) Business support services; (6) Government Regulations; (7) Post-secondary business education; (8) The openness of the domestic market; (9) Technology transfer; (10) Government Assistance Program; (11) Finance for business; (12) High school business education.

Developing an innovative start-up ecosystem in Tien Giang province is also focused on directing and developing policies "building a startup ecosystem in the direction of creating a favorable investment and business environment, supporting individuals and groups of initiatives to register their businesses, innovative start-ups; encourage enterprises to invest in building a training facility to incubate startup ideas and become a business". The orientations and determination to strengthen the direction of supporting the ecosystem of the Province have become an important premise for attracting attention and mobilizing all social resources to serve the creation of an institutional

environment, thereby gradually building and developing the local startup ecosystem. Solutions to promote the development of the startup ecosystem are considered as goals and at the same time a means to implement strategic breakthroughs: institutions, infrastructure and human resources.

2. Literature review

2.1. Background theory

The startup ecosystem is "a synthesis of formal and informal links between startup entities (potential or current), startup organizations (companies, venture capitalists, angel investors, banking systems,...) and relevant agencies (universities, state agencies, public investment funds,...) and the start-up process (business establishment rate, number of enterprises with good growth rate, number of entrepreneurs,...) directly affect the local start-up environment" (Organization for Economic Co-operation and Development__OECD).

Stage of development of the ecosystem. There are many ways to divide the start-up stage. Basically, a startup goes through the concept step, starts, deploys the business, then stabilizes and grows (then matures and maintains). Each stage of development has different support needs with a variety of forms of capital mobilization.

Research by Shane & Venkataraman (2000), Reynolds (2005) suggests that entrepreneurship is an individual activity process consisting of 4 stages: (1) The start-up potential stage, the individual perceives ability to succeed, starts a business and intends to start a business; (2) The individual stage of resource mobilization; (3) The stage of business establishment; (4) Stage of development and termination of the enterprise.

The innovation startup ecosystem in Vietnam in general and Tien Giang in particular is still very young and the resources to have innovative thinking are only at the initial stage. The open innovation startup ecosystem is still very limited (Ly Dinh Quan, 2022). So, at this stage, supporting the new startup culture

comes into being by working closely with the ecosystem in organizing events, meetings or setting up support programs to build networks and corporate culture. Ensure that the general framework conditions for new start-ups are ready (such as legal regulations, education, infrastructure, programs, set of evaluation criteria,...).

2.2. Critical literature review

Elements constituting a startup ecosystem:

The startup ecosystem includes different factors depending on the economic, political, educational conditions... of each locality. However, basically, the elements that constitute a startup ecosystem have some things in common. According to Foster et al. (2013), the startup ecosystem consists of the following factors: (1) The market; (2) Human resources; (3) Financial Capital; (4) Start-up support system (mentors, advisors ...); (5) Legal framework and infrastructure; (6) Education and Training; (7) Universities and Institutions; (8) Culture. Vietnam Entrepreneurship Index Report 2015 conducted by VCCI based on the Global Entrepreneurship Monitor (GEM) platform sets out the constituent elements of the startup ecosystem including (1) Infrastructure; (2) Dynamics of the domestic market; (3) Culture and social norms; (4) Government Policy; (5) Business support services; (6) Government Regulations; (7) Post-secondary business education; (8) The openness of the domestic market; (9) Technology transfer; (10) Government Assistance Program; (11) Finance for business; (12) High school business education.

Studies on entrepreneurship have shown that environmental factors such as cultural, social, legal, and political factors have an impact on the development of startups (Deakins and Freel, 2003). According to Ghanemzadeh (2012), the startup ecosystem consists of a set of interconnected actors in a particular location, in which all these elements are interconnected (Ghanemzadeh, 2012), including: (1) Universities; (2) Organizing research and

development of human resources; (3) Unofficial official networks; (4) The Government; (5) Investors; (6) Professional service providers; (7) And culture in an open and dynamic environment. According to Isenberg (2011), the startup ecosystem is made up of three main elements: (1) There is a large volume of entrepreneurs, companies, and organizations specializing in a particular location; (2) Develop a dense network of relations between subjects; (3) A culture to form a place where all of the above elements are gathered.

In fact, the startup ecosystem consists of hundreds of elements. These factors can be grouped into the following six areas according to Cotis (2007): (1) Favorable culture; (2) Appropriate policies and leadership; (3) Appropriate financial availability; (4) Quality human resources; (5) The market is easily receptive to the products of startups; (6) Institutional and infrastructure support.

2.3. Framework for evaluating the innovative startup ecosystem for Tien Giang province

Based on the concepts of entrepreneurship, the analytical framework of GEM Global and GEM Vietnam on the startup ecosystem and the documents, Laws, Resolutions of the Government, Decisions of the Prime Minister, the topic of developing an analytical framework is as follows:

The study of entrepreneurship includes start-ups and innovative start-ups, in which the topic of analysis and preliminary assessment of start-ups and focuses on innovative startups. Start-up innovation is the general trend of development and integration in the industrial period 4.0. The framework for analyzing the innovation startup ecosystem for the province includes the following 8 elements: (1) *Infrastructure*; (2) *Human resources*; (3) *Market*; (4) *Policy*; (5) *Financial Capital*; (6) *Business support services*; (7) *Culture*; (8) *Research and development*.

The research results of Isenberg (2011), Arruda et al. (2013), Mason and Brown (2014) suggest that the startup ecosystem is made up

of 06 components: policy factors (leadership, government role), market factors (customers, relationships), human capital factors (workers' skills, qualifications), factors of support (non-governmental organizations, infrastructure, support from experts), factors of culture, factors of finance).

In the document of the World Economic Forum (2013), a successful ecosystem must include the following elements: market factors, financial factors, human capital factors, support systems, governments, education and training systems, large university systems, etc. cultural factors.

Along with the above view, the research of Stam (2015), Stam and Spigel (2017) has shown the components of the startup ecosystem including relationships, leadership, finance, talent, knowledge, support services, needs, infrastructure, culture, and official elements.

The model of components of the proposed business ecosystem: based on the overview: The startup ecosystem will include 06 components: policy, market, human capital, support, culture, and finance.

The startup ecosystem diagram shows as many as 50 specific components (Cotis, 2007).

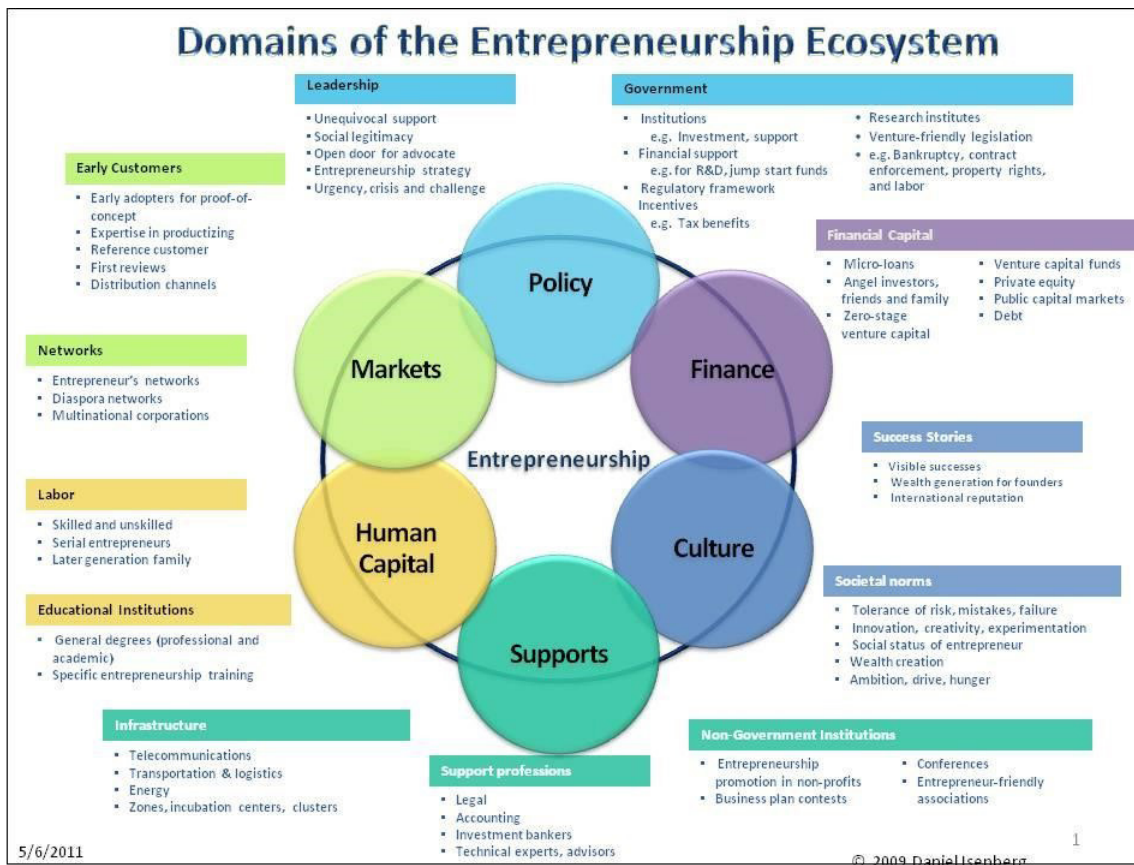


Figure 1. Framework for analyzing the innovative startup ecosystem in Tien Giang province

Vogel highlighted the following elements and elements as important components of the ecosystem:

Non-business level: Government and legal regulations (e.g. intellectual property, policy framework, labor law); Geographical

location (non-living limbs, living conditions); Markets (customers, users, large corporations, competitors,...); Infrastructure (facilities, institutions, energy, information technology, workplace,...); Creativity (knowledge, R&D, technology transfer,...).

Enterprise level: Finance (e.g. accelerator programs, angel businesses, loans and grants, microfinance, private capital, crowd capital,...); Culture (mindset/ambition, role, attitude about success and failure); Communication (events, conferences, awards,...); Support (accountants, advisors, lawyers, specialists, information centers,...); Education (education in business, skills, certificates); Networks (formal and informal, organizational, group,...).

3. Data and research methods.

Quantitative research method through secondary data collected from district departments, provincial departments and primary survey data of 2 groups of subjects who are knowledgeable about the startup and innovation ecosystem (150 people) and big business people in the province (300 enterprises) (choose the target sample). Data processed and analyzed on SPSS 25.0 data processing software.

Survey of enterprise quantification slips in Tien Giang province. As of 31/12/2019, the total number of enterprises operating in Tien Giang province is 4,550 enterprises. In which, the number of newly established enterprises is 750 enterprises (in 2018, it was 731 enterprises).

According to the pattern selection principle proposed by Daryle (1960), the sample size was selected at least 288 enterprises. To ensure the representativeness of the sample, the proposed sample size is 300 newly established businesses over a period of 1-3 years.

Survey content: According to the quantitative survey questionnaire serves all the content according to the required objectives. The survey questionnaire is designed based on measurement criteria for 8 factors belonging to the factors that constitute the startup ecosystem.

Techniques used: Expert interview techniques, Focus group/talk group techniques (Qualitative research methods) and Detailed questionnaire face-to-face interview techniques (Quantitative research methods). Statistical descriptive techniques for data analysis.

4. Research results

4.1. Business results of the enterprise

On a likert scale of 1-5, entrepreneurs rated their performance at 3.65 out of 5 points, or 73 percent. Thus, it shows that on average, the situation of enterprises in Tien Giang is still relatively stable.

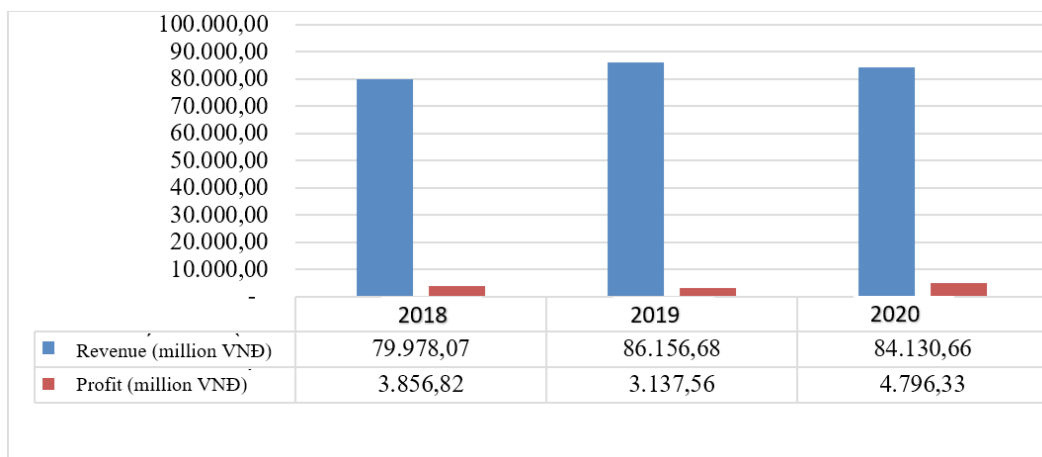


Figure 3. Business results of the enterprise

The results of the analysis of business activities in 3 years 2018-2020 of 300 surveyed enterprises showed that revenue increased by

5.2% but profit increased quite impressively (up 23.9%). This may be due to the fact that enterprises are beginning to take an interest in

management, eliminating unnecessary costs in production, operations. This may be due to businesses beginning to take an interest in management, exclusion of unnecessary costs in production, operations. Triệu đồng

4.2. The structure of the innovative startup ecosystem in Tien Giang province

Cultural factors reflected in success stories and social norms

Local success stories are proven to have a strong impact on the business outcomes of that local business. Success stories also demonstrate the local capacity where the business starts. According to the analysis results, businesses in Tien Giang know the success stories in the area. Besides, investments in local communities are also evaluated as effective and bring the desired rate of return to investors. However, Tien Giang's international reputation has not been highly appreciated with an average score of 2.82/5. The strength of the business community in Tien Giang today is the ambition, motivation as well as desire to succeed. Businesses in Tien Giang are also interested in supporting the community, toward shared prosperity. Besides, business owners also receive respect and have a "voice" in the community.

Human capital is reflected in employees and educational and training organizations

The components that make up the foundation of the human resource for the current business in Tien Giang are highly appreciated. Specifically, business owners and shareholders contributing capital in Tien Giang are considered experienced. Besides, leaders and shareholders are also evaluated as coming from families with successful business traditions. Employees' business skills were also rated above average with a scale of 3.64/5. Degrees and short-term training courses have not shown a statistically significant relationship with the performance of enterprises in Tien Giang.

Market factors expressed in Early Customer and Networks

Customers – one of the factors determining the success story of the business are also

highly interested in Tien Giang. Businesses are supposed to consult with customers before improving products or launching new ones. Besides customers, expert opinions are also used for issues related to product attributes. In particular, customers in Tien Giang are considered quite "pleasant" when most soon accept new products from businesses. Regarding the relationship of businesses, the strength of businesses in Tien Giang today is to have a network of relationships with local authorities as well as banking and financial institutions and startup communities. Relationships with enterprise customer managers, suppliers as well as competitors are also highly valued. However, with relations with international investment funds, the relationship with multinational corporations is currently quite modest.

Policy Factors Expressed through Local Leaders and Governments

The role of local leaders is considered to have the fourth largest correlation to the business performance of businesses in the area. The strengths include open-door, welcoming policies for donors, as well as clear leadership interest in innovative start-ups. However, the support programs of leaders with businesses that are in a state of emergency, also panic to help businesses overcome difficult periods have not been appreciated. Besides, Tien Giang has not been highly appreciated for strategic support programs for businesses. Except for policies related to tax incentives for startups and policies related to the business registration support process, other support programs related to finance, start-up support funds have not been appreciated.

