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PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON MANAGEMENT AND BUSINESS 2021

NHÀ XUẤT BẢN TÀI CHÍNH

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Welcome Notes COMB-2021

Dear Friends and Colleagues,

We are pleased to welcome you to the **International Conference on Management and Business (COMB 2021)**. Your contribution and participation to the Conference is highly appreciated.

The University of Danang, University of Economics is especially pleased to be presenting this year's conference following the cancellation of the event planned for 2020 due to the COVID-19 pandemic. While the conference will be held virtually this year, the fact that so many impressive speakers and participants are joining in the discussions shows that there is much enthusiasm for continuing to work together and collaborate.

Following the success of last eight consecutive years' conferences from 2012 through 2019; today, we are honored to be the host for the COMB-2021 in our beautiful Danang city. Throughout the process from ideas to realization of this event, we have received immense support from our partners and co-organizers – Heriot-Watt University (UK), University of Liège (Belgium), Mahasarakham University (Thailand), Thuong mai University, Quy Nhon University, Nha Trang University, and Vietnam Union of Science and Technology Associations – Danang Economic Science Association.

I also would like to take this chance to show our deep gratitude for the contribution of our distinguished keynote speakers: Professor Babak Taheri, Professor of Marketing from Heriot-Watt University in the UK; and Professor Mario Cools from University of Liège in Belgium. Working with these prominent partners and individuals has allowed us to make this conference come true!

I'm sure that you will gain new insights and understandings of the key issues in management and business, especially under COVID-19, and hope you will be able to network and develop new contacts that will be useful in your future projects.

In closing, I'd like to recognize the hard work of the organizing committee, including our partner universities for making the COMB-2021 possible under challenging circumstances. I also wish to thank chairs that have contributed by supporting the committee's work and by hosting parallel sessions online. We are also indebted to members of the Organizing Committee for their support to make this event a great success.

We wish you all an intellectually stimulating and productive conference.

Thank you!

Assoc.Prof. Thuy Anh VO

KEYNOTE SPEAKERS

Assoc.Prof. Mario COOLS, *Professor in Transport and Mobility, University of Liège, Belgium*

His main research focus lies on transportation models, reliability of transport systems, sustainability enhancing decision support systems, and the impact of new transport infrastructure. Prof. Cools has published numerous articles in leading peer-reviewed journals, including Safety Science, Transport Policy, International Journal of Production Research, Expert Systems with Application, Networks and Spatial Economics, Renewable and Sustainable Energy Reviews, Transportation Research. Part A-B-C.

Professor Babak Taheri, *Professor of Marketing at Heriot-Watt University, Edinburgh, UK*

Prof. Babak has an established reputation in the marketing field with a specific reputation in marketing management, consumer behaviour and tourism, leisure and cultural consumption. He has published over 100 academic journal articles, a significant number of which are in 3* and 4* ABS-listed journals with high impact factors. He is the co-chairman of tourism marketing special interest group in Academy of Marketing, UK. He is Senior Editor for *Tourism Management Perspectives*, and Associate Editor of two journals: *The Service Industries Journal* and *International Journal of Contemporary Hospitality Management*.

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CONTENTS

RECOVERY OF VIETNAM'S CIVIL AVIATION INDUSTRY IN THE CONTEXT OF COVID-19: CHALLENGES AND SOLUTIONS

Nguyen Nu Tuong Vi

Vietnam Aviation Academy

ABSTRACT

Due to the impact of the COVID-19 epidemic, the aviation industry in Vietnam is the most serious decline and supporting the aviation industry is considered a practical solution to promote growth for the whole economy, making an important contribution to the economy. In the article, challenge of the policy of restricting air traffic, financial challenge of aviation enterprises and challenge of flight infrastructure and engineering are three challenges for Vietnam aviation industry in the context of COVID-19. The author also proposes three solutions as it is necessary to strengthen aviation medical safety, it is necessary to innovate flight service procedures and the policy to support aviation recovery in order to help Vietnam's aviation industry maintain their operation and move towards recovery in the context of COVID-19.

Keywords: COVID-19, aviation industry, Vietnam, challenges

1. Introduction

Air transport in a broad sense is a combination of economic and technical factors aimed at exploiting air transport efficiently. In a narrow sense, air transport is the movement of aircraft in the air or more specifically the form of transporting passengers, goods, luggage and parcels from one place to another by aircraft (Chen et al, 2015). Air transport is an important chain link to connect modes of transport, create the ability to combine modes of transport such as Air Transport/ Maritime Transport, Air Transport/ Car Transport to take advantage of the modes of transport. Air transport is the central activity and one of the vital resources of the world (Hengsheng, 2019). Its development makes the greatest contribution to the development of modern society, is an essential economic sector for development. Air transport makes it possible to quickly transport many items in the market. The role of the civil aviation industry is therefore increasingly emphasized because of its influence on the entire national economy on a global scale, impacting on economic growth, increasing the strength of the economy, promoting international tourism development that is a key industry of the economy, thereby facilitating the development of the territory (Edgar and Joao Claro, 2014; Chen et al, 2015).

According to statistics from the Civil Aviation Authority of Vietnam, in 2014-2018 period, Vietnam's air transport market recorded a high and continuous growth with an average rate of 20.5% in the period in terms of passengers and 13.2% in terms of cargo. In 2019, the growth rate of the market continued to be maintained at 11.8% in terms of passengers and 3% in terms of cargo compared to that in 2018. Total passenger transport reached 78.3 million passengers and cargo transport reached more than 1.25 million tons (CAA, 2020). In the international market, more than 80 leading airports in the world opened air lanes to/from Vietnam. Many airports were upgraded and built nationwide, including modern international airport terminals, meeting international standards such as Tan Son Nhat, Noi Bai, Da Nang, Phu Quoc, Cam Ranh, Van Don, etc. According to the report of the International Air Transport Association (IATA), Vietnam is recognized as one of the aviation markets with the fastest annual growth rate in the world, higher than the average rate of the Asia-Pacific region. In Vietnam, the aviation's growth of 2.5% will contribute to stimulating national GDP growth of 1% and vice versa, in addition, civil aviation activities are closely related to national defense, security and external economy, not just of purely economic nature (IATA, 2021).

Vietnam's aviation industry is also not outsider of impacts of COVID-19 epidemic. When the COVID-19 epidemic broke out on a global scale, the policy of restricting international and domestic air traffic by the governments of countries as a measure to prevent from the spread of the epidemic, the exploitation output of the worldwide airlines recorded a serious decline, leading to a decrease in the air traffic management output of inbound, outbound and transit flights. According to Vietnam Air Traffic Management Corporation (VATM),

VATM's plan for 2020 total air traffic management output was expected to reach only 436,000 flights, equal to 44.8%; reduced more than 537,000 times, of which the inbound/outbound air traffic management was 32.5% compared to that of 2019. Private airlines such as Vietjet Air and Bamboo Airways in general ran out of financial resources to support the air transport service. In the context of the COVID-19's outbreak, the world economy suffered great damage and the air transport industry was not the first industry to be hit in the strongest manner, which requires strong enough measures or policies for airlines to maintain their operation and revive soon (VATM, 2021).

2. Theoretical framework

The recovery of the organization's operations after major incidents has been interested since the 1950s when Deming (1950) by the PDCA model (plan - do - check - adjust) and Lewin (1951) by the three-stage change development plan (defrost - change action - refreeze) to change the organization according to the direction of the manager. Complementing the ideas of Deming (1950) and Lewin (1951), Cummings & Worley (2005) considers performance recovery as efforts to increase organizational performance and well-being through intervention plans aims to change the beliefs, attitudes, values or structure of organizations so that it can better adapt to the changing operating environment (Figure 1).

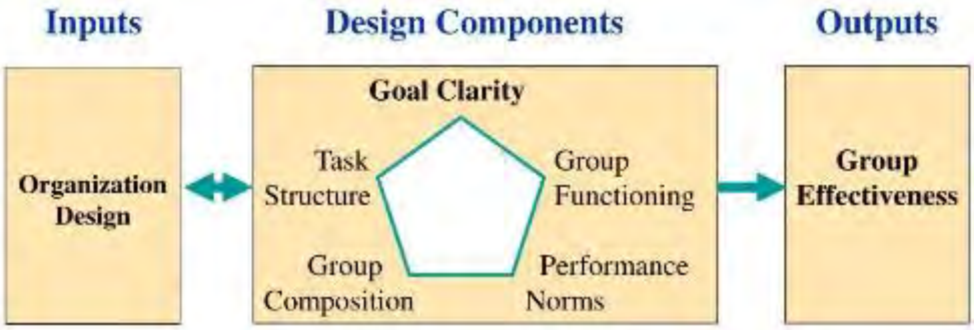

Figure 1. Comprehensive Model for Diagnosing Organizational Systems (Cummings & Worley, 2005)

Cummings & Worley (2005) understood organizational recovery after a major event as the implementation of plans to improve and refine strategies, structures, technologies, people, and measurement systems, it is to adapt to the great change from the environment. As the civil aviation industry has to change its operations and organizational structure to respond to COVID-19, risks may become more complex, new risks may arise, and potentially break the current system. This analysis is based on the theoretical framework of Cummings & Worley (2005), which is also the basis for proposing relevant recommendations through the recognition of the civil aviation industry as an organization that needs to be operated again.

3. Research method

Desk research report on the recovery of Vietnam's civil aviation industry in the context of COVID-19 with the secondary data source of good research works on civil aviation and COVID-19. Literature research focuses on summarizing and evaluating sources to provide a systematic understanding of the research problem. The documents are cited for an indefinite period of time, mainly from 2019, it for analytical citations, published by IATA, VATM and the Civil Aviation Authority of Vietnam.

4. Results and solutions

4.1. Challenges for Vietnam aviation industry in the context of COVID-19

In this article, the author mentions three challenges for Vietnam aviation industry in the context of COVID-19, such as challenge of the policy of restricting air traffic, financial challenge of aviation enterprises and challenge of flight infrastructure and engineering, it has been clearly stated:

Challenge of the policy of restricting air traffic:

In response to complicated developments of COVID-19 epidemic, in order to avoid spread on a large scale, the aviation authorities direct Vietnamese airlines to operate and transport passengers in line with the situation and development of the epidemic. In this force majeure case, the restriction of air traffic is inevitable.

The order of flight restriction, social distancing and isolation to prevent from the spread of the epidemic caused many international and domestic air lanes to suspend operating, immediately leading to a significant decline of the aviation industry, output through Vietnam's airports for the first 6 months of 2021 was estimated at 26.8 million passengers, down 19.4% over the same period in 2020 (145,000 international passengers, down 97.9%; and 26.7 million domestic passengers, up 1.4%) and 668 thousand tons of cargo, up 12.7% over the same period in 2020 (490 thousand tons of international cargo, up 18.1%; and 179,000 tons of cargo domestic, up 0.3%). International air lanes were almost paralyzed, except for some flights with the nature of relieving compatriots from other countries, so airlines mainly focus on exploiting domestic air lanes (CAA, 2021).

For domestic airlines, during the 4th epidemic outbreak (from April 27, 2021 to now), there was a policy of suspending all domestic air lines carrying passengers to and from Con Dao (Ba Ria - Vung Tau), Ca Mau (Ca Mau), Rach Gia (Kien Giang). The remaining air lanes were allowed to operate minimally. Specifically, Phu Quoc - Hanoi: 1 flight/day, A321 aircraft was assigned to Vietnam Airlines to operate. On July 19, 2021 alone, Vietnam Airlines had no plan, Bamboo Airways is assigned to operate. Can Tho-Hanoi: 1 flight/day, A321 aircraft was assigned to operate by Vietnam Airlines. On July 19, 2021 alone, Vietnam Airlines had no plan, Bamboo Airways was assigned to operate. Ho Chi Minh City-Hanoi: the airlines organized the operation with the frequency and supply load as at present (stated in Document No. 2973/CHK-VTHK, July 8, 2021).

For international aviation, according to statistics of the Vietnam National Administration of Tourism, the number of international visitors to Vietnam in 2020 reached 3.6 million, mainly in the first three months of 2020. In general, the output of passenger transport in 2020 reached 36.3 million passengers, down 54.1% compared to 2019 (7.23 million passengers for outbound, down 82.7%; 29.06 million turns for inbound, down 22.3%). Up to now (August 8, 2021), there have been only about 30 foreign airlines from Northeast Asia, Southeast Asia, the Middle East and France to operate flights for cargoes, diplomats, experts, investors, skilled workers, foreign students... to/from Vietnam.

Financial challenge of aviation enterprises:

Vietnam has 6 active airlines, including: 3 airlines of VNA Group (Vietnam Airlines, Pacific Airlines, Vasco), Vietjet Air, Bamboo Airways along with the new airline just put into operation in late 2020, namely Vietravel Airlines. In the report on business development in 2020 and the first 5 months of 2021, for the aviation industry, the Ministry of Planning and Investment said that the market recorded the most serious decline, the demand for air transport in 2020 decreased by 34 .5 - 65.9%, revenue of aviation enterprises decreased by 61% compared to 2019.

Vietnam Airlines' 2020 audited financial statements showed a sharp decline in revenue and profit. Specifically, Loss before tax of Vietnam Airlines was VND 8,743 billion. In which, passenger transport efficiency (excluding revenues other than passenger transport efficiency) got loss of VND 10,975 billion, VND 10,989 billion higher than that of the same period last year. The average revenue of a domestic passenger was VND 997 thousand/ passenger, down 34.5% compared to 2019. Vietnam Airlines forecasted a loss of about VND 4,800 billion in the first quarter of 2021, and possibly up to VND 10,000 billion in the first 6 months of the year. Meanwhile, Vietjet's loss before tax is VND 1,780 billion, of which passenger transport efficiency (excluding revenues other than passenger transport efficiency) got loss of VND 4,311 billion, VND 3,896 billion higher than that of the same period. The average revenue of a domestic passenger was VND 450,000 VND/passenger, down 34% over the same period.