Support services expressed through Support Services, Infrastructure, and NGOs

Support services in Tien Giang are also highly rated with most services rated above 4.10/5 points. However, the current weakness in Tien Giang is related to the story of experts, professional business consultants. The infrastructure of telecommunications, transport logistics as well as energy in areas in Tien Giang is quite well evaluated. However,

the development of co-working spaces as well as business incubators is not yet a strong point of the province. Except for the information provision as well as the organization of conferences in Tien Giang are highly appreciated, business support associations and business support competitions have not been highly appreciated.

Financial capital

It is quite surprising that the financial support resources in Tien Giang do not have

a clear correlation with the performance of the business. Possibly, the success story is also influenced by factors related to the process such as experience, uptime ... rather than the initial timing factor of raising capital.

4.3. Descriptives and correlation of factors

Analysis of the correlation between performance and factors of the structure of the innovation startup ecosystem in Tien Giang province

Table 1. Descriptives Statistics and correlations

Domains	Mean	SD	1	2	3	4	5	6
Performance (1)	3.650	0.741	1					
Culture (2)	3.755	0.486	0.492**	1				
Supports (3)	3.506	0.313	0.353**	0.208**	1			
Policy (4)	3.217	0.613	0.238**	-0.183**	0.742**	1		
Finance (5)	2.962	0.655	0.109	-0.324**	0.577**	0.757**	1	
Market (6)	3.499	0.464	0.479**	0.641**	0.391**	0.131*	0.155**	1
Hucapital (7)	3.232	0.538	0.360**	0.198**	0.557**	0.566**	0.524**	0.446**

Note: The symbols ***, **, and * represent 1%; 5% and 10% significance levels, respectively.

The results of the analysis showed statistically significant correlations with most variables in the study. Specifically, Culture, Support, Policy, Market, and Human capital are the 5 factors that have a significant correlation to the performance results of the business. In contrast, there is no statistical evidence that financial capital is correlated with performance results.

The author performs theoretical model verification by path *analysis method* to test the influence of factors in the business ecosystem on startup results based on a system of linear equations. Results from the Paths analysis show that the study model proposed by the author in this study is suitable when the evaluation indicators of the model meet the accreditation standards of Hair et al. (2010): CFI = 0.996, CMIN/DF = 2.912, TLI = 0.967, RMSEA = 0.063.

Table 4. Regression results

Hypothesis	Expectations	Standardized coefficients	P.value	Results
Culture → Perf	Positive	0.468	0,000	Accepted
Supports → Perf	Positive	-0.075	0.367	Not accepted
Policy → Perf	Positive	0.322	0,000	Accepted
Finance → Perf	Positive	0.006	0.946	Not accepted
Market → Perf	Positive	0.137	0.053	Accepted
Hucapital → Perf	Positive	0.063	0.329	Not accepted

Hypothesis	Expectations	Standardized coefficients	P.value	Results
Goodness of fit				
Observations	300			
Degree of freedom	9			
Chi-square/df (p-value)	2.192(0.02)			
RMSEA (Pclose)	0.063(0.248)			
RMR	0.018			
GFI	0.990			
CFI	0.996			
TLI	0.967			

Note: The symbols *****, **** and *** represent 1%; 5% and 10% significance levels, respectively.

Accordingly, the author examined the causal relationships between the factors in the model, showing that culture, policy affect the performance results of the business (Perf) at a significance level 1%. Market affect performance results (Perf) at a significance level 10%.

4.4. Discussion

Results from the model show that in Tien Giang, culture is the most important factor affecting the performance results of startup enterprises. The standardization coefficient of 0.468 shows the strong influence of cultural factors on the performance of enterprises in Tien Giang province. Culture is expressed through 2 factors: success and social norms. With the characteristics of a new innovation startup ecosystem formed in the early stages, the formation of success stories and the creation of a startup culture is an important issue, arousing the spirit and motivation of entrepreneurship among young people. Corporate risk tolerance and failure, self-employment priorities, innovation celebrations, success stories, research cultures, and role models are aspects that have always been of immense importance in cultural support (Cotis, 2007; Malecki, 2018; Senor and Singer, 2011; Kreuzer et al., 2018; Foster et al., 2013; Isenberg, 2011).

The policy is the second most important factor in the performance of startup enterprises with a normalized coefficient of

0.322 at a significance level of 1%. This shows the promulgation and implementation of policies to support the development of the innovative startup ecosystem of Tien Giang province. in the early stages is of paramount importance. According to experts, Tien Giang is doing very well in training and promoting entrepreneurship. In addition, direct support policies for enterprises such as Supporting information registration on the national portal quickly, Business registration time is shortened, There are tax incentive programs for innovative enterprises... is also a bright spot in Tien Giang's policy. The first step for innovative start-ups is always a business idea, and the first support is the State's policy (Nguyen Hoang Quy, 2017; Tran Thi Thanh Huyen, 2017; Le Quoc Anh et al., 2015).

The market is the third factor in the ecosystem that affects the performance results of startup enterprises with a standardization coefficient of 0.137 at a significance level of 10%. This suggests to us promoting the development of an innovative startup ecosystem in the early stages indispensable market network (Business Network, Community Network, Multinational Corporation) and Early Customers (Early adopters for proof of concept, Expertise in productizing, Reference customer, First reviews, Distribution Channels). The market for startup products is an advantageous factor for start-up activities (Cotis, 2007; Le Quoc

Anh et al., 2015; Kreuzer et al., 2018; Suresh & Ramraj, 2012; Stam & Ven, 2021).

5. Conclusion and recommendations

Research results show that Tien Giang is doing very well in training and promoting entrepreneurship. In addition, direct support policies for start-ups such as Supporting information registration on the national portal quickly, Business registration time is shortened, There are tax incentive programs for innovative businesses... is also a bright spot in Tien Giang's policies. However, startups are currently facing problems accessing financial resources as well as indirect support programs for startups as there are not many startup competitions that attract many participants. Tien Giang's current research and development programs have not been highly appreciated by experts. In addition, the number of state-owned business incubators thrives and the success rate of businesses starting from these incubators is not high. Banks are supporting start-up loans quite well. However, it is possible that angel investors are not really interested in startup projects in Tien Giang, making local startups difficult to access angel investors. The province should expand the promotion of start-up projects.

Experts highly appreciate the support system, advising on tax issues for startups. However, startup incubators in Tien Giang have not really stood out with the success rate of businesses at incubators is not high. The province should invest more in incubators. The weakest point of Tien Giang province is that there are no policies to support connecting the community of startups. The province should develop playgrounds and policies to help startups connect to create a strong community. Tien Giang is doing a good job of promoting startups to pursue product quality standards such as VietGap and GlobalGap. However,

Tien Giang province does not have specific mechanisms to support start-up enterprises to participate in projects in the public sector. Besides, the Logistic system is also a minus point, a barrier for startups to access new markets. The province should have policies to nurture start-ups by supporting potential start-ups to access public investment projects. Tien Giang has a fairly good labor structure with a high proportion of educated workers. However, Tien Giang does not have sustainable development policies to maintain this rate, specifically, the concentration of universities is not high, there are no attractive policies to attract and reward talent. Tien Giang province should develop sustainable human resource development policies by building quality training institutions, as well as policies to attract and treat talent. The information technology platform in Tien Giang is being developed quite well. However, logistic support systems such as warehouse systems have not been strongly developed. Tien Giang province should invest in developing a logistic support system.

Research and development activities in Tien Giang such as The number of high-tech scientific research institutes/centers, the cost of research and development, and the locality that has formed high-tech parks focusing on the field of information technology and platform business... are average. Tien Giang province should invest more in research and development activities to create motivation to support start-ups in the province to have breakthrough opportunities. Communication programs on entrepreneurship are quite well implemented in Tien Giang. Besides, entrepreneurship training programs should be implemented by colleges and universities. Therefore, the province should continue to promote communication and develop entrepreneurship.

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FORMALITY OF HOUSEHOLD BUSINESSES IN HO CHI MINH CITY: APPROACHED FROM THE LOGIT MODEL

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ARTICLE INFO	ABSTRACT
<p>DOI: 10.52932/jfm.vi72.293</p> <p><i>Received:</i> May 15, 2022</p> <p><i>Accepted:</i> November 30, 2022</p> <p><i>Published:</i> December 25, 2022</p> <p>Keywords: Business registration; Household business; Formality.</p>	<p>Household businesses constitute an important part of the private economic sector, contributing to economic development and job creation, especially in big cities like Ho Chi Minh City. Resulting from the existing policies, however, there are emerging issues that need discussing to find out appropriate solutions, particularly those related to the formality of household businesses. Based on the regression models using mainly data of the 2017 Economic Census, the article is aimed to detect and measure the factors affecting the formality of household businesses. This can be considered as the first study that has used the dataset of the 2017 Economic Census to run a logit model for this topic. Some new and important findings can be mentioned as follows: Household size (labour, turnover) is still a significant factor affecting the formality of household businesses, although it is not the only one. Another factor is the transparency (reflected by the difference between the turnover reported by the household and the figure estimated by interviewers), since the more a household business can conceal in the turnover declaration, the less it wants to formalise business activities.</p>

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1. Introduction

The topic on household businesses or individual business households (Law on Enterprises, 2005) has drawn much attention from various perspectives. Probably, the concept of “household business” is used only in Vietnam. Before the Renovation (was initiated in 1986, household businesses were called by various names such as “small owner”, “cottage industry households”, “small-scale productive organisations”, “individual households”, and “individual business households”,... Since then, the name “household business” has been officially used in legal documents. Over a long period prior to the promulgation of the Resolution No. 01/2021/NĐ-CP, the household business was defined unanimously in all regulations as follows: “A household business is a business unit owned by an individual, a group, or a household of Vietnamese citizens; its business is registered to be carried out in only one place; the number of employees must not exceed 10; it does not have a registered seal and is fully responsible for business activities by all assets of the household”.

With around 465,344 household businesses (General Statistics Office of Vietnam, 2021), Ho Chi Minh City has the biggest economic size in the country. Owing to particular characteristics, this sector not only contributes significantly to the economic growth but also provides jobs and incomes for millions of labourers in Ho Chi Minh City. In practice, there are many problems resulting from the existence and development of household businesses such as: the formality of household businesses (the business registration), the business size, the loss of taxation, management difficulties, and the vulnerability as well as the equality and opportunity in comparison with enterprises... Especially, the recent 4th outbreak of the Covid-19 pandemic in Ho Chi Minh City has resulted in some issues relating to development of this economic sector. The formality of household businesses has emerged as a controversial topic, as the policy-related

treatment still relies on formality or informality of household businesses. As a result, the actual state and the elements affecting the formality of household businesses are really important factors that should be taken into account in policy-making for development and effective administration of this sector.

In this research, the household businesses that have a business registration certificate are classified into the formal sector and the rest (the household businesses that do not have a business registration certificate) are classified into the informal one. Meanwhile, the factors affecting the formality of household businesses are understood as the elements affecting the households’ business registration. Our analyses are mainly based on the results of the logit model, using data of the Economic Census carried out by the General Statistics Office of Vietnam in 2017.

2. Theories and empirical research works

2.1. Some theories and research viewpoints relating to the formality of household businesses

During the discussion and development of theories, the research works on the informal economic sector are divided into three groups with three different approaches, including: (1) The dualism developed on the basis of the research works carried out by Lewis (1954) and Harris & Todaro (1970), which argues that the informal economic phenomenon is a secondary economy that appears in any countries, since the formal economy cannot satisfy the employment demand. As a result, the informal economy is seen as an obvious entity in the market and does not have a strong relationship with the formal economy; (2) The structuralism developed on the basis of the research works carried out by some Marxist scholars (Moser, 1978; Portes, 1989), which contradicts the dualism and argues that a close relationship is found between the formal and the informal economic sectors; and, (3) the

legalism, also called “formalism”, developed on the basis of the research works carried out by De Soto (1989), which argues that the informal economic sector results from the excessive cost of the join in the formal economic sector; consequently, many small-scaled production units have to be run “informally” (Cling J.P, Nguyễn Thị Thu Huyền, Nguyễn Hữu Chí, Phan Thị Ngọc Trâm, Razafindrakoto Mireille, and Roubaud Francois, 2010).

The term “informal sector” was first mentioned by Hart (1973) to imply “a traditional economic sector in developing countries”. At the 15th International Conference of Labour Statisticians (ILO, 1993), the “informal sector” was conceptualised and defined as an sector, where units engaged in production of goods and services satisfied the following criteria: (a) They were not established as legal entities that were separate from their owners; meanwhile, they were owned and controlled by household members; (b) They did not have formal accounting records, including also the accounting balance; at least a part of their products and services were supplied in the market; and, the number of employees was limited under a certain figure; and, (c) They did not have registration of economic activities according to the legal regulations.

In Vietnam, in the framework of the cooperation project between the General Statistics Office of Vietnam (GSO) and the Institute of Development Research (Institut de Recherche pour le Développement/ Développement Institutions Mondialisation - IRD/DIAL) from 2006 to 2011, the informal sector was commonly conceptualised “to consist of all businesses, which did not have the legal capacity, produced at least one or some kinds of goods and services for trade or exchange, and were run without business registration (i.e. did not have a business registration) outside the agricultural, forestry, or aquatic sectors” (Cling J.-P., Nguyễn Thị Thu Huyền, Nguyễn Hữu Chí, Phan T. Ngọc Trâm, Razafindrakoto M. and Roubaud Francois, 2010).

Another research work was done in cooperation between Vietnam Academy of Social Sciences (VASS) and the Institute of Development Research (IRD/DIAL), in which the survey on individual household businesses and the informal sector was carried out in late 2014 and early 2015. In this research work, the informal sector is defined to consist of all individual household businesses (Doumer, L.P., Oudin, X., and Nguyễn Thắng, 2017).

According to the definition applied by the General Statistics Office of Vietnam in 2016, “the informal economic sector consists of all business activities in the trade or production units that do not have the legal capacity; at least a part of their products and services are sold or exchanged in the market; and, they do not register economic activities (i.e. do not have a business registration certificate)” (General Statistics Office of Vietnam, 2018). This definition has been used many official statistical surveys carried out by the institution.

2.2. Some research works relating to formality and factors affecting the formality of household businesses

The first large-scale research work on the informal sector and household businesses was done in the framework of the cooperation between the General Statistics Office of Vietnam (GSO) and IRD/DIAL from 2006 to 2011, in which a special survey on the informal sector was carried out in Hanoi and Ho Chi Minh City in 2007 and 2009. Analysing data of the survey, we can see that the global economic crisis in the period accelerated the expansion of the informal sector, resulting in a decrease in the proportion of formalised, or household businesses”, also called “registered household businesses”. In 2007, registered household businesses (i.e. they had a certificate of business registration) accounted for 19.5% and 25.4% of all household businesses in Hanoi and Ho Chi Minh City respectively. In 2009, however, the corresponding figure fell to 14.3% in Hanoi (prior to the geographical expansion of Hanoi) and 17.6% in Ho Chi Minh City. Meanwhile,

the proportion of the household businesses that converted from the registered status into the unregistered one was 15% in Ho Chi Minh City, was lower than that in Hanoi (the corresponding figure in Hanoi was 31%) (Cling Jean-Pierre, Nguyễn Hữu Chí, Razafindrakoto Mireille, Roubaud Francois, 2010). The growth of the household businesses that converted from the unregistered status to the registered one was the highest and their business effectiveness was much higher than that of the household businesses that remained unregistered (Nguyễn Thị Thu Huyền, Axel Demenet, Mireille Razafindrakoto and François Roubaud, 2010).

The research project carried out in cooperation between Vietnam Academy of Social Sciences (VASS) and the Institute of Development Research (IRD/DIAL) on household businesses and informal economic sector in inclusive growth in Vietnam in 2014 and 2015 pointed out the reasons why individual household businesses have not registered their business (i.e. they have not formalised their economic activities) as follows: 68% of all households in the survey revealed that they did not have to register their business (no matter which size or which type of business they had); 12% revealed that they would not get any benefit after being formalised; 10% revealed that they did not register the business due to their instable income; and, 23% revealed that they were prepared for business formalisation (Phạm Thị Kim Thái, Oudin.X, Doumer, L.P, Vũ Văn Ngọc, 2017).

The comparison of these results with those of the project carried out in cooperation between the General Statistics Office of Vietnam (GSO) and the Institute of Development Research (IRD/DIAL) from 2006 to 2011 shows some noticeable points about unregistered household businesses in Ho Chi Minh City as follows: In respect of the readiness for business registration, 21.8% of unregistered household businesses were prepared to make the business registration in 2014, increasing insignificantly in comparison with the corresponding figure

in 2007 (19.4%); In respect of the awareness of the advantages of the business registration, the advantage of accessing bank loans was highly appreciated by most unregistered household businesses (45.6% in 2014, much higher than 6.1% in 2007), followed by the advantage of selling products to big companies (37.7% in 2014, while the corresponding figure in 2007 was 4.9%). The two advantages, which were not highly appreciated by unregistered household businesses and dropped down significantly, were the advantage of reducing bribery and corruption (4% in 2014, while the corresponding figure in 2007 was 55.1%) and the advantage of getting a favourable place of business (1.8% in 2014, while the corresponding figure in 2007 was 20.1%) (Doumer, L.P., Oudin, X. and Nguyễn Thắng, 2017).

According to a research project on the formalisation of household businesses, which was conducted by the Central Institute for Economic Management (CIEM) in 2017), of all 374 household businesses in the research sample, 97.1% of the household businesses that had a capital of less than 300 million VND had not made the business registration. Nguyễn Thị Thanh Nguyệt's research project on the State management of individual household businesses in the area of Gò Vấp District (Ho Chi Minh City) in 2019 shows that 63% of all household businesses in the area have a stable place of business, while the rest 27% have an unstable place of business; 68.34% of all the household businesses, which must register their business according to the regulation, have not done it yet; particularly, the District People's Committee issued 2,147 business registration certificates to households in 2018, but 1,138 ones were then returned.

Regarding the factors affecting why households run business in the formal or informal sector, the question "Why don't household businesses take part in the formal sector to seek for income?" was raised in a qualitative research survey in Ho Chi Minh City in the framework of the research project

“Informal Sector and Roles of Social Networks” (Hoàng Thị Thu Huyền, 2013). There are some answers to the question, including: (1) The household heads have some particular characteristics that make it difficult for them to take part in the formal sector; (2) Psychologically, the household heads do not want to take part in the formal sector; (3) The business registration certificate does not bring practical benefits to the household businesses, or just provides some benefit at a certain moment; (4) As they have a small-scale business, they do not need a business registration certificate to access formal sources of credit or apply for supply of electricity, tap water, and telephone; and, (5) The business registration is accompanied by the tax-paying responsibility, which means that tax-payment will be controlled more strictly by the taxation agencies. The research report also emphasizes that the business registration might not be the only criterion used to define whether a household business is formal or informal. Other important criteria that should be taken into account in defining whether a household business is registered or unregistered can be described as follows: they are small-scale business (in respect of the capital and the number of employees); they have a low income; and, their business is run unprofessionally (for example, they have neither a trade name nor an official bank account for business; they do not have accounting records). Similarly, Nguyễn Tuấn Vũ (2014) highlighted some points on the same topic: For many unregistered household businesses, the accessibility to sources of credit plays a very important role in maintaining business activities; and, the lack of low-interest credit access is considered as a severe problem by those who run business in the informal sector.

According to a survey on the household businesses that had not registered their business in 2014 and 2015 (Doumer, L.P., Oudin, X. and Nguyễn Thắng, 2017), apart from the most important reason which is that household businesses suppose they are not obligatory to make the business registration, there are other

factors affecting the formalisation of business, such as: unstable income, complicated procedures, expensive cost, and unwillingness. In the regression model on the factors affecting the business registration, the statistically significant elements include: the location of business (rural or urban), business activities, the number of employees, the length of business activities, the gender of the household head, and the educational attainment of the household head.

Lately, Vietnam Institute for Economic and Policy Research (VERP, 2021) carried out a survey on 1,016 household businesses in 2020. The results of the logistic regression, in which the turnover over a period of 5 years is used as a dependent variable (Turnover is one of the criteria for the obligation of business registration) show some factors affecting the turnover of household businesses, including: (1) the comparative advantage (formality, location, labour, and loan-borrowing); (2) the equivalence between business forms (tax, site, and capital); (3) the support in dealing with difficulties (credit, tax, and technology); (4) the policy barriers to the loan-borrowing from the banks and the credit organisations (regulations, policies, and preferential treatment); (5) the desire for support in accessing loans from the banks and other credit organisations (information, consultancy, procedures, and interest rates); and, (6) the importance of the measures to encourage the establishment of enterprises (assistance, enforcement, procedures, and cost).

The above-mentioned theoretical grounds and empirical research findings demonstrate that formality is an important factor creating a foundation for the research on relevant issues. Based on the common features of the concepts as well as the practical characteristics in Vietnam generally and Ho Chi Minh City particularly, unregistered household businesses make up a majority (the household businesses that do not have a business registration certificate account for a higher proportion than

the household businesses that have a business registration certificate). Previous research works have pointed out some factors affecting the conversion of household businesses into the formal sector (or the formalisation of economic activities), including: income, advantages, procedure cost, loan accessibility, location of business, taxes, and transparency (reduction of bribery and corruption)...

3. Research methods and models

3.1. Research methods

Aimed to identify the factors affecting the formality of household businesses, the main method used in this research is the logistic regression model, in which the business registration (whether a household business has a business registration certificate or not) plays a role as a dependent variable.

The data used in this research are derived from the 2017 Economic Census. Such a census is carried out by the General Statistics Office of Vietnam once every five years. It provides data on 4.59 million households businesses in Vietnam, including 347,676 ones in Ho Chi Minh City. Using the data available from the Census, we encounter a difficulty, since the qualitative model cannot include all expected variables (elements) as the theoretical one. However, some of the variables are really significant in practice.

3.2. Research model

Based on the theories and previous research works, formality of household businesses is defined by the business registration. When a household business has a business registration certificate, it is considered to be registered. Otherwise, it is unregistered.

Factors included in the model

For a household business, economic activities are often run on a small scale; there are not many employees, mainly consisting of family members; and, the household head

plays a decisive role in the household business. Characteristics of the household business are closely related to the behaviour of the household head. Apart from the regulation-related factors affecting whether a household business registers its business or not, the household head's decision (behaviour) is also a significant factor.

According to the theories of behavioural economics, the economic decisions of individuals are made on the basis of the psychological and economic grounds. This is different from the traditional economics that considers people's decisions as rational choices (Richard Thaler, 2015). Meanwhile, behaviour depends on the attitude towards the behaviour, the subjective norms, and the perceived behavioural control (Theory of Planned Behaviour –TPB (Ajzen, 1991). For a household business, they are closely related to the household head (age, qualification...) and the household's resources (location of business, capital, employees...).

In addition, as demonstrated in the previous research works, there are other factors affecting the business registration of households, including: the business characteristics (the location and the tax identification number...), the application of information technology (the use of computers and the internet...), the size (the total number of employees and the turnover...), the transparency (relating to the turnover, the profit, the tax charge...) and some others.

Regression model:

In this research, the dependent variable (Y_i) has either one of two values: 0 or 1; $Y_i = 1$ means the household business has a business registration certificate, while $Y_i = 0$ means it does not have a business registration certificate. At that time the binary logistic equation is shown as follows:

$$\Pr(Y_i = 1|x_i) = p_{i1} = \frac{\exp[x_i'\beta]}{1 + \exp[x_i'\beta]}$$

in which,

Y (dependent variable): Business registration, dividing into two options:

Y = 1: the household business has a business registration certificate

Y = 0: the household business does not have a business registration certificate

β : Estimated coefficient corresponding to each option

X_i (independent variable) is a set of factors affecting the household' business registration.

Table 1. Description of variables

Variable	Name	Explanation of variables
Having the business registration	Y dkkd1	1: Having the business registration (including the household that have a business registration certificate and those who have registered but have not received it yet); 0: Not having the business registration
Business location	X1 Location	LocationA: 1: at home, in the street or alley; 0: others LocationB: 1: in the supermarket, stores, or other places; 0: others LocationC: 1: in the shopping centre, supermarket, or local market; 0: others
Age of the household head	X2 tuoi	Continuous variable; unit: year
Qualification of household head	X3 TDCM	1: College graduation or higher 0: Lower than the college graduation
Tax identification number	X4 co_msthue	1: Having a tax identification number 0: Not having a tax identification number
Size (having more or less than 10 employees)	X5 Big10all	1: 10 or more employees 0: Less than 10 employees
Monthly average turnover	X6 DthuTB1T	The monthly average turnover is calculated as the arithmetic mean of the figure reported by the household business (i.e. the total revenue earned averagely a month from the business, including both capital and interest) and the figure estimated by the interviewers. Continuous variable, Unit: 1,000 VND
Use of computers in business	X7 co_pc	1: Using the computer 0: Not using the computer
Use of the Internet in business	X8 (co_int)	1: Using the Internet 0: Not using the Internet
Loan-borrowing	X9 vayvon	vayvon1: 1: Borrowing a loan; 0: Others vayvon2: 1: Not having a demand for a loan; 0: Others vayvon3: 1: Unable to borrow a loan; 0: Others
Turnover difference	X10 (CLDthu1T)	The turnover difference is calculated as the difference between the figures reported by the household business the figure estimated by the interviewers. Continuous variable, Unit: 1,000 VND (when the value is 0, 1 is used to run the variable LnCLDthu1T)

4. Research findings and discussion

4.1. Statistical results of the research sample

Regarding the formality of household businesses, at the time of the survey, at the time of the survey, the proportion of business households with business registration was lower than that of households without business registration, with rates of 45.23% and 54.77%, respectively. This result is close to the results of Pham Minh Thai's business research (2019). Similar to the business registration rate, the percentage of households with a tax code of 40.97% is also lower than the rate of households without a tax code (59.03%). The average age of householders is no longer young, the average is 44.4 years old (the highest is 100 years old), with a low level of expertise, mostly below college accounting for 89.68%. Households with 10 or more employees account for a very small proportion of only 0.7%. The average monthly revenue scale is only 41,261 million VND, there are households that do not generate revenue during the survey period. Business locations mainly at home, alleys and streets accounted for 83.38%. In business operations, the internet is more commonly used than computers, with

the percentage of households using the internet at 46.91%, computers at 11.64%. The demand for loans of households is low, only 10.74% of households have ever borrowed capital, and 1.17% of households cannot borrow capital. Transparency, expressed in part through the disparity between household revenue declared and revenue calculated by investigators. The average difference is 11,392 million VND, with the largest revenue difference up to 2.97 billion VND, showing the lack of transparency because it is closely related to the method of calculating securities tax based on revenue for business households.

4.2. Results of the model estimation

In the application of the logit model to our research, we encounter neither the perfect multicollinearity nor the heteroscedasticity, as they have been automatically processed by the Maximum Likelihood Estimation (MLE). According to the Likelihood Ratio Test (LR) the statistical significance of the logit model is 1%. (Table 2). On the other hand, the model provides a fairly proper forecast about the formality of household businesses with an accuracy of 93.86%.

Table 2. Estimation of the factors affecting the formality of household businesses

Dependent variable: Having the business registration	Regression coefficient	Error	Marginal effect (%)
Location of business: at home, in the street or alley (locationA)	0.7547**	0.3051	0.03624060
Location of business: in the shopping centre, supermarket, or local market (locationC)	1.6291***	0.3056	0.12325590
Age of the household head (tuoi)	0.0021***	0.0008	0.00011390
Qualification of the household head (TDCM)	0.9346***	0.0268	0.06310280
Having a tax identification number (co_msthue)	6.2177***	0.0252	0.51895740
Having a size of 10 or more employees (Big10all)	0.7795***	0.0962	0.05285070
Monthly average turnover (DthuTB1T)	0.0000***	0.0000	0.00000025
Use of the computer (co_pc)	0.9751***	0.0266	0.06602420
Use of the Internet (co_int)	0.0606***	0.0182	0.00328180
Have borrowed a loan (vayvon1)	0.2719***	0.0245	0.01561600
Unable to borrow a loan (vayvon3)	-0.2281***	0.0790	-0.01162530

Dependent variable: Having the business registration	Regression coefficient	Error	Marginal effect (%)
The turnover difference between the figure reported by the household business and the figure estimated by the interviewers (LnCLDthu1T)	-0.0097***	0.0020	-0.00052610
Adequacy of the model			
Pseudo R ²	0.7011		
Observation quantity	274,591		
Chi-Square Test	0.0000		

Notes: *** and ** correspond to the statistical significance of 1% and 5% respectively

Some characteristics can be drawn from the estimation shown in Table 2 as follows:

The personal characteristics of household heads affect the registration of household businesses. The older the age of the household head is, the higher (very slightly) the probability of having the business registration will be. If the age of the household head increases by 1 year, the probability of having the business registration will increase by 0.01 %. The higher the qualification of the household head is, the greater the probability of having the business registration will be. Specifically, the probability of having the business registration of the household businesses, in which the educational attainment of the household heads is college graduation or higher, is 6.31% higher than that of the household businesses, in which the educational attainment of the household heads is lower than the college graduation. This finding is similar to the finding of the research carried out by Doumer, L.P., Oudin, X. and Nguyễn Thắng (2017) on how the educational attainment of the household heads affects the business registration.

The size of household businesses, which has been analysed with two statistically significant variables: the number of employees and the monthly average turnover, demonstrates that the bigger size a household business has, the greater the probability of having the business registration will be. The probability of having the business registration of the household

businesses that have 10 or more employees is 5.29% higher than that of the rest household businesses. If the monthly average turnover increases by 1,000 VND, the probability of having the business registration will increase by 0.000025% (i.e., when the monthly average income increases by 10 million VND, the probability of having the business registration will increase by 0.25%). The total number of employees is a factor regulated in the Law on Enterprises, according to which the household businesses that have 10 or more employees must register their business. Turnover is also a factor regulated in the Law on Enterprises so as to identify the household businesses that have to register their business and pay taxes. How the size of household businesses affects their formality is mentioned in many research works. Most of small-sized household businesses (97% of the household businesses that have an annual turnover of less than 300 million VND) (CIEM, 2017), the small-scale household businesses (in terms of capital and number of employees) (Hoàng Thị Thu Huyền, 2013), and the household businesses that earn an unstable income (turnover) (Doumer, L.P., Oudin, X. and Nguyễn Thắng, 2017) has not made the business registration (or do not have an intention of doing it).

The credit-related situation of household businesses affects the probability of having the business registration positively for those who have borrowed a loan and negatively for

those who cannot borrow a loan. Specifically, the probability increases by 1.56% for the household businesses that have borrowed a loan, but decreases by 1.16% for those who cannot borrow a loan. This can be explained by the fact that the business registration certificate is one of the necessary documents a household business must have, in order to borrow a loan from the banks or official credit organisations. This is similar to the research finding of Doumer, L.P., Oudin, X. and Nguyễn Thắng (2017), which supposes that the access to loans is one of the goals that unregistered household businesses try to achieve, when deciding to make the business registration.

The location of business also affects the probability of having the business registration. Specifically, the probability of having the business registration increases by 3.62% for the household businesses, which run business at home, streets, or alleys, and even 12.33% for those who run business in supermarkets or local markets. The cause for the difference is that household businesses must have the business registration, when they run business in supermarkets or local markets. It means that a good location of business is an advantage that household businesses can get when they have the business registration (Doumer, L.P., Oudin, X. and Nguyễn Thắng, 2017).