The Vietnam Aviation Business Association (VABA) reported that the revenue of airlines in Vietnam in 2020 decreased by more than 60% (a decrease of about VND 100,000 billion). The amount of money paid to the State budget also reduced accordingly, while in 2019, airlines paid direct and indirect taxes and fees more than VND 20,000 billion. In 2020, airlines such as Vietnam Airlines, Vietjet and Bamboo Airways got loss of VND 16,000 billion. In 2021, due to the impact of the COVID-19 epidemic, the revenue of airlines decreased deeply. In 2021, the short-term debts and due debts payable of 3 airlines, namely Vietnam Airlines, Vietjet and Bamboo Airways reached VND 36,000 billion, of which those of Vietnam Airlines alone were VND 20,000 billion (VABA, 2021). The accumulated property and financial resources of airlines have been exhausted, opportunities to access loans are difficult and borrowing costs are high.

Challenge of flight infrastructure and engineering:

Total designed capacity of 21 airports nationwide is about 96.05 million passengers/year, while the number of passengers through the entire port network last year reached 103.5 million passengers. The airplane between Hanoi and Ho Chi Minh City alone is one of the busiest air lanes in the world with a capacity of 8-9 million seats per year, COVID-19 has upset business indicators and challenged the flight infrastructure and engineering more and more clearly. At present, the fleet of Vietnamese airlines has reached about 250 aircrafts, during the COVID-19 epidemic, only 1-2% of the fleet is operating. Currently, Vietnam aviation has only partially recovered and about 70-80 % of the fleet is still lying on the ground, total number of active seats in April 2021 was estimated at 137% compared to the same period in 2019 while the purchasing power (total market revenue) was estimated at only 76%. This situation leads to inefficient use of the fleet, low occupational efficiency while terminal costs are still payable. Meanwhile, to maintain minimum operation during the epidemic season, airlines has had to pay more than VND 100 billion/ day (CAA, 2020).

4.2. Some solutions for the recovery of Vietnam civil aviation industry in the context of COVID-19

Firstly, it is necessary to strengthen aviation medical safety. In the context of the epidemic, strengthening aviation medical safety is a prerequisite for maintaining the operation of the industry. To enhance aviation medical safety, first of all it is necessary to organize the control of passenger's medical declaration, ensure that passengers make medical declaration before boarding the plane; propagandize passengers to execute medical declarations when buying airline tickets and when doing airline check-in procedures. Airlines have right to refuse to transport the cases that fail to comply with medical declaration and regulations on epidemic safety. Continue to maintain the requirement of evidences of negative COVID-19 test or recovery from COVID-19 infection for all passengers along with improving the quality of COVID-19 rapid test service to serve passengers, at the same time strictly comply with regulations on anti-COVID-19 epidemic such as 5K and vaccine passport. Set up a fixed RT-PCR laboratories right at the airports instead of taking samples and transferring them to medical facilities at the present to minimize waiting time for pre-flight medical test. Ensure absolute safety for the flight service force.

Next, it is necessary to innovate flight service procedures. Focus on service control and safety before flight, reduce post-flight processes to quickly release passengers. Airlines need to improve service quality to better meet the needs of passengers, especially passengers who are the elderly and the disabled; build a plan to organize appropriate passenger transport, promote the application of e-ticketing, guide and arrange human resources to assist passengers in making mandatory medical declarations, completing security check-in procedures when attending domestic flights. Airports should change the appropriate way of organizing passenger pick-up and drop-off, limit overcrowding at ports, change the security screening process and capacity at international airports and minimize congestion at the security screening area. Organize appropriate distribution of walking flows and lanes of passengers; arrange the areas for inter-flight passengers, passengers rejected for entry, etc., separate from the area of passengers related to screening and isolation handling in anti-COVID-19 epidemic.

Finally, the policy to support aviation recovery. It is very necessary to strengthen the role of the State in the aviation industry through equal support policies for all airlines and owners of State capital in national airlines through special support packages along with tax, fee and price solutions. The State's role will ensure the existence of airlines and the interests of customers, creating a premise for the future recovery of the industry. The role of State management in the aviation industry is mainly expressed in a number of aspects: 1- Establish new safety standards for aviation activities; 2- Form policies to protect the aviation industry such as taxes, fees, healthcare, insurance and other issues when flying, it is necessary to have a legal corridor to facilitate credit institutions together with enterprises to overcome difficulties and ensure liquidity, so that it is possible to recover and develop in the future; 3 - Ensure fair and healthy competition among enterprises operating in the aviation market, develop and effectively use the airspace with other countries.

5. Conclusion

COVID-19 continues to develop very complicatedly, which is make the aviation enterprises face the problem of "existing or not existing". A series of flights was cut down, aircrafts were in idle state, passengers were absent, airports came to a standstill, airlines continuously reported huge losses showing the negative impacts of the epidemic to the business activities of this industry. The recovery of the aviation industry worldwide depends entirely on the ability to control the COVID-19 epidemic. Although the world has been producing a vaccine to prevent from COVID-19, but the prospect of completely extinguishing the epidemic in the near future is very unlikely, so the report's author proposes that now it is needed to have special solutions such as enhancing aviation safety, renovating flight services and policies of supporting aviation recovery in order to help Vietnam's aviation industry maintain their operation and move towards recovery in the context of COVID-19.

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IMPACTS OF COVID-19 ON ENTERPRISE A GENERAL HEALTH CHECKUP

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ABSTRACT

It has been proved that COVID is not just a disease, which infects humans and birds, but also causes impacts on enterprises. This large-scale research put focus on firms operating in Danang, one of the cities, which are severely impacted by the pandemic from the beginning of 2020 to the first quarter of 2021, right before the escalation of the number of cases in May. The large firm's database enables the readers to have a wider view of local firm's health but also provides quite detailed information as all the firms are categorized into 5 groups, which are (1) essential service, (2) non-essential service (3) essential products for daily life, (4) essential products for industry and (5) non-essential products, based on the Directive 16 of the government. This research is considered as a pilot study for the next research on the related topics.

Keywords: COVID, Firm's health, Danang Vietnam.

1. Introduction

In 2020, the appearance of a "small" virus created enormous change on a global scale. COVID-19 has taken the lives of not only million people but also enterprises, as according to Euler Hermes, a trade credit insurance, in the period from 2019-2021, about 35% of companies would go bankrupt (Euler Hermes, 2020). Until the first quarter of 2021, Vietnam had enforced fierce measures at the beginning of the pandemic and quickly put everything under control in a short period of time (Trang Nguyen and Danh Vu, 2020). The world's media portraited Vietnam and its health service as role models for its firm, quick and effective reactions. In scientific journals, articles focusing on the social aspects, both human's physical and mental health, the changes in behavior, etc. with Vietnamese people as the research target had been widely published in a large quantity(Ha et al., 2020; Le et al., 2020; Trevisan et al., 2020). However, the situation has not been captured fully without mentioning the economic aspect, enterprise health to be specific, as companies are the nucleus of economies.

With the economic approach, this paper aims to describe the health of Vietnamese firms on a large scale after 1 year of COVID-19. This is probably the economic scientific research with the largest sample size until now conducted in Vietnam. Unlike the human body, which does quickly react with the virus, the impacts of COVID-19 on firms are slowly showed, at least not as quick as our body. Therefore, reverse to the hasty need of lightening publish speed of the social-focusing article, we can slow down a little bit when conducting such research like this. This research is not a descriptive paper about "the impact of COVID-19 on…" but more than that. Taking it slow enables us to actually see how companies had changed to adapt to the situation. How effective the government's measures are? How long firms are expected to remain alive? All from the perspective of local enterprises - the COVID fighting patients. So, it is possible to call this a general health checkup report.

2. Theoretical framework

We clearly are not the only one, who feels the need of capturing the COVID-19 situation of enterprises. As mentioned at the beginning, there are a lot of papers with the economic perspective that have been well published during the last 2 years. Regarding the firm's situation in general, Rakshit & Paul (2020), detailly listed all the impacts of COVID-19 on every aspect of the Indian economy, right before the pandemic escalating in this country. The authors saw the pandemic somehow as a chance for India to grow strong as there is an investment shift from China. Also, possible business strategies are listed as a source of reference. Though, this was actually not a research paper but more likely a review gained from the media.

Focus on how American SMEs suffered from the COVID and how things have improved since the CARES Act (short for The Coronavirus Aid, Relief, and Economic Security Act, which was legislated by the US's congress), Humphries et al., (2020), did an amazing job of being able to collect a huge sample size from the participation of 8000 business owners. Similar to other papers (Dias et al., 2020; Tu et al., 2021), this one portraited the present state by showing the current layoff rate and views on the future vision of their businesses, in addition to that the level of their awareness of existing government relief acts. Interestingly, it was shown that the small one was fallen behind, as obviously, how they could get benefited from the CARES when remaining unaware and lack of congruent information assessment of the government grant programs. We also encounter a similar result in the paper of A. W. Bartik et al., (2020) and Shafi et al., (2020).

Bloom et al. (2021) collect the data from 2500 firms to assess how COVID has impacted small American businesses. A plump has been found on firm's sales, this is more serious for small businesses (40% in drop) compared to just 10% drop happened with large online businesses. Meanwhile, based on the financial data of listed companies, the impacts of COVID on the corporate performance of China, the US first rival, was studied by Shen et al., (2020). It is evidently showed that COVID has a significant impact on firm's performance especially with firms in vulnerable sectors like catering, tourism, transportation, and those, which are in the "red zone". Also about China, Bouey (2020) keeps track of how things escalated in China to give the reader some indication about how COVID affects local SMEs then point out some recommendations base on China's situation. As shown in China's case, social-distancing-based actions put a burden on SMEs, as they are financial-fragile and more cash-constrained compare to the big ones, in addition to that the shrinkage in market demand makes it even worse for those "ants". In the difficult time, those can benefit from online platforms and virtual services, indeed this is how many SMEs in China have used to survive during COVID. The paper above showed how different companies were impacted by the pandemic but couldn't deliver a situation comparison between nations, regions, or types of business.

It would be a unilateral statement to describe COVID as a fatal shear for every business. It is undeniable that COVID restrictions make the demand for non-essential goods slump but it also opens a whole venue for other businesses such as healthcare goods, sanitization products (Kaye et al., 2021). E-commerce is one of them, as COVID has triggered the rapid growth of this business by changing customer's habits (Bhatti et al., 2020). The risk of some can be the chance for the others. The thing is, are they able to make use of " the fortune"? Is it possible for a tree to be healthy and green if its root is rotten? Despite long lines of customer floods into the stores, can retailers gain a significant leap in revenue if their suppliers, their transporter fail to make their job done? It is irrefutable that COVID has given the global supply chains a strike. Everything gets disrupted because of the lockdown of a third-party's company in a far-away developing country. Clearly, the global supply chains are not strong enough to endure such a serious pandemic of the human race (Kumar et al., 2020).

For SMEs – the vulnerable one, particularly, change is essential to survive. Regarding this, Gregurec et al., (2021) divide SMEs into subsectors then ask them what motivates them to change and which technologies assist them in that process. For the change-driven factors, they may be the change in the organization, change in the customer behavior and demand or technical change, etc. Almost all advanced technologies are mentioned in this research, including blockchain, AI, deep learning, etc. What makes this paper more interesting is that the authors somehow manage to fit the impacts of COVID on SME's business model by illustrating all the dimensions into business model CANVAS in a detailed and easy-to-understand way. Overall, all the paper focused mainly on how are companies suffering from COVID and how things change but are they all simply resulted from COVID? Can we break it down into more specific macro factors? That's what we are going to experience in this upcoming research.

3. Research method

In Vietnam, the research stream has mainly focused on the medical and health sectors. Searching for a while but we only found a few papers with an economic approach. Most of them clarify how COVID has made a strike on the tourism sector (Do et al., 2021; Hoang et al., 2021; Nong et al., 2021). Apart from that, the paper of (Nguyen et al., 2021) is also an interested one with the financial scope, the author investigates how COVID impacts firm's financial performance by looking at the firm's revenue, profit, cash reserve and D/E ratio. The researchers also ask the firm's representative about how they generally react to the shock and their assessment of the effectiveness of the government's granting program. Despite the differences in the approach and scope, those above papers have somehow done a good job in describing the current state, however, see the loss in number is not enough. We feel the urge to investigate how firms managing to survive by changing their business, adapting to the changing environment in a structured way, using well-modeled tools like PESTEL and CANVAS. These two tools would be used in this paper to fully capture the change in the macro external environment as well as how firms adjust themselves to fit it. PESTEL is presented for Political, Economic, Socio-cultural, Technological, Environment and Legal, this analysis enables firms to determine the dynamic environment them operating within, to detect opportunities and threats confronted by the firms (Yüksel, 2012). Well team up with PESTEL external scanning tool is CANVAS model (Figure 1), which depicts for the internal environment. The nine-section model justifies how an organization generates, delivers and captures value, going from key activities, key resources to channels and revenue stream, etc. (Osterwalder and Pigneur, 2010, p.14).