Having a tax identification number also affects greatly the probability of having the business registration. For the household businesses that have the tax identification number, the probability of having the business registration increases by 51.9%. The tax identification number is a factor that causes the greatest impact on the formality of household businesses. According to the legal regulations, household businesses must register a tax identification number, when they register their business. As mentioned in the research works of Hoàng Thị Thu Huyền (2013) and Phạm Tuấn Vũ (2014), taxes are seen as a factor related closely to the formality of household businesses.

In addition, *the application of information technology* to business activities also affects the probability of having the business registration. For the household businesses that use computers for business and those who use the internet for business, the probability of having the business registration increases by 6.6% and 0.33% respectively. The application of information technology to business shows the effort to reach the professionalism and formality. In reality, the application of technology has not been analysed thoroughly in research works. Despite being taken into account in a recent research carried out by Vietnam Institute for Economic and Policy Research (VERP, 2021), it was considered as a factor relating indirectly to the formality of household businesses.

The difference between the turnover reported by the household businesses and the figure estimated by interviewers also affects the probability of having the business registration. Whenever the difference increases by 1%, the probability of having the business registration will decrease by 0.05%. This factor is relating to the transparency of business. In spite of affecting the formality of household businesses very slightly, it reflects the fact that household businesses cheat at their turnover declaration for the purpose of avoiding registering their business (as they are allowed not to register business, when the turnover is small) or paying/reducing taxes (taxes are calculated on the basis of the turnover). This results in bribery and corruption. Although this has not been directly studied by any research works, the research finding of Doumer, L.P., Oudin, X. and Nguyễn Thắng (2017) has pointed out that some household businesses prefer making the business registration, as they realise the advantage of reducing bribery and corruption.

5. Conclusion and policy recommendations

The factors affecting the formality of household businesses are related to the regulations and conditions as well as the characteristics of household businesses and

household heads. There are some outstanding issues, to which special attention should be paid. *Firstly*, the size of business (shown by the total number of employees and the turnover) affects the formality of household businesses, but the effect is not very significant. Moreover, it is not the only factor affecting the formality. In practice, the formality of household businesses also depends on the factors related to characteristics of the household businesses such as the location and the application of information technology as well as characteristics of the household heads such as age and qualification; *Secondly*, credit is a multidimensional factor related to the formality of household businesses. The accessibility to loans is a factor affecting the business registration of household businesses. Of the household businesses that have borrowed a loan, the household businesses that have the business registration make up a higher proportion of than the household businesses that cannot borrow a loan. This demonstrates that the advantage of borrowing a loan is a factor promoting the formality of household businesses. *Thirdly*, the tax registration (shown by the tax identification number) is closely related to the formality of household businesses (shown by the business registration certificate), due to the existing regulations. The tax registration, however, is not strictly accompanied by the business registration. *Lastly*, the difference between the turnover reported by the household businesses and the figure estimated by interviewers affects negatively the formality of household businesses. This reveals a problem relating to the transparency as well as the bribery and corruption.

As a result the following recommendations should be taken into account, when making and promulgating policies and regulations with respect to household businesses: (1) Turnover and size of business must be considered as two criteria used for management classification and

encouragement of the business registration; (2) It is necessary to review the existing policies relating to the distinction between registered and unregistered household businesses. In addition to the business registration, the tax identification number must be considered as a criterion for the distinction. (3) It is significant to provide support for the application of information technology, the software for business registration and tax declaration so as to promote the formalisation of household businesses. (4) It is essential to strengthen the credit provision for the household businesses that have the business registration, aimed to encourage household businesses to formalise their economic activities. (5) To promote the formalisation of household businesses, it is necessary to have appropriate policies and measures to deal with the rigging in turnover declaration made by some household businesses as well as authorities for the sake of dodging paying taxes.

Although the adjusted coefficient of determination (R^2) is quite high and the variables used in the regression model are statistically significant, the elements added into the model are limited due to the use of data available from the 2017 Economic Census. On the other hand, some data estimated by interviewers might affect the research findings to some extent. The elements that are not included in the model can be listed as follows: the policy-related elements, the relationship of the sector of household businesses with the formal sector (enterprises), local governments, and the tax agencies as well as the elements relating to business habits and social networks. If a follow-up research project is carried out, focusing particularly on identifying and measuring the factors affecting the formality of household businesses with a maximum number of elements included in the model, it probably will provide more proper research findings.

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Appendix 1. Estimation of the model's accuracy

Classified + if predicted $\Pr(D) \geq .5$		
True D defined as $dkd1 \neq 0$		
Sensitivity	$\Pr(+D)$	88.22%
Specificity	$\Pr(\sim D)$	98.62%
Positive predictive value	$\Pr(D+)$	98.18%
Negative predictive value	$\Pr(\sim D-)$	90.84%
False + rate for true $\sim D$	$\Pr(+\sim D)$	1.38%
False - rate for true D	$\Pr(-D)$	11.78%
False + rate for classified	+ $\Pr(\sim D+)$	1.82%
False - rate for classified	- $\Pr(D-)$	9.16%
Correctly classified		93.86%



RELATIONSHIPS BETWEEN HUMAN RESOURCE MANAGEMENT PRACTICES, EMPLOYEES' JOB SATISFACTION, AND BUSINESS PERFORMANCE IN STATE-OWNED ENTERPRISES: A CASE STUDY OF ENTERPRISES IN VIETNAM POSTS AND TELECOMMUNICATIONS GROUP

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ARTICLE INFO	ABSTRACT
<p>DOI: 10.52932/jfm.vi72.325</p> <p><i>Received:</i> September 05, 2022</p> <p><i>Accepted:</i> November 30, 2022</p> <p><i>Published:</i> December 25, 2022</p> <p>Keywords: Human resource management (HRM); Human resource management practices (HRMPs); State-owned enterprises; VNPT enterprises.</p>	<p>The study aims to explore and measure the relationships between human resource management practices, employees' job satisfaction, and business performance in state-owned enterprises in Vietnam – A case study of enterprises in Vietnam Posts and Telecommunications Group (VNPT). The study adopts qualitative research, combined with quantitative research by CB-SEM. The research data were collected from August 2021 to December 2021 by email and online survey with 621 staff currently working at VNPT in 18 provinces and cities representing 6 telecommunications service regions in nationwide Vietnam. The research results show that the human resource management practice at VNPT enterprises includes 7 components (job identification, recruitment, training and progression, performance appraisal, compensation, empowerment, and labor relations). They all have a strong influence on the employees' job satisfaction and the business performance of VNPT enterprises. However, the influence of the employee's job satisfaction on the business performance of these enterprises has not been found.</p>

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1. Introduction

Human resources are the central and core issue of the development of every organization. Therefore, the topic of HRMPs has received special attention from practitioners and researchers. However, previous studies seem to focus only on measuring components of HRMPs (Singh, 2004; Thang & Quang, 2005; Brown 2007), or only explore and measure the influence of HRMPs on business performance (Huselid, 1995; Gowen & Tallon, 2003; Dung et al., 2010). Meanwhile, considering and measuring the relationships between HRMPs, employees' job satisfaction, and business performance of enterprises which is considered the basic goal of HRM (Dung, 2010) has not been elucidated by studies.

In Vietnam, the HRM model for state-owned enterprises has been so far still under the control of the governing state agency and is heavily administrative in the style of a legal model (the lowest stage in HRM) (Thang & Quang, 2005; Dung et al., 2010). The case of telecommunication enterprises in the provinces and cities of Vietnam belonging to the VNPT group is an example. This is because according to the Regulations for Organization and Operation of Vietnam Posts and Telecommunications Group (2016), VNPT enterprises in provinces and cities are units under the parent company – Vietnam Posts and Telecommunications Group. Regarding personnel, the VNPT Group decides the overall organizational working model and the organizational structure; decides on the appointment, dismissal, and transfer of key leadership positions including the director and deputy director; chief accountant; decides on regulations, methods of salary payment, and salary fund of VNPT enterprises in provinces and cities. Therefore, HRM activities in VNPT enterprises, in addition to having to comply with the regimes and policies of the state and the industry governing ministry, are also under the control of the Group about the issue of organizing the management apparatus, appointment, transfer of key leadership positions, regimes and policies for employees,...

Therefore, the study of the relationships between HRMPs, employees' job satisfaction, and business performance aims to provide a scientific basis for the process of renewing the HRMPs model in state-owned enterprises in general, VNPT enterprises in particular and is an urgent issue in the current period.

2. Literature review and theoretical framework

2.1. Research concepts

Human resource management practices (HRMPs) and components of measuring human resource management practice

There have been many definitions of the HRMPs. Brown (2007) emphasizes the subject of the HRMPs, it is the founders and the department in charge of human resources (HR), Barney (1995) emphasizes the object of HRMPs which are decisions and activities of management, while Dunford et al. (2001) focuses on the object and goal of the HRMPs. That means from a management perspective, the HRMPs is a system of administrative activities performed by functional leaders in order to attract, develop and effectively use HR to accomplish the organization's goals.

In terms of the components of measuring the HRMPs, many studies in the world and in the country (Singh, 2004; Thang & Quang, 2005; Brown, 2007; Dung et al., 2010) show that the measuring components of HRMPs focus on reflecting the functional activities of HRM including job identification (JI), recruitment (RE), training and development (TR), performance appraisal (AP); career planning and career progression (PR), compensation (CO). In addition, depending on the level of economic development and management institutions, cultural characteristics, management methods, professions, business types, and management's viewpoints,... of each country, one or several other components need considering.

For Vietnam, because the economic transition from the centralized management

mechanism to the market mechanism takes place in the context of integration and rapid development of science and technology, the fact that staff in the state-owned enterprises, where up to now the HRM model seems to be the legal model, adapt to challenges from environmental changes is the decisive factor for efficient use of resources in the enterprises. And this can only be done when the working environment must be constantly improved in the manner of stimulating the initiative and creativity of employees and ensuring the harmony of the working relationship between superiors and subordinates; between managers

and followers; between the state and businesses as described in the Harvard human resource management model called Harvard model. That is, the empowerment of employees needs to be associated with the improvement of labor relations in the enterprise in accordance with the provisions of the law (Thang & Quang, 2005; Dung et al., 2010; Ha et al., 2019). Therefore, in addition to the above six components, the HRMPs model in state-owned enterprises in Vietnam needs adding two new components, namely empowerment and labor relations (Figure 1).

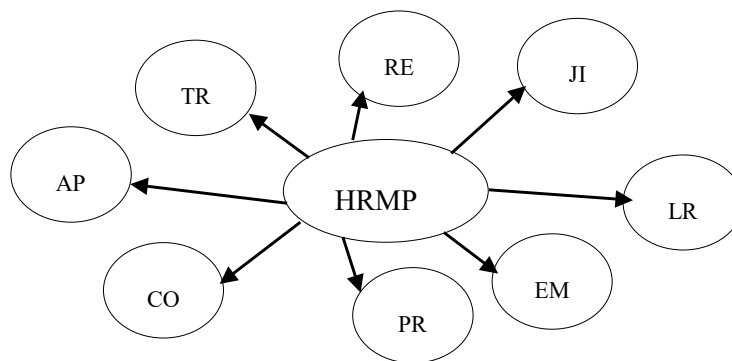


Figure 1. The model of HRMPs of Vietnam's state-owned enterprises

Job identification (JI). This is the process of analyzing and evaluating jobs in order to properly assign jobs, determine conditions for conducting, determine tasks, responsibilities, authority when the job is being performed, and identify the requirements of qualities, knowledge, and skills from employees to perform the job (Singh, 2004; Dung et al., 2010).

Recruitment (RE) .It is the process of attracting and selecting candidates who have all the qualities, knowledge, and skills to meet the pre-determined requirements and tasks based on the principle of the right people for the right positions (Dung, et al., 2010).

Training and development (TR). It mentions the process of planning demands, designing programs, and selecting appropriate training methods to provide employees with the necessary qualities, knowledge, and skills to help them meet the requirements of the job and

their demand for professional development (Singh, 2004; Thang & Quang, 2005).

Performance appraisal (AP). This is the process of selecting a method, collecting, analyzing, and exchanging information related to the behavior and job performance of employees based on comparing with pre-determined evaluation standards (Singh, 2004; Dung et al., 2010).

Compensation (CO). It is the process of determining and distributing a portion of the remaining income of an enterprise to employees after paying other costs for them based on the evaluation of the employee's performance, the business performance, and pre-established distribution methods and standards (Singh, 2004; Brown (2007).

Career progression (PR). It means that superiors clearly understand the employees'

desires and have defined career development orientations for employees, providing employees with opportunities for career progression based on a combination of the development needs of employees and the organization (Singh, 2004).

Empowerment (EM). This aspect allow employees and teams to participate in deciding the general affairs of the organization, to be proactive in solving problems, proposing ideas, initiatives, technical improvements, and innovative working methods. They are required to advise leaders on business plans, and technical solutions,... (Singh, 2004; Dung et al., 2010).

Labor relations (LR). They create an environment through which employees volunteer to work and constantly strive to increase labor productivity, build trust within the organization and increase coordination among individuals and departments in the organization. Employees are ensured to work in safe conditions and allowing them to fully exercise their rights and obligations (Singh, 2004; Dung et al., 2010).

Employees' job satisfaction (SA). According to Currivan (1999), there have been various studies on employees' job satisfaction and this seems to be the topic that has received the most interest in organizational research in the past four decades. Among them, Locke and Lathan (1990) have proposed a definition that is believed to be quite comprehensive by many subsequent authors. Accordingly, employees' job satisfaction is a positive emotional state obtained from employees' performance appraisals. When employees perceive that their work will produce the results they expect, they will feel satisfied. However, Haque and Taher (2008), the most appropriate definition of job satisfaction is provided by Locke (1976), who defines job satisfaction as a psychological state which reflects employees' positive feelings towards the work they undertake, is the result of the employee's perception when comparing the expectations and the received results about the work value (including the nature of the work,

the working environment, the compensation, and recognition, etc.) of the employees.

Business performance of enterprises (PE). In the same situation of employees' job satisfaction, the concept of business performance and measurement of business performance have received the attention of many researchers. According to Kaplan and Norton (1993), business performance is determined by four basic components which are financial results, customers, internal processes, learning and development. Meanwhile, Lee and Choi (2003) said that business performance are measured by market share, growth of revenue, creation, profitability and size of the business. According to Tho and Trang (2009), although there are many definitions of business performance of enterprises, most of the studies (Buzzell & Gale 1987; Hult et al., 2004) all believe that business performance is the extent to which an enterprise achieves its business objectives and is measured by revenue growth, profit growth, market share growth, as well as fulfillment of strategic goals of the business.

2.2. The relationships between research concepts

The relationship between human resource management practice and employees' job satisfaction

Ting (1997) shows that HR policy is closely related to satisfaction. Among them, compensation is one of the most important factors affecting employees' satisfaction in the US government. In Southeast Asia, the study of 20 companies in Bangladesh by Absar et al. (2010) shows that HR policy is significantly associated with job satisfaction. Among them, HR planning and training & development have a positive impact on employees' satisfaction. In Thailand, the research by Mudor and Tookson (2010) also shows that HRMPs including the components of job supervision, training & development, and compensation for employees has a positive impact on employees' satisfaction.

H1: HRMPs have a positive influence on the employees' job satisfaction.

The relationship between HRMPs and business performance

Many studies have proved the close relationship between HRMPs and the business performance of enterprises. For example, Huselid (1995) shows a relationship between HRMPs and revenue, and return on assets. Thang and Buyens (2008) argue that HR policy with training and development, in particular, leads to improvement of employees' knowledge, skills, attitudes, and behaviors, which ultimately results in the improvement of the financial and non-financial performance of organizations. The research by Singh (2004) surveyed 359 enterprises in India shows that there is a positive impact of HRMPs on the business performance of enterprises, and the most prominent components of HRMPs are training and policy of compensation. In Vietnam, the research by Dung et al. (2010) also shows that HRMPs has a positive and very strong influence on the business performance of enterprises ($\beta = 0.65$).

H2: HRMPs have a positive impact on the business performance of enterprises.

The relationship between employees' job satisfaction and the business performance of enterprises

There have been still different points of view on this issue. For example, Luthans (1989) argues that although there is a relationship between job satisfaction and productivity, the relationship is not significant. The research by Johns (1996) also confirms that the relationship

between job satisfaction and productivity is positive but very low and insignificant. On the contrary, according to Robbins et al. (2003), many studies show that employees with the most satisfaction are not always those with the highest productivity.

However, most studies support Maslow's theory of motivation (1954), Herzberg et al. (1959), Vroom (1964). Accordingly, Appelbaum et al. (2000) summarize the views of many scholars and experimentalists and argue that employees' job satisfaction will give more enthusiasm and responsibility to employees in the process of doing work. As a result, the work of individuals and the business goals of the enterprise are completed with high efficiency.

In addition, HRM practices lead to employee satisfaction; if embedded in organizational polices, these factors can help an organization to achieve competitive advantage and maintain a good level of organizational performance (Abubakar, Namin, Harazneh, Arasli and Tunc, 2017; Abubakar, Elrehail, Alatailat and Elçi, 2019; Albrecht et al., 2015; Parvin and Karbin, 2011; Ukil, 2016)

H3: Employees' job satisfaction has a positive influence on the business performance of enterprises.

Based on the above theoretical summary results (2.1. and 2.2.), the authors propose a theoretical framework for the relationships between the HRMPs, employees' job satisfaction, and business performance in state-owned enterprises (Figure 2).

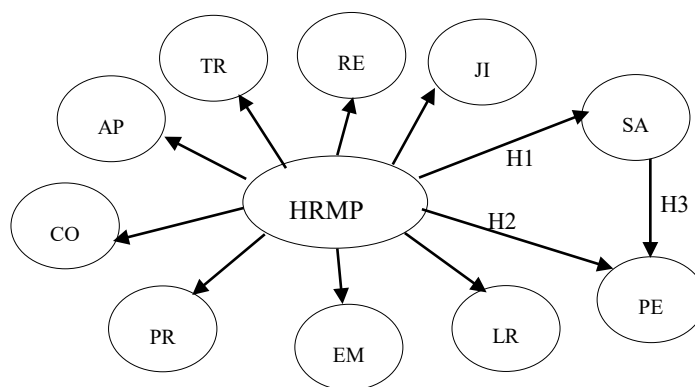


Figure 2. The proposed theoretical framework

3. Research methodology

The research process consists of two stages: preliminary research and formal research.

The preliminary research was a qualitative one using a group discussion technique. There are 2 groups with 10 experts for each working in the Department of Personnel - Labor and Salary of VNPT Dong Nai and VNPT Ho Chi Minh City. The discussion is carried out on the basis of the outline made by the authors to evaluate the proposed research model, and develop scales of

research concepts formed from the foundation of the scale of previous studies.

The results of the qualitative research confirm that the proposed theoretical framework is consistent with the HRMPs in the current VNPT enterprises, and meanwhile, the research has built the scale of the research concepts including 48 observed variables (7-level Likert scale from 1÷7; 1 completely disagree; 7 completely agree) (*Table 1*).

Table 1. Scales of the research concepts

Research concepts	Code	Number of observed variables	Source
HRMPs			
Job identification	JI	4	Singh (2004), Thang and Quang (2005), Brown (2007), Dung et al. (2010), Ha et al. (2019)
Recruitment	RE	4	
Training & development	TR	5	
Performance appraisal	AP	5	
Compensation	CO	5	
Career progression	PR	4	
Empowerment	EM	5	
Labour relations	LR	6	
Employees' job satisfaction	SA	5	Haque and Taher (2008)
Business performance	PE	5	Lee and Choi (2003), Tho and Trang (2009)

Source: The results of the qualitative research of the author group

Formal research is a quantitative one to test the scales of research concepts and the theoretical framework. The research data was collected via e-mail and online - Google Docs from 621 employees currently working at

VNPT in 18 provinces and cities representing 6 telecommunications service regions of VNPT in Vietnam with quota sampling method (by revenue) and by group (*Table 2*).

Table 2. The research samples by regions, provinces, and cities

Region	No of region	Province/City	Province/ City Code	Number of samples	% compared with quota
Northern Midlands and Mountains	I	Lai Chau	LCU	24	92.30
		Thai Nguyen	TNN	20	90.90
		Yen Bai	YBI	20	95.23
Red river delta	II	Ha Nam	HNM	32	106.67
		Ha Noi	HNI	80	108.11
		Nam Dinh	NDH	32	94.12

Region	No of region	Province/City	Province/ City Code	Number of samples	% compared with quota
North Central Coast and South Central Coast	III	Phu Yen	PYN	28	107.69
		Quang Binh	QBH	31	106.89
		Thanh Hoa	THA	35	92.10
Central Highlands	IV	Dak Lak	DLC	25	96.15
		Gia Lai	GLI	20	90.90
		Kon Tum	KTM	21	110.52
South East	V	Binh Duong	BDG	52	113.04
		Binh Phuoc	PHC	32	94.12
		Ho Chi Minh	SGN	84	107.69
Mekong Delta	VI	Ca Mau	CMU	28	93.33
		Hau Giang	HGG	26	108.33
		Tien Giang	TGG	31	100.00
Total				621	

Source: The results of the survey of the author group

The research data analysis process includes the following stages: (1) Evaluate the reliability and value of the scales by Cronbach's alpha reliability coefficient and exploratory factor analysis (EFA); (2) Evaluate the fit of the scale model by confirmatory factor analysis (CFA); (3) Check the fit of the theoretical framework with the research hypotheses with the linear structural model (SEM); (4) Test the estimates in the theoretical framework by bootstrap analysis; (5) Analyze the multi-group structure

to test the differences in the theoretical framework according to the demographic characteristics of the interviewed employees.

4. Research results and discussion

The results of the Cronbach's alpha (after deleting the item EM5 of the empowerment scale having a low corrected item-total correlation (0.274), show that the reliability is acceptable for all scales (Table 3).

Table 3. Cronbach's alpha coefficient of the scales

No.	Scale	Code	Observed variables	Cronbach's alpha	Total correlation (smallest)
1	Job identification	JI	4	0.881	0.702 (JI1)
2	Recruitment	RE	4	0.911	0.772 (RE1)
3	Training & development	TR	5	0.912	0.704 (TR1)
4	Performance appraisal	AP	5	0.883	0.664 (AP3)
5	Compensation	CO	5	0.944	0.796 (CO1)
6	Career progression	PR	4	0.911	0.785 (PR1)
7	Empowerment	EM	4	0.926	0.803 (EM1)
8	Labour relations	LR	6	0.921	0.768 (LR1)
9	Employees' job satisfaction	SA	5	0.902	0.684 (SA5)
10	Business performance	PE	5	0.901	0.719 (PE2)

Results exploratory factor analysis by Principal Axis Factoring method and Promax rotation showed that 47 observed variables were extracted into 9 factors with Eigenvalue = 1.052 and Average Variance Extracted reached 69.214%. While other concepts are kept as origin, the two concepts of Training & development (TR) and career progression (PR) merge into one component called Training and progression (TP) as in the study of Brown (2007), Thang and Quang (2005).

The results of CFA of the scales of HRMPs (after removing the observed variables with the high MI (MI – Modification Index: the correlation between the errors of the observed variables), show that items measuring the model fit are acceptable (Figure 3), proving the fit of the

model of the concepts’ scales with market data. The Standardized regression weights (Table 4) all meet the standard > 0.5 (the lowest is $\lambda_{LR5} = 0.666$), proving that the HRMP concepts’ scales in the theoretical framework have the convergent value. The correlation coefficients between the scales in HRMP are all < 1 (the highest is $JI \leftrightarrow CO = 0.708$) (Table 5), showing that the concepts have the discriminant value.

The results of estimation of the variance of the parameters to be estimated and the concepts in the model also show that there is no Heywood phenomenon at any error and the standard errors are < |2.58|. Therefore, the CFA results of the HRMP concepts’ scale model are accepted.

Table 4. Standardized Regression Weights: (Group number 1 - Default model)

			Estimate				Estimate
JI2	<---	JI	0.808	TR3	<---	TP	0.806
JI3	<---	JI	0.864	TR1	<---	TP	0.701
JI4	<---	JI	0.788	CO1	<---	CO	0.843
JI1	<---	JI	0.758	AP1	<---	AP	0.869
CO2	<---	CO	0.861	AP2	<---	AP	0.930
CO4	<---	CO	0.757	AP4	<---	AP	0.837
PR3	<---	TP	0.685	AP3	<---	AP	0.941
LR3	<---	LR	0.884	EM1	<---	EM	0.855
LR4	<---	LR	0.893	EM2	<---	EM	0.916
LR2	<---	LR	0.752	EM3	<---	EM	0.822
LR5	<---	LR	0.666	RE1	<---	RE	0.772
PR1	<---	TP	0.882	RE3	<---	RE	0.943
TR5	<---	TP	0.829	RE4	<---	RE	0.909

Table 5. Correlations: (Group number 1 - Default model)

			Estimate				Estimate
JI	<-->	RE	0.594	TP	<-->	EM	0.701
TP	<-->	AP	0.654	LR	<-->	AP	0.408
CO	<-->	AP	0.644	JI	<-->	AP	0.631
CO	<-->	EM	0.644	CO	<-->	RE	0.594
LR	<-->	EM	0.553	TP	<-->	LR	0.614
TP	<-->	RE	0.645	JI	<-->	CO	0.708
CO	<-->	TP	0.784	RE	<-->	EM	0.596
AP	<-->	EM	0.569	JI	<-->	EM	0.606
CO	<-->	LR	0.500	LR	<-->	RE	0.554
JI	<-->	TP	0.758	JI	<-->	LR	0.529
RE	<-->	AP	0.455				

The result of the critical model CFA (after removing the observed variables with high MI) shows that the basic indicators measuring the fit of the model are satisfactory, proving that the proposed theoretical framework is consistent with the data collected from the market.

The standardized regression weights measuring the relationship between HRMP's scales and HRMP (*Table 6*) all are greater than 0.5 (the lowest is $\lambda_{LR} = 0.676$), proving that in addition to the scales of HRMP that have been

tested above, the scales of employee satisfaction and business performance also reach the convergent value. The correlation coefficients between the concepts (*Table 7*) are all < 1 (the highest is $PE \leftrightarrow HRMP = 0.533$), showing that the concepts have the discriminant value. The scales have general reliability, the satisfactory extracted variance and Cronbach's alpha coefficient (*Table 8*), proving that the scales of HRMP meets the requirements in terms of value and reliability.

Table 6. Standardized Regression Weights: (Group number 1 – Default model)

		Estimate				Estimate	
CO	<---	HRMP	0.849	JI	<---	HRMP	0.822
AP	<---	HRMP	0.719	EM	<---	HRMP	0.770
TP	<---	HRMP	0.906	LR	<---	HRMP	0.676
RE	<---	HRMP	0.727				

Table 7. Correlations: (Group number 1 – Default model)

		Estimate		S.E.	C.R.	P	Label
HRMP	<-->	SA	0.524	0.051	10.292	***	
PE	<-->	SA	0.318	0.039	8.044	***	
PE	<-->	HRMP	0.533	0.053	10.111	***	

Table 8. Reliability of HRMP, SA, PE scales

Scales	Number of observed variables	Reliability		
		α	ρ_c	ρ_{vc}
JI	4	0.88	0.88	0.65
RE	3	0.90	0.91	0.77
TP	5	0.89	0.89	0.77
AP	4	0.94	0.94	0.80
CO	3	0.86	0.86	0.75
EM	3	0.90	0.90	0.74
LR	4	0.86	0.88	0.65
SA	3	0.87	0.87	0.69
PE	4	0.89	0.89	0.67

SEM results of the theoretical framework (standardized) show that the theoretical framework fits the market data (*Figure 5*). The

results of the estimation of the relationship between the concepts in the theoretical framework (*Table 9*) show that the relationship

between the employees' job satisfaction and the business performance is not statistically significant (due to $p = 0.660 > 0.05$). That means there is no basis to confirm that the employees' job satisfaction directly affects the business performance and therefore H3 is rejected).

After removing the relationship between the employees' job satisfaction and business performance, the results of SEM theoretical model (standardized) show that although the Chi-square (1474.342) has $p = 0.000$, the basic indicators measuring fit and assessing the compatibility of the theoretical model are satisfactory. Moreover, the variance of the

errors of the parameters to be estimated and the concepts in the scale model do not have the Heywood phenomenon at any error. Therefore, it is possible to conclude that the theoretical framework is suitable for the data collected from the market.

The results of the estimation (standardized) of the relationships in the theoretical framework are all positive and statistically significant (with $p < 0.01$). HRMPs significantly affects the employees' job satisfaction ($\beta=0.602$) and the business performance of the enterprises ($\beta=0.676$). Thus, H1 and H2 are accepted.

Table 9. Results of testing the relationships between the concepts

Relationship	Estimate	SE	CR	P
JI \leftarrow HRMPs	0.822			
RE \leftarrow HRMPs	0.727	0.066	15.949	***
TP \leftarrow HRMPs	0.906	0.065	17.520	***
AP \leftarrow HRMPs	0.718	0.077	15.861	***
CO \leftarrow HRMPs	0.849	0.067	16.577	***
EM \leftarrow HRMPs	0.770	0.071	16.428	***
LR \leftarrow HRMPs	0.676	0.055	14.341	***
SA \leftarrow HRMPs	0.602	0.045	12.707	***
PE \leftarrow HRMPs	0.676	0.047	12.336	***

Note: Estimate: average estimated value, SE: standard deviation, CR: critical value, P: significance level, ***: $p < 0.001$.

The results of bootstrap estimation performed by repeated sampling with size $N = 1500$ show that there is a Bias and SE-Bias between the bootstrap estimate and the optimal estimate ML, but the standard deviation of the bias is not statistically significant (<0.05), proving that the above estimation results are reliable.

The results of the multi-group structural analysis show that no differences have been currently found in the relationships among HRMPs, satisfaction, and business performance of VNPT enterprises by demographic characteristics of employees (gender, age, education, position, occupation, and working

experience). It proves that the tested theoretical framework is the only and official one to explain the relationships among the HRMPs, employees' job satisfaction and business performance of VNPT enterprises.

Thus, from the results of the study, HRMPs includes 7 components same as the research by Singh (2004), Dung et al. (2010), in which 2 components of Training & development (TR) and Progression (PR) merge into a component called Training and Progression (TP) similar to Brown (2007), Thang and Quang (2005). In practice, this result is explained by the participants in qualitative research that training activities in State-owned enterprises are mainly

funded by the State's annual budget and are associated with the plan of development and appointment of personnel of the enterprises.

The fact that employees' satisfaction does not affect the business performance of VNPT enterprises is similar to the research results by Luthans (1989), Johns (1996), Robbins et al. (2003) and is explained because the recruitment, appointment of personnel, use of labor, training - progression, and compensation policy may not be derived from the requirements of practice, from ability and work performance of employees. Therefore, employees' job satisfaction does not always play the role of motivation.

Finally, the theoretical framework (*Figure 2*) retains only 35/47 observed variables according to Cronbach's alpha results (*Table 3*), that means 12/47 observed variables are omitted. This is explained that there may be a phenomenon of overlap in the development of the scales (Cronbach's alpha coefficient of some scales > 0.90) leading to rejection, or this may be due to the survey via email and online in which the quality of information provided by the respondents is not high. However, the concepts in the theoretical framework (*Figure 2*) all have the number of observed variables ≥ 3 , and according to many studies, this result is acceptable.