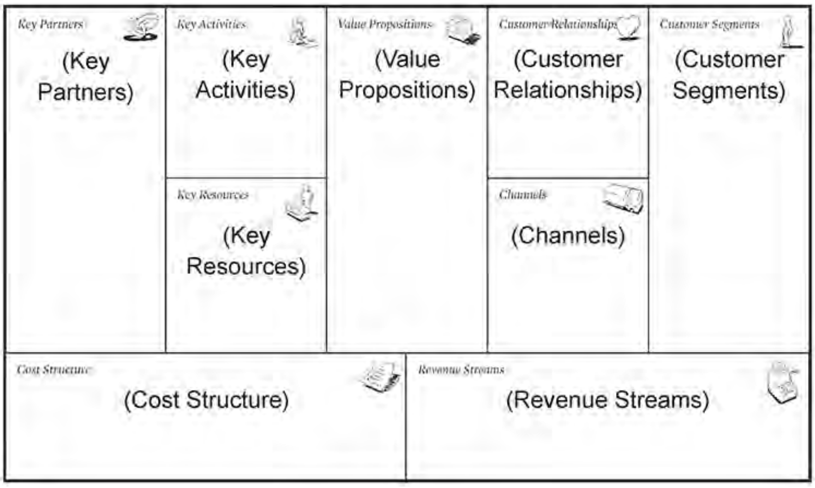

Figure 1: Business model CANVAS

This paper is expected to be large-scale qualitative research, this enables us to dig deeper into the nature of the changes that happened to firms. The questions are asked in many forms, besides the descriptive requirements, most of the questions are open-ended. The questionnaire is developed into 6 small sections. First, we start by firm classification on size or business sectors in which the firms are operating. Second, firm's representatives are asked how external environment factors have affected their business. To create a concrete structure, we ask firms to follow the PESTEL model here, not to gain a full description of the external environment but more about capturing the critical changes. After that, investigating how firms suffer from COVID by looking at popular indicators such as revenue, profit, number of labor, etc. The fourth session is used to investigate their own forecast on their firm's health if COVID still can not be controlled in the future. Not only describe the impacts, but we are also interested in how these firms have adapted to the situation, that is why we spend the next session on the firm's reactions to the change caused by COVID. The data is collected extensively on all aspects of the business. Unlike (Gregurec et al., 2021), who use the Business model Canvas as an illustration tool for their research, here we use the model directly in our questionnaire. This makes it easy for both the interview and the informant to understand the question as well as prevent possible missing information as the model already covers every aspect of the business. Similar to the use of PESTEL in the previous section, the focal point here, again, is the changes, not how companies operate. Finally, firm's representatives are asked to give their opinion on the granting acts of the government. (Appendix A)

This research is supported by volunteer business students who have a decent knowledge of the business model CANVAS. They are those who conduct the interview and play an important role in this project. The informant from Danang-based firms, which have set up collaborative relationships with the Danang University of Economics, is invited to join the interview randomly. The data collection process lasts 2 months, from March to April 2021, right before the escalating of COVID in Vietnam, with almost 100 data at the end.

4. Results and discussion

To be exact, we collected valid data from 95 enterprises, operating in different sectors with different sizes in Danang. The firm's representative was carefully chosen and must holding at least head of department position. There are two points that need to be declared clearly here. First, the local branches or big national enterprises are treated as headquarters, the informant provided the data from the perspective of the CEO, assuming that the information available to the headquarter and to every branch is equal. This assumption is important as it makes all the firm participating in this research has an equal background, the same lockdown policy implied on as they were all operating in Danang. Second, the assumption above is still not enough to create a completely equally circumstantial for all the firms, as there are still critical differences between the impacts of COVID on a service provider versus that on a manufacturer. Therefore, base on the Directive 16, implemented by the Vietnamese government, 95 firms are classified into 5 groups: (1) essential service: such as healthcare service, food retailing, logistics… (2) non-essential service, (3) essential products for daily life, including agriculture, food processing… (4) essential products for industry, such as exporter, raw material producers… and (5) other non-essential products. Hereafter, the paper will deliver 5 reports respectively to those 5 groups mentioned above (Figure 2)

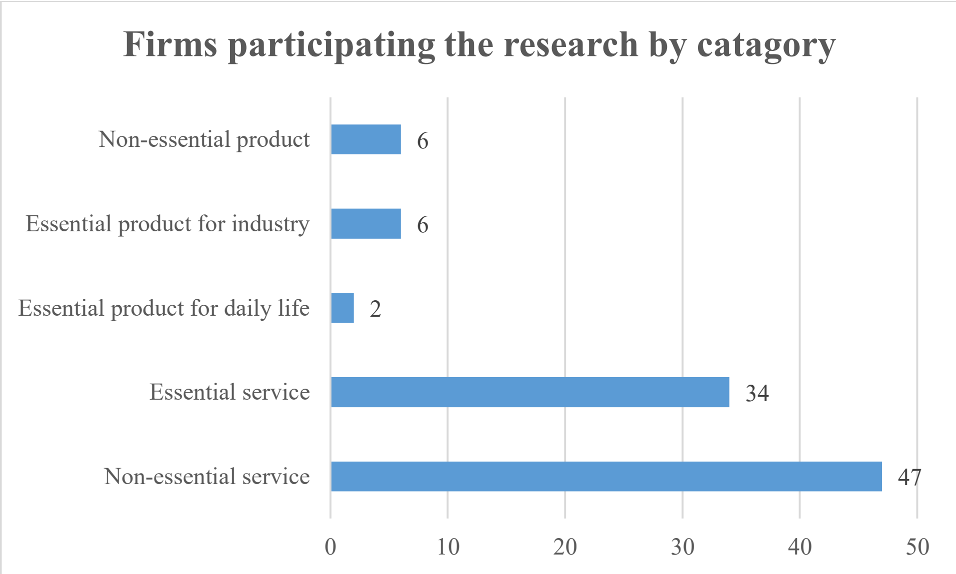

Figure 2: Descriptive statistics

4.1. Non-essential service

For this group, we have 47 firms. These are firms that provide tourism services, rental services; they are constructors or IT companies also. Among them, there are only 4 firms, which are considered big enterprises. Most of the firms agree that Economics and Technologies are the external changing factors that have the greatest impact on firms. As these are all non-essential service providers, except for the August totally closed down in 2020, the demand is not as high as usual. In detail, 21% of firms claim a severe drop in demand, which is 50-70% less than the normal one. A decrease of 5-30% is seen by 44% of firms. According to that change in demand, most of the firms have to pause their daily operation (13%) or reduce their capacity (47%) (Figure 3) However, as almost 50% of the firms that fall into this category can still actually deliver their service without direct contact, so even if the on-site activities are pause, 17% of companies shift to online and still have growth or unchanged revenue. Meanwhile, for 45% of the firms, who can not, a decline in revenue is unavoidable. As a result, 32% of firms experience a significant reduction in profit, around 40-80% drop; 40% of firms have slight revenue drop, which is below 20% and only 26% of firms, which can manage to have a 10-30% growth in profit (Figure 4) Of course, this is not purely because of decreasing demand and operational intermission, but also difficulty in distribution and sourcing. Regarding distribution, 47% of firms complain that they find it difficult to distribute their service. About sourcing, 25% of firms are annoying as their order coming late, 3% of firms even have a cut-off source due to the breakdown of the supply chain.

To adapt to the new condition, 36% of firms have layoff a small percentage of their workforce to survive. In terms of cost per service, in general, 42% of firms have their cost structure increasing. Being asked about their own assessment on "financial health", 40% of firms are still "in-shape", while 42% feel slightly ill. 45% of firms claim that their ability to raise funds is also decreasing. As a large portion of firms in this group are tourism companies, 50% of the firms think that their bankruptcy possibility is more than 50%, which is pretty

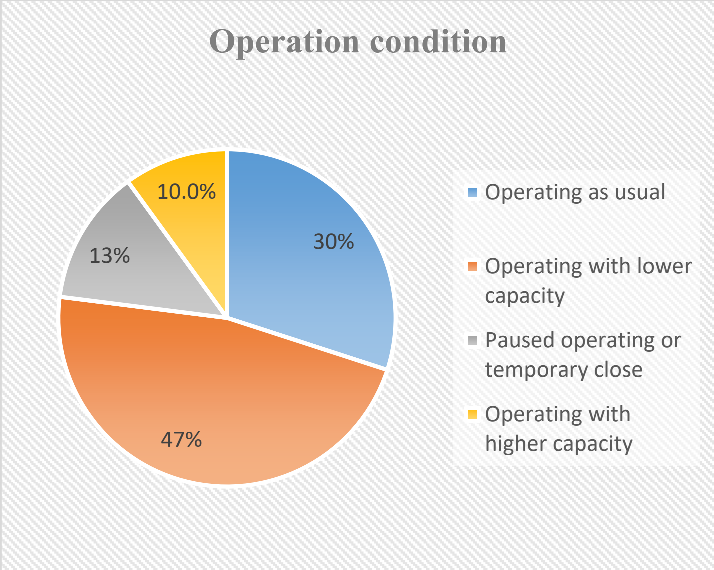

Figure 3: Operation condition of group 1

high, if the situation is not improved. However, if things get better soon, 51% of firms believe that they need under 6 months to fully recover, 26% less than 1 year, 4% less than 2 years. Noticeably, only 11% of firms confirm that their business model has changed. These changes may be about distribution channel, target market, new activity. When being asked about the support policy of the government, 55% of firms did not receive any support until the interview, 70% admit that they don't know or just know some basic knowledge about the supportive package from the government. Hence, 47% of firms have no assessment of the government's actions, only 10% have a negative assessment.

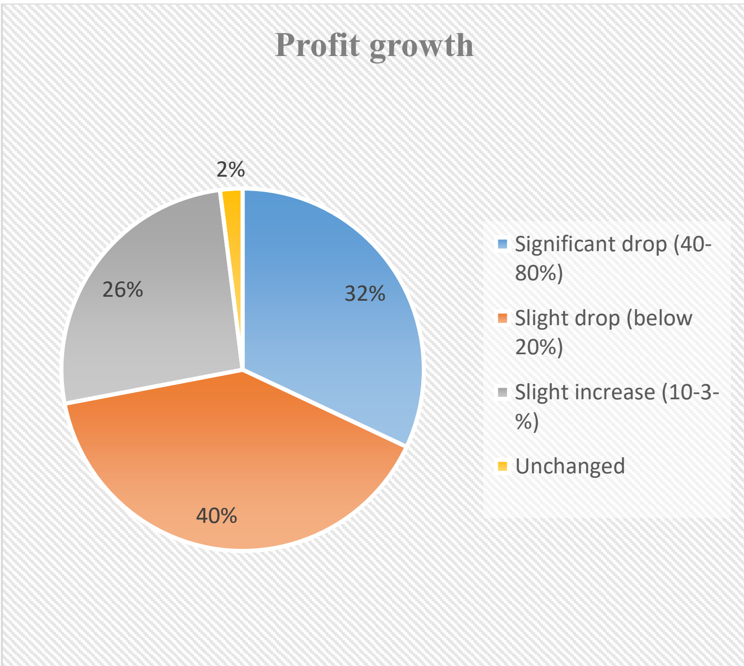

Figure 4: Profit growth of group 1

4.2. Essential service

For essential service providers, we have a good balance structure of 18 SMEs and 16 big enterprises. They are food retailers, banks and logistics companies, both national and international. Those firms also have a similar view on critical external factors during the pandemic. In general, all the service provider in this group is essential to people's minimum daily consumption demand so it is expected that the impact of COVID on these are not in a negative tendency. However, from what we get, there are still 26% of firms operating with lower capacity due to the pandemic (Figure 5). Again, we have to look at some potential factors that may cause this: demand level, distribution and sourcing. Just 15% of firms have to deal with a significant drop (40-50%) in demand; 32% claim to have a slight decrease in demand (around 20-30%) and 41% of firms have a small rise below 30%. There are 65% of firms having problems in distributing while only 30% of firms having difficulty in sourcing. As a result, essential service providers are still suffered from the disease. This is shown clearly by looking at firm's revenue and profit. Except for 47% of firms, which can still maintain positive revenue growth, 41% of firms experience a negative growth rate of -20% to -55%. In terms of profit growth, in accordance with the above revenue rate, 44% of firms have a growth of profit, which is below 30%. Firms, which have a slight drop in profitability (below 10% decreasing) account for 26% of the whole group. A significant profit drop at 30-40% is experienced by 17% of firms only (Figure 6).