5. Conclusion and implications

Summary of theories and previous studies, combined with the analysis of the characteristics of the State-owned enterprises, the authors propose the model of HRMPs and the relationships between HRMPs and employees' job satisfaction, between HRMPs and business performance of state-owned enterprises. The testing results for VNPT enterprises from 621 employees currently working at VNPT in 18 provinces and cities representing 6 telecommunications service regions of VNPT in Vietnam show that HRMPs of VNPT enterprises consists of 7 components (job identification, recruitment,

training – progression, performance appraisal, compensation, empowerment, labor relations) and has a strong influence on employees' job satisfaction and business performance of VNPT enterprises. However, the influence of employees' job satisfaction on the business performance of VNPT enterprises has not been found.

Thus, the results of the study provide evidence to confirm the importance of HRM in corporate governance practice and the need to improve the HRMPs in VNPT enterprises in the current period. In addition, the results also show that the policy to improve the HRMP in these enterprises should be implemented in the following directions:

Firstly, Focusing the resources on perfecting the policies relating to training and career progression in line with practical requirements, with the development strategies of VNPT enterprises and the capacity and strengths of the employees; Improving the method of job analysis, recruitment, and staff arrangement according to the principle of recruiting the right people for the right position; Improving the methods and standards of compensation distribution, appraisal in the manner of stimulating the initiative and creativity of employees; Ensuring the harmony of the working relationship between superiors and subordinates, between managers and followers by expanding empowerment to subordinates and employees gradually adjust labor relations in accordance with the market mechanism under the the State's management.

Secondly, strengthening the employees' awareness and actions in response to the requirements of the telecommunication industry in the context of globalization and globalization and integration. Also, it is better to organize the annual employee appraisal and classification in combination with job analysis to reorganize the personnel structure according to the requirements of the job; development strategy of VNPT enterprises and the equitization policy of the State.

Thirdly, proposing the governing ministries, province and city authorities, and the VNPT to eliminate the interference with HR autonomy and HRM policies at VNPT enterprises in particular and state enterprises in general,

which hastens the process of renewing the actual model of HRM and promotes the positive influence of employees' job satisfaction on the business performance of these enterprises.

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IMPACTS OF COACHING, EMPOWERMENT, AND SOCIAL CAPITAL FROM MANAGERS ON EMPLOYEES' ORGANIZATIONAL COMMITMENT: MODERATING EFFECT OF CO-WORKERS' SUPPORTS

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ARTICLE INFO	ABSTRACT
<p>DOI: 10.52932/jfm.vi72.344</p> <p><i>Received:</i> September 05, 2022</p> <p><i>Accepted:</i> November 30, 2022</p> <p><i>Published:</i> December 25, 2022</p> <p>Keywords: Coaching; Co-workers' supports; Empowerment; Employees' commitment; Social capital.</p>	<p>The commitment of employees with organization is a critical issue for any managers. This study is conducted to verify the impacts of leaders on employees' commitment, especially three factors: coaching; empowerment; social capital. Furthermore, the moderating effect of co-worker supports is also examined. The mixed research method which included qualitative method and quantitative method is used. The primary data of 196 respondents who work in banks in Ho Chi Minh City as middle managers was analyzed with PLS-SEM method through the software SmartPLS. All three hypotheses about the impacts of independent variables on employees' commitment are accepted, but three hypotheses about the moderating effect of "co-workers' support" are rejected. In theory, the research results consolidated the prediction of social exchange theory that when employees received more favor from managers, they will engage more with the organization. In practice, the concerns and sharing of leaders with employees is a good tool to increase employees' commitment to the organization.</p>

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1. Introduction

Employee commitment is the foundation for a business to grow and develop. In other words, the strength of the organization comes from the strong bonds created among independent individuals. A business with a high level of employee commitment also means that they have initial success with the advantage of solidarity (Randall, 1990). Methods of increasing employee commitment have always drawn the attention from many researchers. In general, domestic and international studies have a certain diversity in exploiting the factors affecting employee commitment. Whitener (2001) explored the relationships among human resource practices, trust in management and commitment to the organization (Whitener, 2001). The research by Wallace et al. (2013) examined how effective leadership behavior is in encouraging employee commitment to the organization. Norling & Chopik (2020) also investigated the impact of co-worker support on job performance through a positive work environment and burnout. In Vietnam, Nguyen Quyet Thang & Tran Thi Thu Thuy (2020) explored the impact of job satisfaction, work motivation and organizational culture on employee engagement in the enterprises that have foreign investment capital in Binh Duong. Taking the case of a 3-star hotel in Da Nang, Nguyen Phuc Nguyen et al. (2020) conducted a study on many factors affecting employee engagement with the organization. These factors are direct management, training, compensation and benefits, job characteristics, career development opportunities, support from the organization, empowerment and personalities. However, not many scholars have studied the direct impact of empowerment on employee commitment. Therefore, the authors wish to fill in the shortcomings in the list of factors that have the potential to promote individual commitment. This research project was conceived with the main aim at investigating the influence of leadership, specifically coaching, social capital, and leaders' empowerment on employees' commitment in

the organization. Moreover, the moderating effect of co-worker support was also tested.

2. Background

2.1. Theoretical framework

The research topic is developed on the basis of social exchange theory. This theory proposes that social behaviors are the result of an exchange process and that most relationships are made up of a give-and-take basis. The main relationships explored in this study are between managers and their employees, along with supportive interactions among employees in the work environment. According to the theory, the fact that employees perceiving positive signals from the business will promote commitment to be formed (Colquitt et al., 2013). According to Settoon et al. (1996), positive actions taken by the organization/representative of the organization towards employees contribute to the establishment of high-quality relationships and this creates an obligation for employees to respond in similar positive way.

Another basic theory taken into consider in this research is social capital theory. The interpersonal relationships are the fundamental drivers of performance. It fosters the strong connections by creating an environment that enhances trust, relationships, goodwill which then lead in positive outcomes (Maurer & Ebers, 2006). Numerous studies have also shown that social capital influences positive job-related outcomes, which plays an important role in creating a work environment conducive to employee growth and retention. Applying this theory in the study facilitates scholars to combine independent factors including social capital, coaching, and empowerment.

2.2. Definition of employees' commitment

Employee commitment to the organization is defined as a psychological attitude that helps to engage employees with the organization and reduces the turnover intention (Allen & Meyer, 1990; Igbaria & Greenhaus, 1992). In other words, it is the desire for long-term cooperation

with the organization (Mowday et al., 1979). Organizations always have a greater interest in the long-term commitment of employees as they believe that such commitment the company achieves many valuable results such as low turnover, high motivation, good relationships, improved organizational relationships and long-term organizational support (Kwon & Banks, 2004). Igarria & Greenhaus (1992) also confirmed that organizational commitment is associated with employee behavior and performance. As a result, considering this factor in the model will assist in solving human resource problems that may arise and ensure employees have the positive attitude towards the organization. Employee commitment can depend on various factors such as social capital (Coleman, 1988; Dess & Shaw, 2001), coaching (Kalkavan & Katrinli, 2014), empowerment (Han et al., 2009; Pelit et al., 2011), human resources practices (Wood & Menezes, 1998) or leadership behavior (Wallace et al., 2013).

2.3. The research model and hypothesis

2.3.1. The impact of coaching on employees' commitment to the organization

Coaching is seen as a process of improving performance and positively influences both individuals and organizations (Cox et al., 2014). Numerous studies have emphasized the need for coaching for the professional and personal development of employees. Coaching encourages individuals to take on the professional responsibility of making positive changes and cultivates the expertise needed to make that change. Berg & Karlsen (2012) also asserted that with the help of the coaching, employees will possess new knowledge and skills, gain an understanding of the abilities necessary to achieve the desired results. Therefore, to develop employees, managers are expected to perform well as coaches (McGill & Slocum Jr, 1998; Bartlett & Ghoshal, 1997). Webber (1993) emphasized that: "In that role, managers need to attract and motivate good people, reward, appreciate as well as train and satisfy them" (p. 27). Many scholars believe

that managers need to fulfill the coaching role well to enhance employee performance (Hotek, 2002). Through training, employees recognize their own strengths and weaknesses, ways of working, and obstacles that keep them from performing better at work. At the same time, it will also help to strengthen self-belief, appreciate learning opportunities, and promote career opportunities and thereby influence employee commitment (Clutterbuck, 2009). Therefore, coaching has a positive relationship with employee commitment.

H1: There will be a positive relationship between coaching and employees' commitment.

2.3.2. The impact of empowerment on employees' commitment to the organization

Laschinger et al. (2002) demonstrated that developing a work environment that enforces managers' empowerment will positively affect employee commitment and this will make the organization more effective. Empowerment is seen as a way to stimulate employee commitment to the organization because it aligns job responsibilities and personal value systems, creating greater confidence in employees' performance. Employees have the opportunity to participate in decision-making at work and have greater influence in the organizational system (Janssen, 2004; Kazlauskaitė et al., 2006; Shin & Perdue, 2022). At the same time, in the Meyerson & Dewettinck study (2012), employee empowerment is seen as a motivating action aimed at increasing work performance by developing trust, encouragement, and breaking down barriers between staff and management. It is essential to the success of the organization. In addition, many researchers have found a direct influence of empowerment on work performance, job satisfaction, and organizational commitment. Empowerment strategies within an organization increase employee commitment to the organization. (Han et al., 2009; Pelit et al., 2011; Peng et al., 2022).

H2: There will be a positive relationship between empowerment and employees' commitment.

2.3.3. *The impact of social capital on employee commitment*

Social capital is seen as a sum of actual and potential resources built into the network, available through the network, and generated by the network of links between individuals or social units (Nahapiet & Ghoshal, 1998; Miković et al., 2020). Adler & Kwon (2002) stated that interpersonal relationships created environments promoting trust, relations and positive outcomes through strengthening connections within social networks. It also plays an important role in the creation of workplaces that are conducive to employee development and retention (Dess & Shaw, 2001; Subramony et al., 2018). As a result, strategic leaders must build beneficial relationships with those in the group and create a culture of trust among all group members. The research team hypothesized to support speculations about the relationship between social capital and employee commitment.

H3: There will be a positive relation between social capital and employees' commitment.

2.3.4. *The moderating effect of co-worker support on the relation between coaching and employee commitment, empowerment and employee commitment, social capital and employee commitment*

Working in an organization, employees not only interact with leaders but also with colleagues. Communication with colleagues

also has certain effects on employees. Social support from colleagues increases employees' work engagement and consequently better job performance (Poulsen et al., 2016; Yang et al., 2019). The support from colleagues is considered as a moderating factor in this research with the aim at investigating its impact on the relation between leader's behavior (coaching, empowerment, social capital) and employee commitment. Many previous research papers examined co-worker support as moderator which strengthen or weaken the influences of independent variables on dependent variable (Kokoroko & Sanda, 2019). Coworker support may have important effects on such organizational relations, yet it is unclear to what degree and why. Further research is needed to clarify the moderating role of coworker support in enhancing employees' commitment in organizations which sometimes cannot be settled by leaders.

H4a: There will be a positive impact of co-worker support on the relation between coaching and employee commitment.

H4b: There will be a positive impact of co-worker support on the relation between empowerment and employee commitment.

H4c: There will be a positive impact of co-worker support on the relation between social capital and employee commitment.

From previous hypothesis, authors suggest the research model:

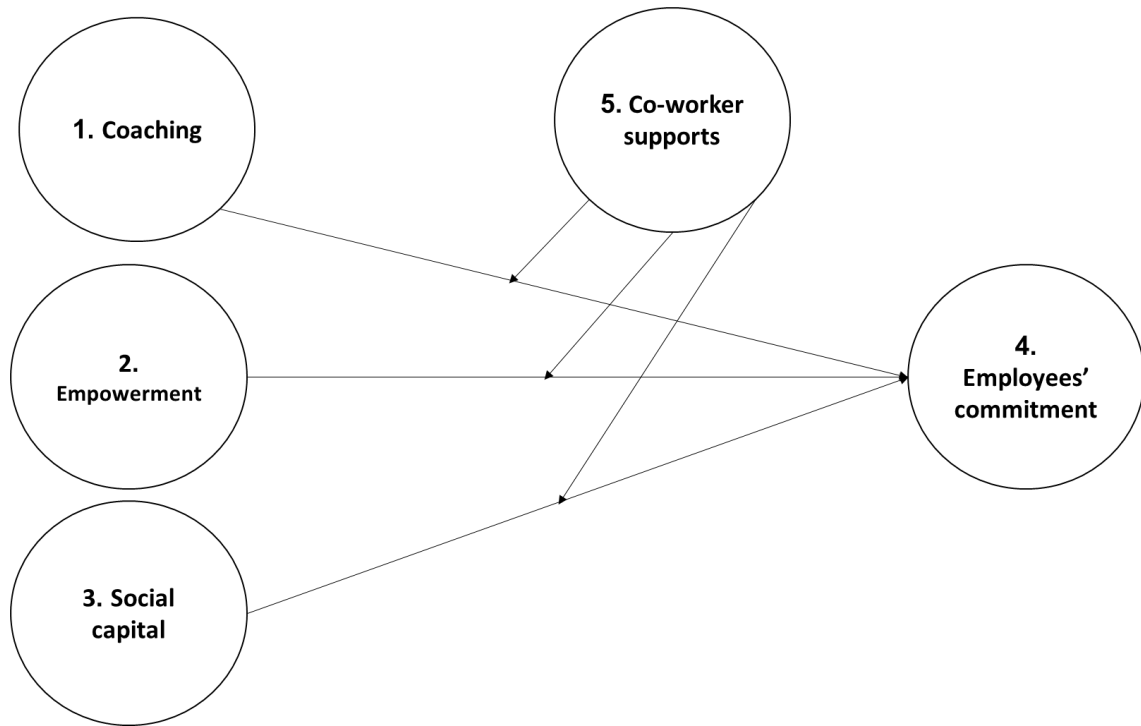


Figure 1. The proposed research model

3. Methodology

The mixed research method which includes qualitative method and quantitative method was used to verify the relationship between factors in the research model.

Qualitative research was conducted to build and adjust scales and concepts accordingly. The technique used in this study is to synthesize and analyze the theoretical basis, relevant studies, from which the authors propose a research model. The model was confirmed and adjusted based on the group discussion.

The quantitative approach was used to test the proposed research model. Authors referred to previous studies to build items. First of all, seven items of “Coaching” came from the research of Kalkavan & Katrinli (2014). Secondly, the research of Hanaysha (2016) provided five items of “Empowerment”. Moreover, the study of Ellinger et al. (2013) offered seven items of “Social capital” and five items of “Employees’ commitment”. Finally, four items of “Co-workers’ supports” came from the research of Haynes et al. (1999).

There are two stages in the survey: (1) initial survey; and (2) official survey. In the initial survey, the questionnaires were sent to nearly 50 people with the purpose of verifying the reliability and validity of items before to make official survey. With the outer loading value greater than 0.400, all items are available for the second stage of the survey. In the official survey, authors collected 196 questionnaires. Partial least squares structural equation modeling (PLS-SEM) was used to analyze collected data with the software of SmartPLS version 3.2.8.

4. Research results

4.1. Respondents’ information

The survey sample was collected with convenient method. The questionnaires were sent to supervisors and managers in banks in Ho Chi Minh City through an online survey. There were 196 collected questionnaires. The ratio of male and female respondents is nearly equal (51% vs 49%, respectively). The percentage of people who have age band from 35 to 44 accounted for 36%, followed by the

group of 25-34 year-old accounting for 29%. Nearly two thirds of respondents (66%) work at their organization for more than two years.

4.2. Research results and discussion

The assessment of the research model includes two steps. Firstly, authors check the measurement model in order to verify the suitability of items and their factors. Then,

authors evaluate the structural model to verify proposed hypotheses.

4.2.1. Assessment of measurement model

In the stage of assessing the measurement model, the reliability, the internal consistency, the convergent validity, the discriminant validity of items is needed to verify.