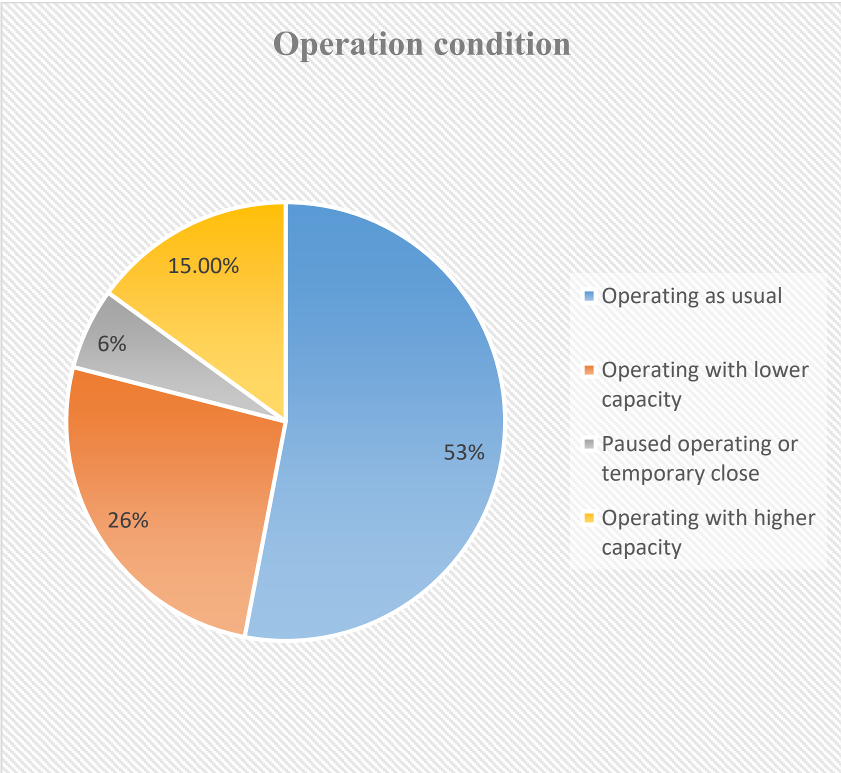

Figure 5: Operation condition of group 2

COVID has suddenly created more pressure on these firms. 32% of firms report an increasing cost structure as safety measures are mandated for firms to keep operating as usual. 70% of firms don't change their workforce or even have to recruit more to meet the increasing demand. In terms of financial health, 59% of firms are still "healthy", 30% of firms even claim that their ability to raising capital is improved. Those firms are quite optimistic about their survival rate, as they are all essential, so they are likely to still be alive even if the disease escalating in the future. Though the negative impacts are unavoidable, for those who are struggling, it is expected that they would need less than 6 months to fully recover after that. These firms account for 70% of the whole group. We don't have enough information about their latest business model whether they are good or not, digitalized or still quite raw but when being asked if their business model changed during this time, we get a "no" from everyone. 65% of firms don't receive any help from the government, mostly because they are not "in the list" as just 17% of firms "have no idea", the rest have basic knowledge about the supportive package. In general, 35% of firms give nice compliments about the government's actions.

4.3. Essential products for daily life

For this category, we only have 2 firms, both are agriculture and food processing firm, one medium, one big in size. With that background, it makes sense that apart from Economics and Technology, Environment is also a changing factor that impacts firms during this time. Food is essential so these firms still operating at normal capacity. The growth rate of revenue is 4 and 11%, respectively, though, profit growth rates are just below 1.5% this is explained by the radical change in cost structure, in which the increasing labor cost and operating cost - mostly spending on safety measures, account for a significant amount. Although companies have some difficulties regarding distributing their product to the market, as they are not so serious, nothing really changes in their business model or financial health.

4.4. Essential products for industry

Exporters or raw material providers fall into this category, which explains why apart from economics and technology, politics is also named as a critical changing factor during the time. 2 among 6 firms still

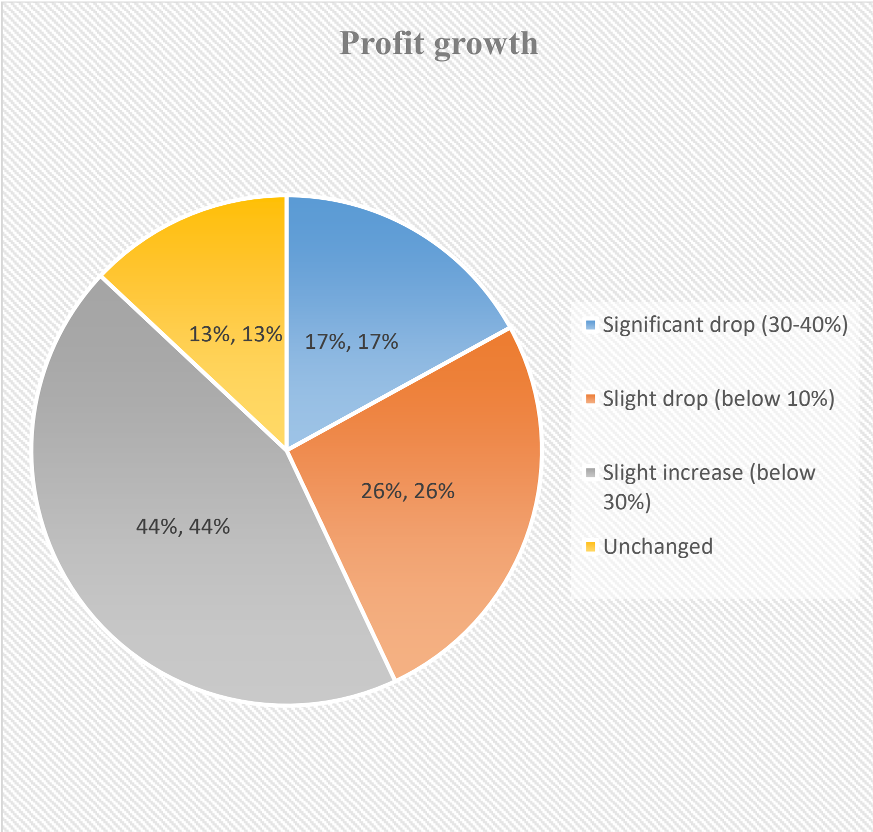

Figure 6: Profit growth of group 2

operating as usual, these are firms, which are in a long-term contractual relationship or subsidiary. This attribute forms a kind of "immune system" against demand volatile, make it possible for them to still have significant sale growth despite shrinking demand and many difficulties in distribution and sourcing, as a result, a 30-45% leap in profit. The rest have to reduce their capacity as the customer demand now reduces about 3-20%. Some firms luckily to have unchanged demand bit still cannot manage to make up for the lack of material. It may be one of the main reasons for their profit drop (approximately -20%). To survive through the COVID, these firms both have to cut off their unused labor force by laying off to save costs. Firm's financial health is closely correlated to revenue and profit growth. However, even when firm's financial health worse, their ability to raise capital are still good as those are big manufacturer with remarkable fix assets, which are enough to secure their loans. Half of the firms believe that it might take them about 6 months to 1 year to fully recover back to "the normal state", however, if the situation is not improving, the bankrupt possibility is assumed at 20-30% and "death bell" rings after 2 years. There are 2 apparel companies in this group, and they are the only ones, who adjust their business model to adapt to the changing environment by shifting their focus on the domestic market. Only one firm not being on the "supportive list" of the government. In general, their knowledge of government supportive acts is quite the basis as the informants can only mention loan support and tax reducing policies.

4.5. Non-essential products

All firms that fall into this category are medium or even micro-small in size, operating in the non-essential manufacturing sector. Out of 6 firms, there are 2, which are still at their normal operating level, the rest have to function at lower capacity due to a drop of demand (about 10-40%), as a result, revenues decrease by 15-37%. All firms claim to have struggled in distribution because of the moving restrictions. Only firms with foreign sourcing have interrupt problems. Those, which have domestics sourcing only though have to deal with a different problem, rising price. In terms of profitability, all firms experience negative growth (from 10-40% drop). Only 2 firms keep their number of employees unchanged, the others have to adjust down their labor force. The current business models are maintained also. 50% of the firms have their financial health weaken, 4 out of 6 firms complain that their fund-raising ability decline. Due to the effects of the pandemic, firms expect to recover after 6 months. Even if the situation is continually escalating, 4 out of 6 still can manage in about 1 to 2 years more. 2 out of 6 firms are not eligible for the supportive package of the government and don't even know what it is, 2 have some basic knowledge, and 2 can detailly tell describe what it is.

5. Conclusion

In general, the majority of the firms are impacted by the COVID, some in a positive tendency, but mostly negative effects. These impacts strongly vary depending on the sector firms operating in. However, "in the storm" the "backbone" sectors and the one, which don't require much "human direct contact" have some kind of advantages. The rest are wrecked by the virus. Until the end of April 2021, firms are still quite optimistic about their future, and believe in their resilience. Most firms expect a low bankrupt rate and that they can recover within a year. It's worth noticing that at the end of April, indeed, all the activities have resumed to normal condition, which supports firm's optimistic anticipations. However, considering the global situation is still unfold and complicated. If the disease goes out of control, firms need to think about changing their business model seriously and creatively rather than just adjusting their capacity, what they are doing right now. Though the government has actively supported firms with a wide range of policies, including reducing some kind of taxes (corporate, land-using, value-added tax), cancel labor's social insurance payment and other favorable credit policies promoted by the central bank, firms seem to know limitedly about those.

This research is not a descriptive paper about "the impact of COVID-19 on…" but more than that. Taking it slow enables us to actually see how companies had changed to adapt to the situation. How effective the government's measures are? How long firms are expected to remain alive? All from the perspective of local enterprises - the COVID fighting patients. So, it is possible to call this a general health checkup report. Not going into detail, as a "general health checkup" this research provides very basic information on firm's health on a larger and more diverse database. By categorizing firms into the specific groups based on the Directive 16 of the government, we somehow deliver the reader a closer sector-specific view as we firmly believe that the context matter and abstract firm's performance out of their context would reduce the accuracy and reliability of the information. Although, we are well aware that it would be better if we can go more into detail, with more precise numbers and a larger focused group, but again, please understand that it is just a "general health checkup", like the health declaration filled before the vaccination against COVID. There are still many possible research directions to go, and this one is the first step to make.

6. Appendix

Appendix A. Questionnaire structure

Session	Theme	Item	Reference
1	General information	Number of labors (2019)	
		Revenue (2019)	
		Equity	
		Business sections	
2	Assessment on the change of external environment during COVID time	According to the PESTEL model, rate the factors in decreasing order of changing level	
		Rate the above factors in decreasing order of impact	
3	Impacts of COVID on firm	Impact of COVID on firm's daily operation	
		Impact of COVID on customer's demand	
		Impact of COVID on customer's demand volume	
		Impact of COVID on revenue	(Kumar et al., 2020)
		Impact of COVID on distribution	
		Impact of COVID on sourcing	(Kumar et al., 2020; Shafi et al., 2020)
		Impact of COVID on working labor	(Bretas & Alon, 2020)
		Impact of COVID on capacity	
		Impact of COVID on cost structure	
		Impact of COVID on the business model	(Bretas & Alon, 2020)
		Impact of COVID on corporate finance	
		Impact of COVID on transportation	
		Impact of COVID on capital raising capability	(Shafi et al., 2020)
4	The expectation on the future	When COVID ends, how long will it take to back to the pre-COVID performance?	(A. W. Bartik et al., 2020; Humphries et al., 2020)
		If the situation continues, how likely is it that your firm would go bankrupt?	
		How long can you still manage if things don't get any better?	(Shafi et al., 2020)
5	Firm's reaction	Changes in key partners	
		Changes in key activities	
		Changes in cost structure	
		Changes in key resources	

		Changes in value propositions	
		Changes in customer relationships	
		Changes in channels	
		Changes in customer segments	
		Changes in revenue streams	
6	Awareness on government granting program	Name all the granting acts imposed by the government	(A. Bartik et al., 2020)
		Name all the granting acts available to your firm	
		Your assessment of the effectiveness of those policies	

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THE EFFECT OF RESILIENCE, AGILITY ON HOTEL PERFORMANCE DURING THE COVID-19 PANDEMIC: THE MODERATING EFFECT OF ENVIRONMENTAL TURBULENCE

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ABSTRACT

The purpose of this empirical paper is to examine the impact of the resilience, agility on hotel performance and moderating role of environmental turbulence among these relationships during COVID-19. A manager-level survey is conducted to collect a sample of 175 firms from hotel industry in Hanoi, Vietnam. PROCESS of Hayes is used to test hypothesized relationships. These results show that resilience and agility have positive impacts on hotel firms' performance. Environmental turbulence found to moderate the relationship between resilience and performance and the relationship between agility and performance. The paper contributes to research by combining agility and resilience and testing the moderating effect of environmental turbulence to explain results on the relationship between resilience, agility and firm performance simultaneously during COVID-19 pandemic. This research also contributes to practical implications by suggesting some solutions for hotels to deal with negative impacts of COVID-19.

Keywords: Resilience; Agility; COVID-19; Hotel performance; Environmental turbulence.

1. Introduction

Tourism has evolved into a key driver of the economy, both locally and globally. The tourism industry has grown significantly, and as a result, it now has one of the largest monetary divisions on the planet. Meanwhile, Vietnam is one of the world's most popular tourist destinations. According to the Vietnamese Department of Statistics in 2019, tourism industry has seen an average growth rate of 22% per year for three consecutive years from 2016 to 2019, and serves 18 million international tourists (an increase of 16% compared to 2018) and 85 million domestic tourists (an increase of 6% compared to 2018). Total revenue from tourists is estimated at more than 720,000 billion VND (an increase of over 16%) in 2019. These make tourism become a pillar of Vietnamese economy.

COVID-19, on the other hand, appeares at the end of 2019 and has nearly paralyzed tourism activities. This results in a significant decrease in the number of tourists, a decrease in overall tourism-related revenue, and an increase in unemployment rates. Organizations are defenseless to problematic events that can subvert stability and security in today's turbulent and uncertain environment, especially as a result of COVID-19. According to Lengnick-Hall, Beck and Lengnick-Hall (2011), such troublesome events adversely sway the executions of organizations. The term agility literally means "quick, active motion," "the ability to navigate quickly and easily," and "the ability to think bravely and with a smart method." In COVID-19 pandemic, agility means effective response to the changing, unpredictable environment and the use of changes as opportunities for organizational improvement (Moon, 2020). Furthermore, the concept of resilience has been applied in a variety of fields to assess how frameworks adjust to pressure, change, and bounce back after a disruption based on this assumption. In the travel industry, resilience has become a famous topic to see how the framework can be made more resilient to unexpected events.

Researchers have begun to empirically investigate the relationships among agility, resilience, environmental turbulence and firm performance. Ivanov (2020) explains sustainable supply chain development by combining agility and resilience. However, the effect of agility and resilience on firm performance has not been empirically studied by the author. The impact of agility on firm profitability is measured by Bidhandi and Valmohammadi (2017). This author has overlooked variables such as resilience and environmental turbulence. Carvalho, Azevedo and Cruz-Machado (2012) investigate the impact of agile and resilient supply chain management approaches on performance. The variable of environmental turbulence is not included in this study. All agility, resilience, environmental turbulence, and its effect on firm performance have been included by McCann, Selsky and Lee (2009). These authors, on the other hand, have only looked at the role of environmental turbulence in the relationship between agility and firm performance as a moderating factor. As a result, this research will look at the relationships between agility, resilience, environmental turbulence, and firm performance all at once, as well as the role of environmental turbulence as a moderating factor in the relationship between agility, resilience, and firm performance. The findings indicate that environmental turbulence influences the relationship between agility, resilience, and firm performance. The study adds to the body of knowledge about how agility and resilience are related to firm performance, as well as the moderating role of environmental turbulence in these relationships.

2. Theoretical framework

2.1. Contingency theory

Contingency theory, which has been applied since the mid-1960s, is an organizational theory that claims that there is no best way to organize a corporation, to lead a company, or to make decisions. Instead, the optimal course of action is contingent (dependent) upon the internal and external situation. Contingency theory comprises contextual (or contingency), response (i.e., organizational or managerial actions in response to contingency factors), and performance variables (Sousa & Voss, 2008). Firm performance is viewed as being dependent upon the fit between external context and internal arrangement (Drazin & Van de Ven, 1985). Specifically, performance is dependent on external fit between internal structure design and external environment requirements, as well as on internal fitting among key components of design, such as structure, strategies, systems, culture, personnel, common values and skills. In general, this distinguishes between the concept of internal and external fitness, of proactive and reactive strategies to change an external and/or an internal organizational context (Van de Ven, Ganco & Hinings, 2013). Contingencies nevertheless determine organizational responses, but the corresponding detrimental effect on performance will force firms back into fit in the long term.

The concept of fit is particularly critical in a dynamic environment, where firms must engage in a continuous process of modifying the elements under their control in order to maximize the fit for their firms (Naman & Slevin, 1993). Firms can proactively change the structural characteristics of markets through collaborations or mergers with competitors or other players for better fit their goals and operations (Salancik & Pfeffer, 1978). Hence, firms are able to deal with dynamic environments.

The tourism industry is extremely sensitive and vulnerable to global trends, particularly during natural disasters, unexpected events. Furthermore, in the midst of COVID-19 pandemic, the tourism sector can be expanded in light of security concerns and negative perceptions. In this situation, contingency determines how tourism firms organize, lead their company, or make decisions. These decisions will ultimately affect to tourism firms' performance.

To summarize, contingency theory assists us in understanding the interdependence of organizational resources, capabilities, and performance in relation to environmental conditions.

2.2. Firm performance

Tourism firm's performance is an outcome of numerous factors that include corporate culture and image, group/team interaction and communication, work processes, leadership, policies, loyalty, and a climate that encourages creativity and innovation (Cho, 2011). Performance measures are used to assess firm success (Kennerley & Neely, 2003), and to quantify both efficient and effective management of organizational actions (Fernández-Temprano & Tejerina-Gaite, 2020). Organizations can evaluate firm performance using financial and non-financial aspects. Financial performance includes net earnings and returns on investment relating to pursuing short-term fixes over long-term strategic goals; non-financial performance includes customer satisfaction, work processes leadership, efficiency, and market share (Senbeto & Hon, 2020). In this study, firm performance is using both financial and non-financial measurements taken from study of Vorhies and Morgan (2005).

2.3. Resilience

Resilience has been defined as the capacity of an organization to survive, adapt, and grow in the face of uncertain conditions (Lengnick-Hall et al., 2011). Organizational resilience is defined by Zaato and Ohemeng (2015) as an organization's ability to anticipate key events based on evolving/initial trends, constantly adapt to change, and quickly recover from disaster when it occurs. From a business perspective, Robb (2000) states that a resilient organization is one that can sustain its competitive advantage over time through its capability to simultaneously both deliver an excellent performance against current organizational goals and effectively innovate and adapt to rapid, turbulent changes in markets and technologies. Zhang and Liu (2012) also identify three major features that can contribute to organizational resilience: the ability to self-organize, the capacity for learning and adaptation in the context of change, and the ability to absorb or defend again disturbances while maintaining its core functioning.

Tourism sector is exceptionally sensitive and susceptive towards worldwide trending, especially during abrupt of disasters, and also contains of numerous small-medium enterprises. In addition, in the terms of tourism in the middle of this current pandemic, the tourism sector can be extended in view of concerns and negative impressions of security. Therefore, resilience plays a crucial role in quickly adapting, recovering from COVID-19 pandemic.

Many researchers have demonstrated that resilience has a positive effect on firm financial performance such as Balugani, Butturi, Chevers, Parker and Rimini (2020), Liu, Shang, Lirn, Lai and Lun (2018). In addition, Prayag, Chowdhury, Spector & Orchiston (2018) also find a positive and significant association between resilience and financial performance. Thus, a hypothesis is proposed as follows:

H1: Resilience has a positive impact on firm performance

2.4. Agility

The term agility literally means fast, active, motion, the ability to navigate quickly and easily and ability to think bravely with a smart method. Goldman, Nagel, Preiss and Dent (1995) define agility as a firm's ability to rapidly respond to changes in an uncertain business environment by delivering value to customers, being ready for change, valuing human knowledge and skills, and developing virtual partnerships. Kidd (1994) defines agility as the rapid and proactive adaptation of organizational elements to unexpected and unpredictable changes. Tallon and Pinsonneault (2011) defined agility as a firm's ability to change or revise its strategy quickly and easily. Cho (2011) defines agility as the ability to survive and thrive in constantly changing and unpredictable environments through quick and effective reactions and by capitalizing on changes as opportunities arise. But in the COVID-19 pandemic, agility means effective response to the changing, unpredictable environment and the use of changes as opportunities for organizational improvement (Moon, 2020).

Tallon and Pinsonneault (2011) demonstrate a positive and significant association between agility and performance. Furthermore, environmental volatility reduces the impact of agility on return on assets (ROA), net margins, and the operating income to assets (OI/A) ratio. In other words, in volatile markets, agility has a significant impact on firm financial performance. Similarly, Roberts and Grover (2012) discovere that agility has a significant impact on firm performance (i.e., marketing, growth in sales, profitability, market share). In particular, firms that demonstrate high levels of customer sensing capability and medium levels of responding capability achieve high levels of performance. Hence, a hypothesis is proposed as follows:

H2: Resilience has a positive impact on firm performance

2.5. Environmental turbulence

A turbulent environment is understood as dynamic, unpredictable, expanding, fluctuating environment. Ansoff, Kipley, Lewis, Helm-Stevens and Ansoff (2019) describe environmental turbulence as a combination of discontinuity, unpredictability and instability. So, a turbulent environment exists when changes are unexpected and unpredictable. Environmental turbulence challenges existing strategy, requiring adaptation of both strategy and strategic planning processes if firms are to survive (Grant, 2003). Researchers often investigate environmental turbulence as a moderator of relationships between focal constructs and firm performance (Lichtenthaler, 2009). McCann et al. (2009) state that environmental turbulence can be well managed by building agility and resiliency in which agility has a stronger relationship with competitiveness, versus resiliency with profitability. Hence, a hypothesis is proposed as follows:

H3: Environment turbulence moderates the relationship between resilience and firm performance

H4: Environment turbulence moderates the relationship between agility and firm performance

2.6. Research model

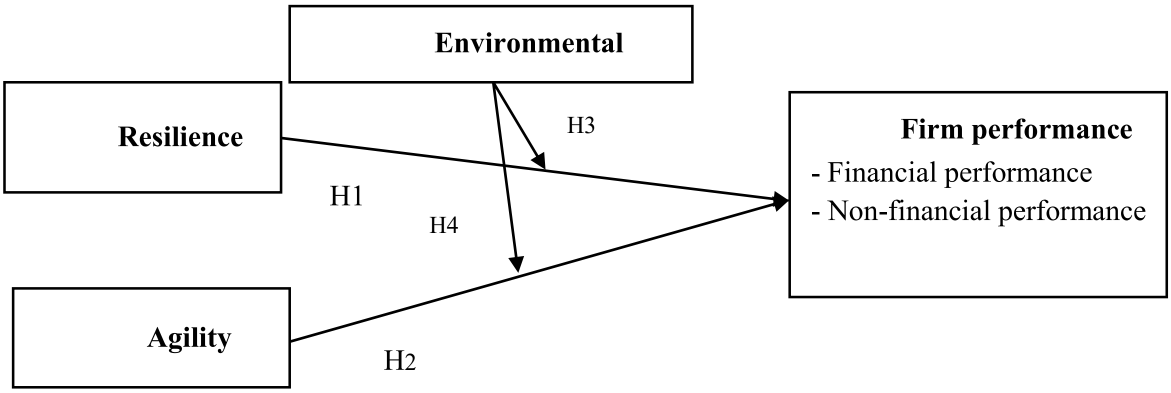

Figure 1. Proposed research model

3. Research method

The study was carried out in Hanoi, Vietnam. An online questionnaire was designed, then mailed to the hotel managers. The minimum sample size is calculated according to the formula of Tabachnick and Fidell (1996), N = 50 + 8m (where m is the number of independent variables). Thus, there were 180 respondents and 175 valid to enter in further analysis.

Instrument: Items of agility (5 items), resilience (5 items) were derived from McCann et al. (2009), Items of environmental turbulence (5 items) were derived from Ansoff et al. (2019), and items of firm performance including financial and non-financial aspects (9 items) were derived from Vorhies and Morgan (2005). Item of agility, resilience, environmental turbulence are measured by using 7-point Likert scale (from “Strongly disagree to “Strongly agree”). Firm performance items measure by using 7-point Likert scale (from “Much worse than our competitors” to “Much better than our competitors”).

The primary tools of analysis were factor analysis and PROCESS of Hayes (2017). Exploratory factor analysis (EFA) was used to validate the survey items. Using PROCESS was to test the hypothesized relationships between constructs and moderating effect.

4. Results and discussions

4.1. Results

Table 1. Sample Characteristics (N = 175)

		Frequency	Percentage
Gender	Female	47	26.9
	Male	128	73.1
Age	< 30	13	7.4
	30-50	61	34.9
	> 50	101	57.7
	Post graduate	97	55.4

Education level	College, University	43	24.6
	Others	35	20.0
Time work in hotel (years)	< 3	19	10.9
	3 – 5	57	32.6
	5 – 10	26	14.9
	> 10	73	41.7

Source: SPSS calculation

Sample's demographic characteristics were presented in Table 1. In terms of gender, 128 respondents (73.1%) were male while 47 respondents (26.9%) were female. As for age, 13 respondents (7.4%) had ages less than 30 while 61 respondents (34.9%) had ages range from 30 to 50, and 101 respondents (57.7%) had age greater than 50. In terms of education, 97 respondents (55.4%) had post graduate degrees, 43 respondents (24.6%) had college, university degrees, while 35 respondents (20%) had other degrees. In terms of time working in hotel, 19 respondents (10.9%) had been working in hotel for less than 3 years, 57 respondents (32.6%) had been working in hotel for more than 3 and less than 5 years, 26 respondents (14.9%) had been working in hotel for more than 5 and less than 10 years, and 73 respondents (41.7%) had been working in hotel for more than 10 years.

Table 2. Descriptive statistics

	N of items	*Mean*	*Standard Deviation*
Resilience	5	4.85	1.01
Agility	5	4.89	1.16
Environmental turbulence	5	2.63	1.09
Financial performance	6	5.25	1.14
Non-financial performance	3	5.36	1.16

Source: SPSS calculation

Table 2 shows the mean and standard deviation of all constructs. Mean of Resilience, Agility, Environmental turbulence, financial performance and non-financial performance were 4.85 (1.01), 4.89 (1.16), 2.63 (1.09), 5.25 (1.14), 5.36 (1.16) respectively.

Table 3. Reliability test

	N of items	*Cronbach's Alpha*
Resilience	5	.887
Agility	5	.919
Environmental turbulence	5	.954
Financial performance	6	.906
Non-financial performance	3	.944

Source: SPSS calculation

Table 4. Exploratory factor analysis

Rotated Component Matrix[a]

	Component		
	1	2	3
ET1	.813		
ET3	.807		
ET5	.787		
ET4	.784		
ET2	.781		
AG2		.807	
AG3		.798	
AG4		.719	
AG5		.716	
AG1		.647	
RE2			.766
RE1			.762
RE4			.713
RE5			.705
RE3			.700

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Source: SPSS calculation

Table 3 and table 4 shows reliability test and EFA. It can be seen that Cronbach's Alpha of all constructs ranged from .887 to .954 (all > 0.7), hence, these constructs were reliable, and factors loadings were loaded into their own constructs.