Table 1. Variables' information

Variables	Outer loading	Composite reliability	Cronbach's Alpha	AVE
1. Coaching (1COA) 1COA1; 1COA2; 1COA6; 1COA7	Outer loading: 0.842; 0.860; 0.709; 0.791	0.878	0.815	0.644
2. Empowerment (2EMP) 2EMP1; 2EMP2; 2EMP3; 2EMP4; 2EMP5	Outer loading: 0.823; 0.864; 0.820; 0.846; 0.807	0.918	0.889	0.693
3. Social capital (3SCA) 3SCA1; 3SCA2; 3SCA3; 3SCA4; 3SCA5; 3SCA6; 3SCA7	Outer loading: 0.832; 0.850; 0.879; 0.877; 0.900; 0.850; 0.802	0.951	0.939	0.733
4. Employees' commitment (4ECM) 4ECM1; 4ECM2; 4ECM3; 4ECM4; 4ECM5	Outer loading: 0.854; 0.909; 0.889; 0.912; 0.890	0.951	0.935	0.794
5. Co-workers' supports (5CWS) 5CWS1; 5CWS2; 5CWS3; 5CWS4	Outer loading: 0.871; 0.938; 0.875; 0.890	0.941	0.916	0.799

Source: Authors' analyzed result, 2022

Outer loading value is the criteria to identify the items' reliability. If the outer loading value is less than 0.400, the item should be removed from the research model and if the outer loading value is greater than 0.700, the item should be kept in the research model. In case that outer loading value is between 0.400 and 0.700, item is just be removed if this solution could improve the composite reliability value or the average variance extracted (AVE) value (Bagozzi et al., 1991; Hair et al., 2011). Only three items (1COA3, 1COA4, 1COA5) were removed from the research model.

The composite reliability value and the Cronbach's Alpha value of all five variables is

greater than 0.700, therefore, it could say that the internal consistency of all items are satisfied (Hair et al., 2017).

The AVE value is used to identify the convergent validity of variables. There is any issue of convergence when all AVE values in the research model are higher than 0.500 (Hair et al., 2017).

HTMT ratio is used to check the discriminant validity of variables. Thanks to HTMT ratio which are less than 0.900, it could say that the discriminant validity of variables are satisfied (Henseler et al., 2015).

Table 3. HTMT ratio & R2 value

Variables	HTMT ratio					R ²
	1COA	2EMP	3SCA	4ECM	5CWS	
1. Coaching (1COA)						
2. Empowerment (2EMP)	0.808					
3. Social capital (3SCA)	0.873	0.821				
4. Employees' commitment (4ECM)	0.806	0.771	0.850			
5. Co-workers' supports (5CWS)	0.837	0.820	0.849	0.853		67%

4.2.2. Assessment of structural model

In this stage, authors verify the issue of collinearity, before evaluating the proposed

hypothesis, and then conclude the level of prediction of the research model, the level of impacts of exogenous factors.

Table 4. Coefficient, p-value, f2 value

Hypothesis	VIF	Coefficient	P Values	Conclusion	f ²	Effect size
H1: 1COA -> 4ECM	2.680	0.181	0.08	Accepted	0.038	Small
H2: 2EMP -> 4ECM	2.509	0.192	0.05	Accepted	0.045	Small
H3: 3SCA -> 4ECM	3.192	0.513	0.00	Accepted	0.252	Medium
H4a: 5CWS -> 1COA & 4ECM		-0.021	0.37	Rejected	0.000	
H4b: 5CWS -> 2EMP & 4ECM		0.020	0.37	Rejected	0.000	
H4c: 5CWS -> 3SCA & 4ECM		0.000	1.00	Rejected	0.000	

All inner VIF values are lower than 5, therefore, there is any issue of collinearity between independent variables and dependent variables in this research model (Hair et al., 2017). It is not necessary to check the collinearity between moderating variables and other variables (Hair et al., 2017). All first three hypothesis are accepted when p-value is lower than 0.10 while the rest hypothesis are rejected when its p-value is higher than 0.10 (Hair et al., 2017). Researchers often use R2 value to conclude the level of prediction of the research model. The R2 value of 25%; 50%; 75% means weak, moderate, substantial level of prediction (Hair et al., 2017). The R2 value in this research model is 67%, it means that the selection of exogenous factors of authors in this research model is quite reasonable. The level of impacts

of exogenous factors is based on f2 value. The value of 0.02, 0.15 and 0.35, respectively, represent small, medium, and large effects of exogenous constructs (Cohen, 1988). Thanks to the f2 value in Table 3, it could be said that "Social capital" is the exogenous construct that has moderate impacts on endogenous construct while other exogenous have very small impacts.

4.2.3. Discussion

In the research model, all three independent variables (Coaching; Empowerment; Social capital) influence positively the dependent variable (Employees' commitment). Among these three independent variables, "Social capital" has higher impacts than others. It means that employees highly appreciate the attention of leaders for them. They think that

when managers respect them, they can have a bright future in the organization and therefore, they engage more with the organization. The f^2 value also consolidates this claim. The second important factor that influences “Employee’s commitment” is “Empowerment”. It is essential to understand that people prefer to work with moderate independence. Specifically, for skilled labor or white-collar workers, “Empowerment” is an indispensable factor in the workplace.

With the first accepted hypothesis, the results of the research model support previous studies. Firstly, the accepted hypothesis H1 consolidated the assumption of Kalkavan & Katrinli (2014) about the positive impacts of “Coaching” on “Employees’ commitment”. Secondly, the study of Hanaysha (2016) and this study support the idea that “Empowerment” is essential factor that leads to employees’ commitment with organization. However, the coefficient value in the study of Hanaysha is higher significantly than in this research (0.326 in compared with 0.192). The reason might be that in the research of Hanaysha, respondents are employees in public universities while in this research, respondents are staff in banks. In the knowledge-based working environment such as university, employees often highly appreciate the empowerment. Finally, similar to the research of Ellinger et al. (2013), the result of this study confirmed the great influences of leaders’ social capital on employees’ commitment with organization. Both studies have high value of coefficient (0.610 and 0.513, respectively) even though two studies were conducted in different countries (the U.S, Vietnam) and in different services industries.

The regret of this study is that all three hypothesis about the moderating effect of “coworkers’ supports” are rejected. No evidence in respondents’ profiles can explain this issue. According to experts in human resources management, employees likely value their relationship with coworkers less superior than the relationship with their leaders. As a result, the coworkers’ support may have no impact on the relationship between leaders and employees. The algorithmic complexity of

moderating effects may be the second reason for the rejection of these hypotheses.

5. Conclusion and recommendations

In theory, firstly, the research results contribute to strengthening the social exchange theory by clarifying the impact of leaders’ activities on employees’ commitment. It is clear that when staff perceive positive support from authorities, they would like to engage more with the organization. Similar to previous researches, this study has confirmed that coaching, empowerment, social capital of managers have positive influences on employees’ commitment.

As the research has proven the theories regarding the positive effect coaching, empowerment, and social capital have on employees’ commitment, multiple suggestions can be drawn from these hypotheses to increase employees’ commitment. Thanks to the value of coefficient and f^2 value, it is clear that social capital of leaders is the first factor that organization should improve in order to increase employees’ commitment. For example, managers should spend moderate time with employees to understand their feelings, their difficulties, or their targets. Encouraging employees is also a good way to improve employees’ commitment to organization. More importantly, leaders should treat staff fairly. Justice is always a factor that influences employees’ performance.

Empowerment is the second factor that has great impacts on employees’ commitment. The organization should develop a reasonable policy on delegation to motivate employees. In banking industry, the majority of employees has high level of education. With these people, they expect to be more empowered (Johnston & Marshall, 2016). However, in order to delegate to employees, organizations need to increase employees’ capabilities. Therefore, training is really important activity of organizations.

Finally, coaching also influences positively on employees’ commitment to organization. Managers should share their work experience

with staff. Furthermore, leaders also often ask questions to employees in order to help them understand the process and the requirements of jobs. Finally, authorities should give constructive feedback to employees about their work, their behaviors.

The result of the study adds into the pool of knowledge regarding the topic of increasing employee commitment to enable further

study to the topic. However, it still has flaws surrounding the aspects of specification, these terms are still too general to define a precise branch of action to increase employee commitment. Furthermore, the study only explore internal issues in the work environment not external problems like society atmosphere or culture to find more ways to drive employee commitment.

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FACTORS DRIVING CUSTOMER SATISFACTION IN VIETINBANK'S RETAIL BANKING PRODUCT

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ARTICLE INFO	ABSTRACT
<p>DOI: 10.52932/jfm.vi72.252</p> <p><i>Received:</i> March 23, 2022</p> <p><i>Accepted:</i> June 24, 2022</p> <p><i>Published:</i> December 25, 2022</p> <p>Keywords: Customer service in retail banking; retail banking customer satisfaction; quality service in retail banking; retail banking in Vietnam.</p>	<p>The current retail banking sector is very dynamic and very competitive. In the past, many banks involved in retail banking attached much importance to establishing how the quality of service influences the satisfaction of their customers. Therefore, this paper seeks to contribute to the existing knowledge on the role played by the quality of service rendered to customers towards their general feeling of satisfaction with their retail banking service provider. The study's findings would assist retail banks in understanding how the service offered to their customers impact the feeling of gratification. A survey of randomly selected customers of the Vietinbank, Vietnam, was carried out. The research found a direct correlation between customer satisfaction and service quality. The study provides a deep comprehension to managers of retail banks and marketing professionals on the main drivers for developing and retaining customer satisfaction. To this end, banking institutions must develop clear policies and product offerings tailored to customer satisfaction.</p>

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1. Introduction

Previous research on the relationship between customer satisfaction and service quality shows how every institution driven by offering value is concerned with developing an outstanding action plan that would help it retain its competitive edge. While maximizing profit and shareholder equity. (Udonna, 2012). Due to the rise of global competition, a saturation of market demand, and the integration of information technology in all business activities, competitive strategy is no longer achieved by optimizing the price and quality of the product or service offered. Instead, companies focus on building their success by establishing, nurturing, and sustaining long-term relationships with their existing customers (Kuusik, 2007). This article shows how the quality of service offered in retail banking influences the customers' satisfaction. Previous literature in this area shows varying conclusions. Goode and Harris (2005) argue that customer satisfaction's multidisciplinary and abstruse nature leads to the evolution of customer satisfaction from a managing perspective to a professional and scientific specialization. Babin and Griffin (1998) over that relationship marketing had long focused on customer satisfaction to determine the failure or success of marketing drives. Agbor (2009) noted that it's impossible to please all customers because of the differences between individuals and groups. "Interestingly, Oliver (1981), Brady and Robertson (2001), and Kotler and Keller (2009) all seem to come to one conclusion that customer satisfaction is a result of a personal sense of gratification or disillusionment emanating from the actual product or service's performance as juxtaposed their presumption. Does the product meet their expectation?"

Customer behavior, experience, and service quality on business performance are important hence this area receives considerable attention from scholars (Udonna, 2012). Most studies have focused on innovation, marketing, customer loyalty, quality attributes, bank privatization, or frameworks for measuring customer experience in retail banking (Udonna, 2012; Vanniarajan & Anbazhagan, 2007; Ehigie,

2006; Beck *et al.*, 2005; Nguyen, 2008; Ho, 2012; Sorescu, 2011; Uche & Ehikwe, 2001; Kuusik, 2007; WB, 2013).

Relatively little theoretical and empirical research has examined how service quality impacts customer satisfaction within the retail banking sector. Parasuraman *et al.* (1988) propose that customer value, satisfaction, and service quality are crucial to achieving a competitive advantage. These elements vary across countries and cultural backgrounds (Badara *et al.*, 2013). This research delves into a critical analysis of relevant literature on customer satisfaction and service quality. It presents an empirical study on customer service quality related to satisfaction in Vietinbank, Vietnam.

This research examines what customers perceive as quality service and its impact on their sense of gratification. It involved investigating customers' perceptions and intentions toward service quality within a particular industry (retail banking), geographic region, and population (Vietnam). The rest of the paper is structured as follows: (1) Review of existing literature on the relationship between customer satisfaction and service quality. (2) Research methods and procedures used. (3) results of the study and their discussion. (4) Implications, limitations, and recommendations for future research.

2. Literature review

The relevant literature related to this topic is discussed to improve the understanding of customer satisfaction and service quality and their relationship. The third part critically assesses how the quality of service rendered to customers is related to their feeling of gratification by comparing different empirical studies.

2.1. Customer satisfaction

One of the essential prerequisites for service quality management is identifying and investigating the determinants of customer satisfaction; it is an area of interest for practitioners and academic researchers

(Matzler & Sauerwein, 2002). Service providers require in-depth knowledge to comprehensively address which service attributes add value, increase customer satisfaction, and minimize dissatisfaction (Matzler & Sauerwein, 2002). Hanif *et al.* (2010) agree that knowing the factors influencing customer satisfaction and why they fulfill customers' needs and desires is worth knowing. Through this knowledge, the manager can effectively allocate resources to service attributes that enhance quality and satisfaction.

Also, Swan (2001) identified that security, transparency, and communication flexibility are primary factors in determining customer satisfaction. In addition to service quality, price fairness and bank reputation have proved to have a substantial influence on the satisfaction of customers. Although the cost to retain loyal customers is high, retention assures profitability in the long term for banks (Anderson *et al.*, 2004).

Though the determinants required to satisfy a customer have been shown to vary substantially in modern times, it has been established that personal preferences, the quality of goods and services, quality assurance, and reliability are some of the critical factors driving customer satisfaction. Many studies have employed the vital incidents technique (ICT) to identify customer satisfaction determinants. Most of these studies show a difference between the determinants related to satisfaction and those about dissatisfaction (Matzler & Sauerwein, 2002).

2.2. The Quality of Service

The marketplace today is ever-evolving, and competition is downright cutthroat. Most companies have focused on studying and implementing effective marketing strategies that improve service quality and customer retention to generate profits and contribute to growth (Fen & Lian, 2007). For firms to reach this bottom line of strategies and goals, there is remarkable advocacy for adopting service quality as a key performance indicator. (Kaplan & Norton, 2001). Given the significance of quality service to firms' long-term existence and

expansion, many researchers have meticulously focused on investigating this concept; nevertheless, it remains among the extremely contentious issues in service publications (Ooi *et al.*, 2011).

Goods and services are two key components of economics; services are utilised where they are offered. A service entails all activities, benefits, or gratification one can render to another in exchange for money or pleasure. Services depend on the type of product provided and vary across different organizations (Daniel & Berinyuy, 2010). As a result, a service can be defined in terms of the context in which it is being used

Since quality is considered a critical strategic component of competitive advantage, improving product quality has become a central concern for firms (Torres-Moraga *et al.*, 2008).

2.3. The Concept of Quality of Service

Service quality is a key concern in relationship marketing and management literature; its impact cannot be overemphasized. Service quality has played a pivotal role in creating consistent growth and sustainable competitive advantages in firms by helping them differentiate themselves from competitors (Nguyen, (2008); Ladhari, (2008); Dawkins & Reichheld, (1990). Zeithaml, Parasuraman, and Berry (1996) also support this idea by claiming that in the current highly competitive marketplace, the continued existence and growth of firms are pegged on adopting the delivery of quality service as one of the key strategies.

“In the 1980s, firms disagreed on whether a high-quality service would lead to enhanced financial success due to the lack of solid evidence available to support either position” (Bolton & Drew, 1994). “The requirement to ascertain the economic payoff of service quality was an obstacle to reducing the investment rate in services; only a few corporations such as Xerox or FedEx achieved success for their efforts” (Bolton & Drew, 1994).

This is consistent with Roest and Pieter (1997), who define service quality “as a cognitive and relativistic discrepancy between

experience-based norms and performances concerning service benefits.”

During this period, companies in both physical goods and service areas considered the service quality agenda to improve their overall quality and amplify the impact of service quality on financial outcomes (Rust *et al.*, 1995). In recent years, rather than defining what quality service entails, most studies have leaned towards attempts to establish the impact of offering quality service along with other factors within the firm and industry context, reflecting the customer’s perception of specific services (Zeithaml *et al.*, 2006).