Table 5. Result of main effect and moderator test among financial performance, resilience, environmental turbulence

Model summary (FP, RE, ET)

R	R-square	MSE	F	Df1	Df2	P
.8363	.6994	.3994	132.6287	3.0000	171.0000	.0000

Model

	Coefficient	SE	t	P	LLCI	ULCI
Constant	5.3114	5.3114	96.1585	.0000	5.2024	5.4204
RE_MS	.1419	.0685	2.0709	.0399	.0066	.2771
ET_MS	-.7297	.0655	-11.1358	.0000	-.8590	-.6003
Int_1	.0726	.0352	2.0609	.0408	.0031	.1422

Conditional effects of the focal predictor at values of the moderator(s):						
ET_MS	**Effect**	**SE**	**t**	**P**	**LLCI**	**ULCI**
-1.0943	.0624	.0996	.7836	.4344	-.0948	.2196
.0000	.1419	.0685	2.0708	.00399	.0066	.2771
1.0942	.2214	.0776	2.8521	.0049	.0682	.3746

Source: SPSS calculation

Table 5 shows that R-square = .6994, F(3, 171) = 132.6287, P< .001, moreover, effect of resilience on financial performance was statistically significant, B = .14, (SE = .07), t(174) = 2.07, p = .039. Effect of environmental turbulence on financial performance was statistically significant, B = -.73, (SE = .07), t(174) = -11.14, p < .001. Further, interaction between resilience and environmental turbulence statistically affected to financial performance, B = .073, (SE = .04), t(174) = 2.06, p = .041. Hence, resilience had a positive impact on financial performance and environmental turbulence moderated this impact.

Table 6. Result of main effect and moderator test among financial performance, agility, environmental turbulence

Model summary (FP, AG, ET)							
	R	**R-square**	**MSE**	**F**	**Df1**	**Df2**	**P**
	.8411	.7075	.3886	137.8799	3.0000	171.0000	.0000
Model							
	Coefficient	**SE**	**t**	**P**	**LLCI**	**ULCI**	
Constant	5.3421	.0553	96.5283	.0000	5.2329	5.451	
AG_MS	.1336	.0636	2.1010	.0371	.0081	.2591	
ET_MS	-.6963	.0698	-9.9728	.0000	-.8341	-.5585	
Int_1	.0910	.0300	3.0283	.0028	.0317	.1503	
Conditional effects of the focal predictor at values of the moderator(s):							
ET_MS	**Effect**	**SE**	**t**	**P**	**LLCI**	**ULCI**	
-1.0943	.1503	.0720	.4725	.6372	-.1081	.1762	
.0000	.1336	.0636	2.1009	.0371	.0081	.2591	
1.0942	.2331	.0711	3.2770	.0013	.0927	.3735	

Source: SPSS calculation

Table 6 shows that R-square = .71, F(3, 171) = 137.8799, P< .001, moreover, effect of agility on financial performance was statistically significant, B = .13, (SE = .06), t(174) = 2.10, p = .037. Effect of environmental turbulence on financial performance was statistically significant, B = -.69, (SE = .07), t(174) = -9.97, p < .001. Further, interaction between agility and environmental turbulence statistically affected to financial performance, B = .091, (SE = .03), t(174) = 3.03, p = .0028. Hence, agility had a positive impact on financial performance and environmental turbulence moderated this impact.

Table 7. Result of main effect and moderator test among non-financial performance, resilience, environmental turbulence

Model summary (NFP, RE, ET)						
R	**R-square**	**MSE**	**F**	**Df1**	**Df2**	**P**
.8421	.7092	.3968	138.9963	3.0000	171.0000	.0000
Model						
	Coefficient	**SE**	**t**	**P**	**LLCI**	**ULCI**
Constant	5.4280	.0551	98.5865	.0000	5.3194	5.5367
AG_MS	.1375	.0683	2.0130	.0457	.0027	.2723
ET_MS	-.7395	.0653	-11.3225	.0000	-.8685	-.6106
Int_1	.0890	.0351	2.5319	.0122	.0196	.1583
Conditional effects of the focal predictor at values of the moderator(s):						
ET_MS	**Effect**	**SE**	**t**	**P**	**LLCI**	**ULCI**
-1.0943	.0401	.0794	.5056	.6138	-.1165	.1968
.0000	.1375	.0683	2.0129	.0457	.0027	.2723
1.0942	.2348	.0774	3.0351	.0028	.0821	.3875

Source: SPSS calculation

Table 7 shows that R-square = .7092, F(3, 171) = 138.9963, P< .001, moreover, effect of resilience on non-financial performance was statistically significant, B = .14, (SE = .07), t(174) = 2.01, p = .0457. Effect of environmental turbulence on non-financial performance was statistically significant, B = -.74, (SE = .07), t(174) = -11.32, p < .001. Further, interaction between resilience and environmental turbulence statistically affected to non-financial performance, B = .089, (SE = .04), t(174) = 2.53, p = .0112. Hence, resilience had a positive impact on non-financial performance and environmental turbulence moderated this impact.

Table 8. Result of main effect and moderator test among non-financial performance, agility, environmental turbulence

Model summary (NFP, AG, ET)						
R	**R-square**	**MSE**	**F**	**Df1**	**Df2**	**P**
.8445	.7132	.3914	141.7127	3.0000	171.0000	.0000
Model						
	Coefficient	**SE**	**t**	**P**	**LLCI**	**ULCI**
Constant	5.4290	.0555	97.7491	.0000	5.3194	5.5386
AG_MS	.1708	.0638	2.6769	.0082	.0449	.2967
ET_MS	-.6934	.0701	-9.8965	.0000	-.8318	-.5551
Int_1	.0734	.0301	2.4358	.0159	.0139	.1329
Conditional effects of the focal predictor at values of the moderator(s):						
ET_MS	**Effect**	**SE**	**t**	**P**	**LLCI**	**ULCI**
-1.0943	.0904	.0723	1.2516	.2124	-.0522	.2331

.0000	.1708	.0638	2.6769	.0082	.0448	.2967
1.0942	.2511	.0714	3.5180	.0006	.1102	.3921

Source: SPSS calculation

Table 8 shows that R-square = .71, F(3, 171) = 141.7127, P< .001, moreover, effect of agility on non-financial performance was statistically significant, B = .17, (SE = .06), t(174) = 2.68, p = .0082. Effect of environmental turbulence on non-financial performance was statistically significant, B = -.69, (SE = .07), t(174) = -9.89, p < .001. Further, interaction between agility and environmental turbulence statistically affected to non-financial performance, B = .073, (SE = .03), t(174) = 2.44, p = .0159. Hence, agility had a positive impact on non-financial performance and environmental turbulence moderated this impact.

Table 9. Hypothesis testing results

Hypothesis	Result
H1: Resilience has a positive impact on firm performance	Accepted
H2: Resilience has a positive impact on firm performance	Accepted
H3: Environment turbulence moderates the relationship between resilience and firm performance	Accepted
H4: Environment turbulence moderates the relationship between agility and firm performance	Accepted

4.2. Discussions

This study aimed to examine the relationships among resilience, agility and hotel firm performance and moderating effect of environmental turbulence on these relationships. To fulfill the research objective, this study used survey questionnaires to collect 175 samples and used PROCESS of Hayes for analyzing. Results showed agility and resiliency had significant positive relationships with performance, with turbulence moderating those relationships (all hypothesis had supported). Today's businesses face greater turbulence (COVID-19), making it more difficult to compete and convert competitiveness into profits, but adaptive capacity in the form of agility and resiliency significantly aids their efforts. These results are consistent with previous studies such as Reed (2020), Liu et al. (2018), Santoro, Messeni-Petruzzelli and Del-Giudice (2021) etc.

Agility has closely equally impact on firm performance as resilience does. Agility is defined by effective sense-making and quick, decisive action to capitalize on opportunities. However, resiliency is better at mitigating or avoiding the negative effects of turbulence on profitability. Based on these findings, it is suggested that agility and resiliency are both necessary and hotels should actively develop both strategies, though the relative importance given to each may change over time as the relative pace and disruptiveness of change varies.

This study contributes both in theoretical and practical implications. First, this is the first study to construct and test agility, resilience, turbulence, and firm performance, all at the same time, with a focus on the moderator effect of environmental turbulence on the relationship between agility, resilience, and firm performance. Second, from a practical standpoint, the findings of this study can improve understanding of how and why hotels should actively and simultaneously develop resilience and agility during severe turbulence (COVID-19) in order to improve performance.

This study's generalizability is limited because it only collected samples from Hanoi, Vietnam. The findings may not be applicable to other geographies due to differences in industry mix or environmental factors. The study is limited to only two contingency theory strategies. Each of these limitations necessitates additional investigation.

5. Conclusion

Although resilience, agility are used in turbulence condition, but there is little study them simultaniously. As time goes on, it is hoped that there are more research around these constructs. This study contributes by providing better understanding the relationship among resilience, agility, environmental turbulence and firm performance during COVID-19. Prior results are reconciled. And practice is advanced by helping hotels understand how and why their hotels should develop both resilience and agility strategies to improve their performance.

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THE EFFECT OF PSYCHOLOGICAL CAPITAL AND LIFE SATISFACTION ON ORGANIZATIONAL RESILIENCE DURING COVID-19: VIETNAM TOURISM INSIGHTS

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ABSTRACT

The current study investigates the impact of the psychological capital (PsyCap) of budget hotel owners and managers on organizational resilience during COVID-19. To better understand these relationships, the study used SPSS to analyze data collected through purposive sampling from 200 respondents who were small business owners and business managers of budget hotels in Vietnam's urban areas. The results show that the PsyCap of small hotel owners/managers can instill hope, optimism, in their employees, as well as help them accept reality and prepare for future contingencies. Hotel entrepreneurs themselves are always self-effective, self- esteem, psychological resilience, and emotional stability to have positive life satisfaction. It also emphasizes the impact of the owner's life satisfaction on the PsyCap and organizational resilience relationship, stating that the levels of life satisfaction have an impact on the business's recovery process. This indicates that, despite adversity, resilient owners and managers would attempt to overcome COVID-19's negative effects and return to normal. In the current environment, when the tourist industry is fighting for existence, the findings of the study will assist owners and managers of budget hotels in navigating through the stages of the COVID-19 epidemic in order to recover quickly.

Keywords: Psychological capital; life satisfaction; organizational resilience; disasters, COVID-19

1. Introduction

The Covid-19 pandemic has had a significant impact on the tourism industry, as countries have been affected. Borders were closed, flights were halted, and billions of people were forced to remain at home. According to World Tourism Organization (UNWTO), the Asia tourism industry - The Pacific has been hit the hardest by Covid-19, with the number of visitors dropping by nearly 33 million in the first three months of 2020. Previously, the European Center for Disease Control and Prevention (ECDC) issued a warning about the epidemic Covid-19 disease, which is infecting and killing many people. According to the publication According to the ECDC report, higher-than-expected mortality rates occurred in Belgium, France, Italy, Malta, Spain, Switzerland, and England, with the elderly over 65 bearing the brunt of the burden. The death toll from the SARS-CoV-2 virus (Covid-19) in Europe has surpassed the 75,000 marks. The Covid-19 epidemic is still evolving in Asia. In Southeast Asia, Indonesia has the highest number of SARS-CoV-2 infections; illness recurrence cases have grown in South Korea and Singapore. As can be seen, the globe, in general, and Vietnam in particular, are experiencing unprecedented levels of stress. The Covid-19 pandemic has had a significant influence on children's health as well as the overall economy, particularly the tourism sector. Currently, the tourism sector is important in Vietnam accounting in 2019 for around 10 percent of the Vietnamese GDP (Word Bank, 2020). Tourism, however, remains one of the most epidemic-sensitive economic areas. Covid-19 pandemic disease, commonly known as SARS-CoV-2 disease, seriously started in early 2020 and became the most serious pandemic on a worldwide scale in the last 100 years. One of the industries most affected is expected to be tourism. The resilience of the individuals and sectors in which they operate is therefore even more vital for the recovery of business from this epidemic and for economic growth. The term resilience comes from the Latin word “Resilience”, meaning 'to jump back.' However, in case of any tragedy, returns of the economy, organization, and society to its former state may not be easy and sometimes impossible. And it will be very hard for the tourism business to return to normal in the current situation, where the COVID-19 accident adversely affects the whole world. Many influenza A (H1N1) (Lee et al, 2012), MERS (Middle East

Respiratory Syndrome) and Ebola (Novelli et al. 2018) epidemics such as SRS have had a serious effect over the past 15 years and the tourist industry has been severely affected in 2014, as the travel industry can increase the health crises associated with these diseases. Research on crisis management in the tourism industry in health was not insufficient Shao et Al. 2020), but the majority of previous studies have focused on the impact of the epidemics on tourism's economic income and flows. However, little less work has been done to improve resilience for the fast recovery of the psychological capital by owners and managers of budget hotels (Prayag et al., 2020). The influence of psychological capital and individual resilience on organizational resilience overall is therefore essential to understand. For organizations confronted by any kind of change, the concept of psychological capital and organizational resilience is particularly relevant (Prayag, 2018). The current phase of uncertainty has greatly affected an organization's growth and sustainability (Luthans, 2002). Therefore, the impact of psychological capital (Psy Cap) is discussed in current research on the organizational resilience of owners or budget hoteliers during COVID-19. Psychological capital, in this context, means "positive personal development" (Luthans, 2002) and is demonstrated in four ways: self self-efficacy, hope, optimism, and resilience (Luthans, 2002). In addition, the research begins with the definition of PsyCap and describes the four personality traits: self-esteem, self-efficacy, control locus, and emotional stability (Colen 2007). Organizational resilience refers to an organization's perceived ability to overcome disruptions and accept change (Deepti Pathak and Gaurav Joshi, 2020; Prayag et al., 2020) previously conducted researched the topic of examining the impact of capital psychology of owners or rather budget hotel managers on organizational resilience during COVID. -19 in India. However, current research has added and developed three additional components of PsyCap, namely: self-esteem, and emotional stability (Colen, 2007), to broaden research in the field of tourism in Vietnam. This means that, in the face of adversity, resilient owners and managers would work hard to overcome the negative effects of COVID-19 and return to normalcy. In the current scenario, where the tourism sector is struggling for survival, the study's findings will assist owners and managers of budget hotels in navigating the stages of the COVID-19 pandemic for a speedy recovery.

The current study measures PsyCap using seven factors inherited and developed from two previous studies by Deepti Pathak and Gaurav Joshi (2020) and Cole (2007): self-efficacy, hope, optimism, self-esteem, locus of control, emotional stability, and resilience. One previous study found that the resilience of small businesses is heavily dependent on the mindset of business owners, indicating the possibility of a relationship between organizational resilience and psychological capital (Colen, 2007; Prayag et al., 2020, Deepti Pathak and Gaurav Joshi, 2020). As a result, the study addresses two main questions: (i) how the facets of psychological capital affect the life satisfaction of budget hotel owners and managers, and (ii) the impact of owner and manager life satisfaction on organizational resilience

2. Theoretical framework

The literature on the relationship between psychological capital and organizational resilience in the tourism industry is still in its infancy (Prayag et al., 2020, Deepti Pathak and Gaurav Joshi, 2020). The current study makes contributes by integrating the literature on psychological capital and subjective well-being and investigating the impact that the psychological capital of budget hotel owners and managers has on organizational resilience.

2.1. Organizational resilience

The 2017 "Catastrophe is an extreme, often sudden event which damages the critical infrastructure and requires recovery assistance," as defined by the Global Disaster Reduction and Recovery Facility. A catastrophe may have devastating effects affecting almost every aspect of human life and business. The event is uncontrolled, eg. COVID-19 is hitting all over the world (Brown et al., 2017). Disasters occur due to their sudden outburst. The unpredictability and disturbance of catastrophes have serious consequences for all aspects of tourism (Filimonau & De Coteau, 2020). In general, resilience refers to a system's ability to maintain its identity and adapt its essential structure and function in the face of disruption. In the tourism industry, resilience has emerged as an important concept. The ability of social, economic, or ecological systems to recover from tourism-induced stress has been defined as tourism resilience. Existing tourism resilience studies tend to focus primarily on the ecological/environmental resilience of tourism systems. The studies of Biggs et al. (2012) on the resilience of formal and informal tourism enterprises to disasters, and on how local tourism businesses build resilience in unpredictable business environments, are notable exceptions. There are no studies that we are aware of that quantitatively evaluate the resilience of tourism organizations. In disaster management literature, the term organizational resilience has emerged as an important concept (McManus, Seville, Vargo, & Brunsdon, 2008). It refers to an organization's ability to adapt to disruptions and capitalize on opportunities created by a changing environment. Based on a thorough review of the literature, McManus et al. (2008) define organizational resilience as "a function of an organization's overall situation awareness, vulnerability management, and adaptive capacity in a complex, dynamic, and interconnected environment". Organizational resilience is regarded as one of the most important business capabilities. Organizational resilience includes both organizational abilities and physical properties (Cutter et al., 2008). It can be defined as an organization's ability to anticipate and respond to change to not only survive but also thrive. Resilience is even more important for tourism businesses because the tourism industry is one of the most vulnerable and worst affected in the event of a disaster. Lee, Vargo, and Seville (2013) established two aspects, Planned and Adaptive, using a methodology created to quantify organizational resilience on a quantitative basis. Planned resilience includes using existing and predetermined planning capacities, such as corporate continuity and risk management. Due to good leadership and culture, adaptive resilience occurs during a crisis. This allows companies to adapt to emerging events dynamically. Lee et al. (2015) indicated that two components, ie. pre-planning and adaptive capacity building, are essential to make organizations more resilient during a disaster. Survival for hotels is extremely important in the event of a disaster. In all fields, COVID-19 presented new challenges for the tourism sector – from locking down and changing government policies to restrictions for interstate, national and inter-country travel and travel resistance. Most small and medium-sized hotels have been shut down. Resilience can adapt and increase the likelihood of organizations' future survival (Prayag, 2018; Deepti Pathak and Gaurav Joshi, 2020). Researchers have previously studied the role of structure and culture as regards its resilience. Flexible structure and leadership promote decentralization and quicker decision-making compared to bureaucracy (Sawalha, 2015). However, as opposed to large hotels, small hotels do not generally have a well-defined hierarchy. Covid-19 is unsure if it has enhanced organizations' ability to draw out concrete projects and hence a knowledge of PsyCap's function in establishing organizational resilience for small hotels.

2.2. Life satisfaction and disasters

As a result of climate change, several natural disasters are either more likely or more serious. Whilst catastrophes may have several immediate (usually bad) repercussions, the impact on individual well-being of increased natural disaster risk is largely ignored. In the tourism sector, research connected to disasters is focused mainly on policy, with fewer employee plans received (Prayag, 2018, Deepti Pathak and Gaurav Joshi, 2020). The majority of current studies focus on the macroeconomic effects of disasters (Berlemann, 2016). Nevertheless, the research to investigate the direct and indirect consequences of disasters at the microeconomic level has lately increased (Prayag, 2018), which mostly concerns the influence of catastrophes on individuals' well-being.

In two terms can be measured subjectively the well-being of individuals: happiness and satisfaction (Berlemann, 2016). While happiness is considered as the subjectively psychological state of mind (Berlemann, 2016), the long-term and cognitive dimension of well-being is life satisfaction. Subjective quality assessment of your whole life (O'Sullivan 2011). It includes the overall assessment of a person's entire life includes his past, present, and future Life satisfaction (Crooker & Near, 1998). Although several well-being measures are useful for certain purposes, the subjective well-being measures are important to recognize that characteristics from people's understanding of their experiences are not the utility they usually conceive of.

Researchers have identified a negative link between disasters and life satisfaction with disastrous diseases that have long-lasting consequences for life satisfaction. People's living satisfaction levels decrease significantly following natural disasters (Prayag, 2018). In the case of COVID-19, the direct effect of disaster is on the salary and employment of individuals and hotel staff, as it has been the worst hit by lockouts and restrictions on national and international travel. According to the Tourism Department of Hanoi, 95% of tourist operations (both travel and accommodation) have temporarily ceased, over 90% of the workforce is out of work or moved to another field, due to the effects of the Covid-19 epidemic. The life satisfaction assessment is predominantly retrospective of past achievement (Carver & Scheier, 2013), and therefore individuals who have received significant wages or lost their jobs in the course of COVID-19 may have lower life satisfaction.

2.3. Psychological capital and disasters

Psychological capital (PsyCap) is defined by Goldsmith, Veum, and Darity (1997) as "those characteristics of personality are thought to contribute to the productivity of an individual. These could include the perception of oneself, attitudes towards work, ethical orientation, and an overview of life." "The psychological capital of a person will probably govern his motivation and general attitude towards work." Luthans et al. (2007) noted that "There are a large number of personality characteristics with demonstrated relationships with achievement and attitude results." These include self-esteem; self-efficacy/confidence; locus of control; emotional stability; optimism; hope; resiliency; and conscientiousness. It is true that even after talking a lot about human resources, the real potential of their workers has not been realized by organizations in general and the tourism industry in particular. With increased focus on customers, organizations' psychological capital is generally obsolete (Luthans, 2002). The author pointed to PSyCap with 4 factors: optimism, auto effectiveness, resilience, and hope. Other potential PSyCap candidates identified by Luthans et al., (2007) include creativity, wisdom, humor, subjective well-being, flow, and social capacities such as gratitude, forgiveness, emotional intelligence, spirituality, authenticity, and courage. In Colen's 2007 study, Psy Cap was mentioned as an individual’s positive psychological state of development and is characterized by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resiliency) to attain success. (Luthans et al., 2007). In the Deepti Pathak and Gaurav Joshi (2020) research into the impact on the organization's resilience of psychological capital and life, PsyCap is a superior structure that includes psychological skills such as optimism, self-efficacy, resilience, and hope. The level to which an individual is confident about his or her ability to do a task well and to get the required results can, according to the work, be described as self-effectiveness.

‘A disaster is an extraordinary, typically abrupt, event that causes damage to key infrastructure and necessitates support for recovery,' according to the Global Facility for Disaster Reduction and Recovery (2017). A disaster can have far-reaching consequences that touch practically every aspect of human existence and business. Disasters are noted for their unexpected outbursts, with the triggering event occurring outside of the control of those who are affected, such as natural disasters. The global impact of COVID-19 (Brown et al., 2017). The unpredictable character of disasters, as well as their disruptive nature, have serious ramifications for all elements of tourism (Filimonau & De Coteau, 2020). According to Albert Bandura's (1997) work, self-efficacy is defined as the degree to which an individual is confident in his/her ability to complete a task successfully and achieve the desired results. In the event of a disaster, self-efficacy can provide an individual with the mental strength to deal with the issues and remain determined (O'Sullivan, 2011). In other words, hope can be defined as an optimistic state of mind that assists individuals in planning for identifying goals and pathways to achieve those goals, as well as encouraging them to follow those pathways in order to achieve the desired outcomes (Snyder, 2002). Self-esteem is "as far as you believe you are a capable and dignified person". It represents the general value of an individual as a person. The need for power, success, adequacy, mastery and skill, faith in the world, independence, and liberty indicates self-restraint. People with high self-esteem persons are often happier with their occupations than people with low self-esteem; they are also more effective in their devotion to work, engagement, morality, and stress management. Korman (1970) also forecasts that people would choose a career that meets their needs and that will allow them to continue to work in companies despite natural disasters in businesses. Emotional stability or neuroticism refers to the "facility and frequency of distressing and distressing [one] person."(Scheier and Carver, 2000). It "represents the trend to show poor emotional adjustment and undesirable consequences such as dread, aggression, and sadness." PsyCap has recently been proven in tourism research to relate theoretically and empirically to a variety of organizational

behaviors (Schuckert et al., 2018). PsyCap, for instance, can assist establish beneficial post-disaster coping mechanisms (Fang et al., 2020). Self-efficacy is a crucial factor to overcome challenging situations (Sumer et al., 2005). Optimism lessens post-traumatic stress and can lead you to a constructive process of thought under unfavorable circumstances (Kim et al., 2012). Till now most of the studies have focussed on the role of PsyCap in individual recovery post-disaster. Until recently PsyCap's involvement in personal tragedy recovery has been the subject of most studies. The writers could not credit articles to PsyCap's function in company recovery in the Indian context. This investigation gap has been addressed by the current study. In addition, two independent variables were added to the research model: Self - esteem and emotional stability. In which Deepti Pathak and Gaurav Joshi (2020) is the author's study model. How individuals view any crisis/disaster in an organization's environment will affect the organization's outcome. If people are enthusiastic about the future, the intended result (Fang et al., 2020) will be achieved. This will lead to positive organizational outcomes. In order to develop individual and organizational resilience, PsyCap can play a major role.

2.4. Hypothesis development

The root of PsyCap's psychology is positive. It emphasizes how people can achieve through the concentrate on the positive qualities of their environment (Fang et al., 2020). Pschycap developing psychological capacity is renewable and synergistic (Luthans, 2002). PsyCap individuals are adaptable and swiftly adjust to changes in the organization's external and internal environment. Bandura's (1997) self-efficacy is his belief in his ability to successfully accomplish a task. Confidence in one's own capacity to perform things increases Indian individuals' degree of competence and well-being. Positive identity, self-worth, and desireful outcomes are few factors that lead to more satisfaction in your life. Therefore, people with greater auto-efficiency can be told that the quality of their lives is more satisfactory. We, therefore suggest that:

H1: Self-efficacy (SEL) is significantly and positively related to life satisfaction.

Hope is defined as " a positive motivator based on an interaction feeling of success (1) of successful agency (goal-oriented energy) and (2) roads (planning to achieve goals)" (Snyder, 1991). Hope has distinct objectives and paths to address all types of differences in the manner goals are reached. Palmer et al, (2002) stated that people must face up to obstacles to remain motivated even during difficult times, resist pessimism, and constantly keep their hopes alive in order to maintain their life satisfaction at a high level (Prayag, 2018). Life satisfactoriness and hope are rooted in objective theory. The two aims are the cognitive evaluation of an individual's achievement (Muñoz-Olano & Hurtado-Parrado 2017). Hope includes an assessment of future likely achievement of one's objectives, while the assessment of past achievements means pleasure with life (Bailey et al., 2007). The ability to re-formulate objectives and work towards achieving objectives, despite adversities, improves people's well-being and life satisfaction (Beasley et al.,2003).The existing literature also suggests hope as one of the antecedants of life satisfaction (Muñoz-Olano & Hurtado-Parrado, 2017). Therefore, we propose that:

H2: Hope (HO) is significantly and positively related to life satisfaction.

Researchers have discovered an important link between optimism and resilience as it is described as a widespread expectation of future good things (Extremera et al., 2009). Because disasters bring many problems for the tourism sector, personnel need to think positively and simplify any deviations from the plan to achieve the intended goals (Liu et al., 2012). The notion of optimism says that good result expectations promote behavior aimed at (Scheier & Carver, 1985). Optimism can be defined as a component of PsyCap as readiness for both present and future success (Luthans, 2002). Perceived expectations of success lead to higher goal orientation. Optimist personages are flexible and open to new experiences when presented with hurdles to control their negative emotions (Tugade & Fredrickson, 2004). Within the current scenario, in which small hotels are about to conclude operations, optimism can lead them to consider new ways of meeting the problem, which will further increase their sense of fulfillment and fulfillment. That is why we suggest:

H3: Optimism (OP) is significantly and positively related to life satisfaction.