The demand for understanding, measuring service quality, and implementing appropriate improvement strategies has risen because gaps between customers’ expectations and perceptions are wide (Daniel & Berinyuy, 2010). Consequently, customer-perceived service quality has attracted the extreme interest of researchers due to its contribution toward sustaining a firm’s competitiveness by increasing its level of customer retention (Negi, 2009).

Within the banking sector, it is not easy to concretize the quality of service; it can only be drawn from customers’ experiences (Nguyen, 2008). Within the sector, banks compete against each other based on each bank’s financial muscle and service quality. However, the competition in terms of price has been restricted by regulations and cost pressures; the range of products offered also becomes similar and contains little differentiation (Kuusik, 2007). A bank will only achieve a competitive edge in the competitive financial services sector by offering a premium customer service experience. Consequently, the quality of service a bank offers is a key pillar of this study because it informs how profitable a bank will be. In this research paper, the quality of service will be referred to as a bank’s ability to meet the needs and expectations of its customers. The successful delivery of quality service is based on customer expectations and the ability to meet them in terms of accuracy, affordability, and timely delivery.

2.4. Relationship between Customer Satisfaction and Service Quality

The global marketplace has evolved rapidly changing in recent years. Developed economies have shifted from industry to service, and service-oriented increased the role of the customer in this field (Sharareh & Fauziah, 2012). Many academicians in the service field, such as Cronin and Taylor (1992), Parasuraman *et al.* (1988), Bitner (1990), and Oliver (1993), have agreed that the quality of service is different from the satisfaction of customer’s expectations, what is termed as quality customer service is an overall judgment or attitude about how excellent service is; customer satisfaction refers to a particular transaction.

Quite a sizeable amount of research has been conducted to establish how the quality of service is related to customer satisfaction. (Bolton & Drew, 1994). Many researchers have emphasized the “interrelationship between service quality and customer satisfaction related from their definitions to their relationships with other aspects in business” (Emari *et al.*, 2011; Daniel & Berinyuy, 2010). Specifically, Westbrook (1990) researched “the link between service quality and customer satisfaction,” and the results revealed a significant dependency between both constructs. Besides, he proposed that service quality can be affected by the experiences of other consumers or perceptions of value, while customer satisfaction reflects the feelings about encounters and service firms.

Lewis (1993) first theorized that satisfying consumers related to a particular transaction were opposite to a less situational-oriented attitude. However, in literature, several empirical studies have been made supporting Oliver (1993), who argued that service quality was an antecedence of customer gratification whether these two constructs were transaction-specific or cumulative notwithstanding (Fen & Lian, 2007; Spreng & Macky 1996; Fornell *et al.*, 1996). Wilson *et al.* (2008) shared the same view and developed a framework to present it (Figure 2.1).

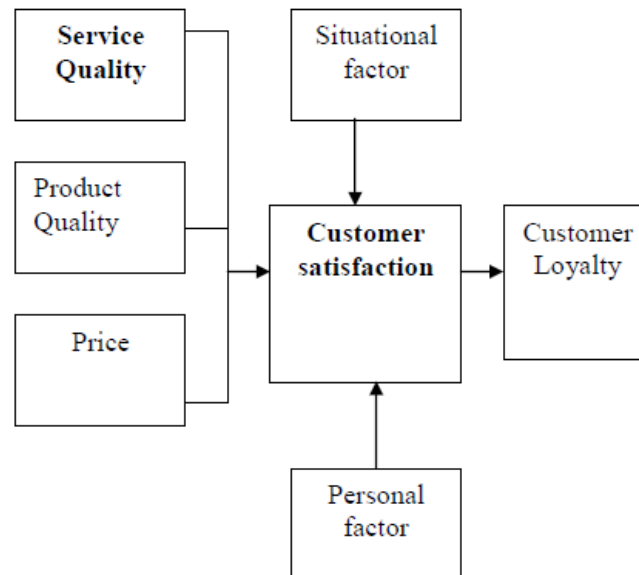


Figure 1. Customer perceptions of quality and customer satisfaction framework

Source: Wilson *et al.*, 2008, p. 79, cited from Agbor, 2009, p.11

Wilson's framework depicted "the relationship between customer satisfaction and service quality," presenting a situation where the quality of service quality reflects customers' assessment. Meanwhile, "customer satisfaction is more inclusive and influenced by price, product and service quality, and situational and personal factors" (Wilson, 2008). This argument is in line with the ideas of the researchers such as Parasuraman *et al.* (1985) and Saravana and Rao (2007), who agreed that the quality of service rendered determines customer satisfaction.

3. Research Methods

Research methods deal with the techniques of collecting and analyzing data. The quantitative method is adopted for this study. The quantitative method is designed to collect data in a highly structured methodology, making replications possible. Replication is necessary because the research work is subject to verification, enhancing its legitimacy, reliability, and objectivity (Grix, 2010). Additionally, the quantitative approach is useful for this study because the quantitative approach would be useful. After all, the data it generates is quantifiable. It also compares general patterns and relationships among different variables that are verifiable. (Ragin, 1994, p. 132).

Data Collection

"Sometimes, when responding to questionnaires, respondents answer based on their observation or perception of other people's opinions" (Saunders *et al.*, 2009), called respondent bias. However, being aware of this possible problem, the author ensured the reliability of the research data by approaching respondents individually to ask that they avoid any influence from others when filling in the questionnaire. The author ensured respondent error was avoided by designing the questionnaire neutral, easy-to-read, understand, and closed-end format. Also, to prevent observer error and observer bias, as noted by Saunders *et al.* (2009), the questions were structured in a close-ended format; therefore, the questionnaire's content will give the same meaning to different respondents.

"Research validity can be damaged due to poor research procedures and imprecise information, testing, instrumentation, and maturation" (Collis & Hussey, 2009; Saunders *et al.*, 2008). To avoid this error, a Vietnamese language-based questionnaire was used. Furthermore, all the questions are designed concisely and straightforwardly so as not to be misinterpreted or misunderstood. The reliability and validity of this research were also

ensured by the adjustment based on the pilot study results. The pilot study also confirmed the face validity of the survey questions to measure customers' expectations and perceptions of banking services in Vietinbank

Measures

In this study, the validity of the measurements, consisting of content and construct validity, is examined based on the statistics obtained from the factor analysis. While content validity is related to the extent to which a specific set of items reflects a content domain, construct validity is directly concerned with the theoretical relationship to other variables (Devellis, 1991). Measurement assessment is essential for this study to conduct a regression analysis because the variables in the research model should be tested with regard to both reliability and validity to avoid any measurement error that may be present in any measure (Hair et al., 1995). The Analysis of variance and T-Test is useful for this study because they are considered fundamental in exploratory and confirmatory data analysis (Nunnally & Bernstein, 1994; Andrew, 2004). T-Test and ANOVA analysis were used in the data analysis. This analysis is especially appropriate for randomized design research (Hair et al., 1995). Besides, analysis of variance (ANOVA) is known as the test that incorporates means and variances to determine the test statistic. The test statistic is then used to determine whether data groups are identical or different. When hypothesis testing is performed

with ANOVA, the null hypothesis states that all groups are the same.

Moreover, Regression Analysis was used. Hair et al. (1995) argue that regression analysis is a widely used and versatile dependence technique that can be used in many aspects of business decision-making. The objective of this method is to predict the changes in the dependent variable in response to changes in the independent variables. Regression analysis is vital for this study because this study is about investigating relationships. Chatterjee and Hadi (2006) proposed that regression analysis is an analytical method that explores possible functional relationships between different variables at a given time. This study uses regression analysis to test the proposed hypotheses on other constructs.

4. Results and discussion

4.1. Descriptive statistics

Adopting the method Marla (1994) suggested, the author examined the means of customers' expectations and perceptions across different demographic groups to provide further insight into the finding (Table 1). Besides, the author also applied the ANOVA Test to examine any differences in the factors of customers' expectations and customers' perceptions across the demographic groups.

(i) Means of Customer's Expectation across demographics

Table 1. Customer Expectation Factors' Means by Gender and Age subgroups

Expectation	Gender		Age			
	M	F	<20	20-35	36-50	>50
Service product	4.73 (0.89)	4.54 (0.98)	4.53 (0.89)	5.02 (0.96)	4.73 (0.90)	4.72 (0.97)
Rates and Charges	4.54 (1.01)	5.28 (1.01)	5.01 (1.11)	4.61 (1.02)	5.26 (0.98)	5.16 (0.95)
Human element of service delivery	4.63 (0.88)	4.92 (0.93)	4.54 (0.91)	4.80 (0.93)	4.72 (0.89)	5.43 (0.90)
Process of Service Delivery	5.00 (0.85)	5.16 (0.87)	4.97 (0.91)	5.06 (0.89)	5.05 (0.83)	5.20 (0.81)
Social Responsibility	4.50 (0.68)	4.85 (0.77)	3.98 (0.67)	4.65 (0.75)	4.45 (0.65)	4.91 (0.73)

Expectation	Gender		Age			
	M	F	<20	20-35	36-50	>50
Tangibility	5.05 (0.67)	4.86 (0.73)	5.03 (0.69)	4.92 (0.72)	5.02 (0.70)	4.89 (0.72)

Note: Numbers in parentheses represent standard deviations

According to the results of ANOVA testing, there are differences in the factors Rates and Charges, human element of service delivery, and social responsibility across the Gender group. There are also differences in the factors of Rates and Charges, social responsibility across the Age group. It can be seen from Table 4.6 the Rates and Charges factor appears that is more important to females (5.28 mean score) than to males (4.54 mean score). It is also similar in the human element of service delivery, social responsibility factors that are more important for females than males. Regarding the Age group, the figure illustrates that Rates and Charges are more critical for those ages 36-50 than for other age groups. Social responsibility is significantly more critical for old adults (over 50) than young adults (20-35).

The results of ANOVA testing show that Rates and Charges differ across the Educational

level group. The factor of Rates and Charges is more critical for those with a Bachelor's Degree (5.33 mean score) than those with a Ph.D. Degree (4.50 mean score). At the same time, social responsibility has a difference in the length of banking time with Vietinbank. Respondents who have had banking time with Vietinbank for less than 1 year feel that social responsibility is more important than the three other groups. Rates and Charges also differ among the respondents who have different numbers of banks used before. The Rates and Charges of Vietinbank are more important for those who didn't use the services of any bank before (5.28 mean score); in contrast, this factor is not quite important for those who have experience banking with 1-2 or 3-4 banks before (4.66 and 4.53 mean score respectively).

(ii) Means of Customer's Perception across demographics

Table 2. Customer Perception Factors' Means by Gender and Age subgroups

Perception	Gender		Age			
	M	F	<20	20-35	36-50	>50
Service product	4.9 (0.87)	4.73 (0.92)	4.94 (0.85)	4.75 (0.95)	4.85 (0.91)	4.80 (0.87)
Rates and Charges	4.59 (1.02)	5.34 (1.03)	5.02 (1.11)	4.77 (1.06)	4.76 (1.02)	5.03 (0.94)
Human element of service delivery	4.64 (0.95)	4.88 (0.99)	4.52 (0.91)	4.83 (1.01)	4.79 (0.98)	5.11 (0.96)
Process of Service Delivery	4.92 (0.86)	5.12 (0.92)	4.91 (0.89)	5.14 (0.84)	4.89 (0.91)	5.06 (0.93)
Social Responsibility	4.52 (0.61)	4.89 (0.68)	4.41 (0.62)	4.73 (0.67)	4.63 (0.53)	5.01 (0.67)
Tangibility	5.22 (0.60)	5.02 (0.75)	5.08 (0.64)	5.05 (0.72)	5.21 (0.58)	5.05 (0.73)

Note: Numbers in parentheses represent standard deviations

There are differences in the factors rates and charges, social responsibility, and tangibility across the gender group due to the results of ANOVA testing. There are also differences in the social responsibility factor across the Age group. Table 2 summarizes that females perceived a higher level of service quality in terms of rates and charges and social responsibility than males; however, it shows the reverse pattern for the Tangibility factor. The figures of the gender impact on the three aspects of customer's perception are similar to customer's expectations. In addition, results also reveal an age effect on the perception of social responsibility (5.01 mean score) which is higher for the old ages and lower for young customers (4.41 mean score). For other factors, there is no significant effect of genders and ages reflected through the difference in mean scores.

4.2. Research result and discussion

The Adjusted R-Square is 0.217 confirming a significant model that explained 21.7% of the variance in satisfaction in terms of service product, human element of service delivery, and process element of service delivery. This means that perception of service quality factors could not explain 79.3% of overall satisfaction. Estimate results shows that the model is ineffective in investigating the relationship between customer satisfaction and perception of service quality.

Based on the statistic provided by the Administrative Office of the Vietinbank's branch in Thanh Xuan District, Hanoi, the total number of customers who have used the services of Vietinbank Thanh Xuan at least once from December 2012 to December 2013 was approximately 2200 persons. This figure was considered as the research population for this research. With a sample size of 213, the Confident Interval is 5.26%, with a 95% of Confident Level. Therefore, it can be stated that with 95% indeed, this research model can explain between 16.24% and 26.96% of the variance in satisfaction in terms of service product, human element of service delivery, and process element of service delivery for the entire population.

Furthermore, this finding is slightly conflicting with several previous studies,

which commonly indicated that rates and charges, and tangibility are the strongest predictors of customer satisfaction rather than service product (Ahmah, 2010); (Lien, 2010); (Lin & Wang, 2006). This result might be applicable in the specific case of the Vietinbank context. In addition, the results show that the perception of customers toward the human element of service delivery and the process element of service delivery positively influence customer satisfaction. However, it illustrated a conflict with the negative gap scores for these two factors because the negative gap score is predicted to lead to low satisfaction (Daniel & Berinyuy, 2010).

Besides, the calculation of descriptive statistics of satisfaction 3,4 provides additional analysis of customer satisfaction across the demographics. It is intertwined with the level of overall satisfaction and rate of service quality. Interestingly, most respondents who are willing and not willing to continue using the service of Vietinbank in the future have 4-6 times visited the bank in a month, and the length of banking with Vietinbank is between 3-4 years. Among them, most of the answers for the level of satisfaction are "Neutral" or "Satisfied." For both questions, these respondents' "Maybe" answer is more than 50% of the total respondents.

Regarding the question of the intention to switch from Vietinbank to another bank in the future, one of the significant figures for respondents willing to switch the bank is that the majority had a "satisfied level" and "very high overall service quality." Moreover, most of the respondents who are willing and not willing to switch banks have used the services of more than 3 banks in the past.

In addition, the statistics from the demographics revealed that most of the customers visit the branch of the bank 4-6 times a month, and the majority of them are between 21-50 years old; the number of people who are over 50 or below 20 years old is lower.

5. Conclusion and managerial implication

This study has provided a better understanding to bank managers and marketing practitioners about the relationship between

customer satisfaction and service quality within the retail banking sector in Vietnam. The study showed that customers' perception towards the service product, human element of service delivery, and process element of service delivery were positively correlated with customer satisfaction. However, service products ranked higher than the other factors.

Therefore, the priorities should be improving services product in terms of the wide range of essential services offered, additional services, etc. Moreover, the managers of Vietinbank should also pay more attention to enhancement in the banking process and procedures, improving technology capacity, speed of service delivery, and improving employee and customer interactions reflected through the management and staff training and development.

Limitations and suggestions for future research

Since the data was collected only in the biggest branch in Vietinbank in Thanh Xuan District, Ha Noi city, the sample size is not fully representative of the population of Vietinbank Thanh Xuan. Therefore, it may limit the generalizability of the results. This research does not include all possible variables reflecting the customer's perception of service quality which may affect customer satisfaction. Future research should discover other factors affecting customer satisfaction in the retail banking sector in Vietnam, such as pricing programs, levels of market standardization, or cultural preferences. Future studies should also examine dimensions associated with customer loyalty and new customer acquisition because high customer satisfaction is essential in maintaining a loyal customer base.

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