Resilience is an interplay of resources and assets that fosters trust and helps people to see the clearer side of the problem (Luthans et al., 2007). The tourist sector faces a range of domestic and global issues such as technical progress, changes in its customers' preferences, natural disasters, crises, climate change, and a growing focus on sustainability (Cheer & Lew, 2017). The ability to overcome and effectively achieve disadvantages offers individuals a sense of fulfilling redness that further improves their quality of life (Beasley et al., 2003). Before this research, psychological resilience relates to improved life satisfaction and psychological well-being in general (Liu et al., 2012). A study by Liu et al. (2014) reveals that those with a high resilience have a better quality of life satisfaction. We propose that accordingly:

H4: Psychological Resilience (PR) is significantly and positively related to life satisfaction.

Self-esteem is "the extent to which you believe yourself to be a capable and worthy individual" (Ormrod, 2000,). It represents the overall value that an individual places on him/herself as a person. Individuals with high self-esteem are expected to be more productive and satisfied at work and in life. Brockner (1988) contends that self-esteem workers are making better use of their time. Supervisors need less supervision or guidance, which means shorter downtime periods. Workers with high self-esteem also make more efficient use of group time by being prepared to discuss a broader range of solutions to challenges. They are also decision-makers who are more confident. This leads to groups that cooperate at a high level and groups that are more unwilling to seek management's guidance. We measured the impact of self-esteem on satisfaction in life in a study by Colen (2007). Author Colen's research results demonstrate that this component affects the statistics of life. We propose that accordingly:

H5: S*elf-esteem (SES) is significantly and positively related to life satisfaction.*

Emotional stability, or neuroticism, refers to "the ease and frequency with which a person

becomes upset and distressed." (Carver and Scheier, 2000). Emotional instability is also associated with career dissatisfaction, engagement in risky behaviors (for example, loss of job situation, risky situation) to cope with difficult situations such as negative interpersonal exchanges , and psychological distress in dealing with short and long-term life changes, or in decision-making tasks (Judge et al., 1993). The role of emotional stability on life Satisfaction was addressed in Colen's study (including problems related to unemployment, problems affecting job performance). We, therefore, suggest that:

H6: Emotional stability (ES) is significantly and positively related to life satisfaction.

Life satisfaction is defined as a state of subjective well-being in terms of assessing the overall quality of an individual's life. Higher levels of life satisfaction can assist employees in reducing work-related anxiety and stress, which are the most common negative effects of a disaster, and can assist them in reacting to the situation in a proactive manner and changing voluntarily before it becomes a compulsion (Fang et al., 2020). An individual's adaptive capacity is crucial to his or her strength, and an organization is a group of people; hence, the resilience of people who operate in an organization defines an organization's strength as well. A person who has successfully surmounted the problems in the past and is pleased and happy with the current situation of his life can benefit the organization (Lee et al., 2013). Existing literature about life satisfaction provides a vital indicator for the satisfaction and well-being of a person (Prayag et al., 2020). Deepti (2020) in India, established a direct connection between the life contentment of business owners and the organizational resilience of tourist enterprises in a research conducted in New Zealand, Prayag et al. (2020). There is much research in Viet Nam that examines the direct impact on organizational resilience within tourism companies of employees and company owners' satisfaction. We propose that accordingly:

H7: Life satisfaction (LS) is significantly and positively related to organizational resilience (OR)

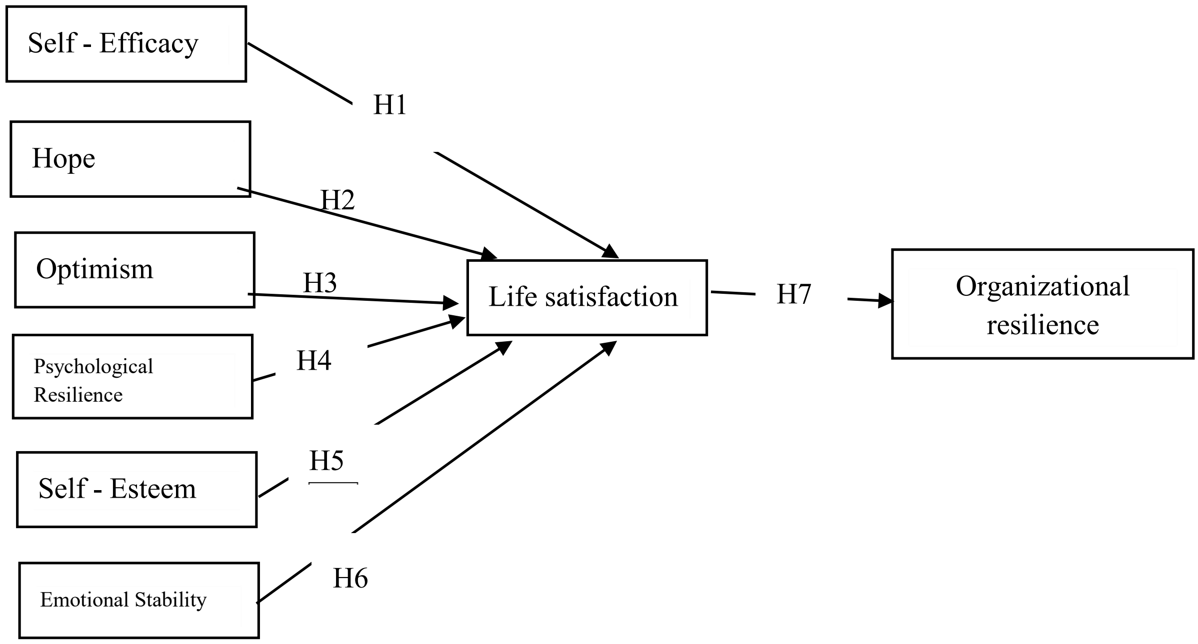

Figure 1: Reasearch Model

3. Research method

The sample is selected according to the convenience, non-probability method: sampling based on convenience or accessibility of the subject. Because this sampling method is a less time-consuming, low-cost collection, and easily accessible to respondents. The present study used a quantitative method for primary data collection with the help of a self-administered questionnaire to 200 respondents in the urban area of Viet Nam by adopting the purposive sampling method. According to Guiford (1954) recommends a sample size of 200, and Comrey and Lee (1992) believe a sample size of 200 to be pretty good. In conclusion, based on Guilford's research, the minimal number of samples for conducting quantitative research was determined to be 200 in this study. The author sends out surveys to small-scale hotel management. Because of the delicate pandemic situation, the article's author recruited former students from the Faculty of Hospitality and Tourism to assist in the distribution of questionnaires to hotel administrators. In actuality, personally approaching hotel managers is extremely difficult due to the government's long-standing policy of "social distance" in order to prevent the Covid-19 epidemic. As a result, in this study, the author attempted to collect 200 samples in order to meet Guiford's minimal sample requirement (1954).

The objectives of this study are to test the reliability and validity of the scale and test theoretical models with hypotheses. The theoretical model is all multivariate in size of research themes. Measured variables with the 5-point scale Likert (from 1: highly different to 5: strongly accepted). Play with reference to past studies on each scale. Self-Efficacy (6 scales); Hope (6 scales); Optimism (6 scales); Psychological Resilience (6 scales); Self - Esteem (10 scales); Emotional stability (6 scales); Life satisfaction (5 scales), organizational resilience (13 scales). In which, 6 variables (Self-Efficacy, Hope, Optimism, Psychological Resilience, Life satisfaction, Organizational resilience) refer to the scale from the study of Deepti (2020) and 2 variables (Self - Esteem, Emotional stability) refer to the scale from Colen (2007). To test the hypothesis, several sets of questions were utilized, each focused on one of the eight components. The respondents are dispersed across a variety of demographics. After collecting the completed questionnaires, a preliminary screening was performed to ensure that the responses were reliable and consistent. The theoretical model has 8 concepts studied and measured by 58 observed variables. The scale of concepts all uses reflective measurement models. The scale is preliminarily assessed by Exploratory Factor (EFA) method Analysis) and Cronbach's reliability coefficient Alpha for each component. Next, Correlation analysis between factors and Regression analysis with the help of software SPSS.

4. Results and Discusion

4.1. Results

4.1.1. Survey sample

Collect data from 200 respondents with special points presented print table 1

Table 1. Survey sample characteristics (N = 200)

		Frequency	percentage (%)
Gender	Male	120	60
	Female	80	40
Title	President	110	55
	Vice President	30	15
	Chief of department	60	30
Many years of experience	< 2 years	30	15
	2 – 5 years	50	25
	> 5 years	120	60
Total		200	100

SPSS Calcution

Table 1 shows the details of the participating organization in the primary survey conducted to fullfil the objectives of the study. Table 1 reveals that total number of 200 respondents participated in survey provides their opinions. Almost half of the participants are business manager while other half includes hotel owners. In which, the results show that the number of males is 120 people, accounting for 60 percent, the number of females is 80 people, accounting for 40 percent. Regarding Title, there are 110 people who are directors, accounting for 55 percent, the number of people who are vice directors is 30 people, accounting for 15 percent, and the number of people who are department heads is 60 people, the ratio is 30 percent. Regarding work experience, the number of people working under 2 years is 30 people, accounting for 15%, the number of people working from 2 years to 5 years is 50 people, accounting for 25%, and the number of people with 5 years of working experience The job is 120 people, accounting for 60 percent.

4.1.2. Preliminary verification of the scale with EFA

Scale of research concepts, The study was evaluated and preliminarily screened by EFA method and Cronbach's coefficient Alpha for each component. Standard selected are the variables must have correlation coefficients item-total correlation > .35; generation Cronbach Alpha number > .60; multiplier weight factor loading > .40; satisfactory scale demand when total variance extracted 50% (Hair & ctg, 1998). Cronbach alpha analysis results It shows that all observed variables have coefficients. The variable-total correlation is satisfactory (> .35). Cronbach Alpha of tool components from .812 to .913 in Table 2.

Table 2. Cronbach alpha analysis results

	Cronbach's Alpha	N of Items
SEL	.812	6
HO	.906	6
PR	.881	6
OP	.862	6
SES	.913	10

ES	.901	6
LS	.910	5
OR	.895	13

SPSS Calcution

4.1.3. Descriptive Statistics

Table 3. Descriptive Statistics Result

	N of Items	Mean	Standard Deviation
SEL	6	4.25	.55
HO	6	4.15	.76
PR	6	4.17	.62
OP	6	1.66	.63
SES	10	3.44	.93
ES	6	4.02	.71
LS	5	4.06	.71
OR	13	3.85	.54

SPSS Calcution

Table 3 the results show: the average value of SEL is 4.25 points with Standard Deviation reaching .55; the average value of HO reached 4.15 points with Standard Deviation reaching .76; the average value of PR is 4.17 points with Standard Deviation's score of .62; OP average value is 1.66 points with Standard Deviation's score of .63; The average value of SES is 3.44 points with Standard Deviation's score of .93; The average value of ES reached 4.02 points with Standard Deviation reaching .71; The average value of LS reached 4.06 points with Standard Deviation reaching .71; The mean value of OR is 3.85 points with Standard Deviation score of .54.

4.1.4. EFA analysis results

After analyzing the reliability coefficient Cronbach alpha, the scales are rated subsequent prices using the EFA method. Principal Axis Factoring method with the Promax rotation used in EFA analyses. The EFA results show that, all factors basically ensure convergence and discriminant in correlation with other factors. This is the basis for the author to conduct multivariate regression. Testing result Preliminary scale with EFA is summarized:

Table 4: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.843
Bartlett's Test of Sphericity	Approx. Chi-Square	5164.818
	df	780
	Sig.	.000

Table 5: Rotated Component Matrix[a]

	Component					
	1	2	3	4	5	6
SES7	.828					
SES3	.821					
SES4	.819					
SES10	.782					
SES5	.766					
SES8	.761					
SES6	.756					
SES9	.744					
SES2	.657					
SES1	.528					
HO5		.866				
HO4		.848				
HO6		.848				
HO1		.794				
HO2		.649				
HO3		.524				
ES6			.824			
ES5			.804			
ES3			.794			
ES2			.765			
ES4			.756			
ES1			.713			
PR5				.784		
PR3				.734		
PR6				.726		
PR1				.705		
PR4				.622		
PR2				.596		
OP2					.868	
OP3					.838	
OP4					.801	
OP6					.743	
OP5					.690	
OP1					.658	
SEL6						.826
SEL3						.797
SEL1						.648
SEL2						.639
SEL4						.601
SEL5						.565

a. Rotation converged in 6 iterations.

SPSS *Calcution*

So, we have the following six initial components in the Principal Component factor analysis with Varimax rotation: The KMO value of 0.843 > 0.5 indicates that the factor analysis is correct. The sig. of Bartlett's Test is 0.000 < 0.05, indicating that the observed variables are linked in the population. The variation described by each component has an Eigenvalue of 1.898 > 1, and the drawn factor has the best information summary significance.

The total variance retrieved is 62.941 percent > 50 percent, indicating that the extracted factor explains 62,941 percent of the data variation.

4.1.5. Regression

The aim is to determine the relationship between Self-Efficacy, Hope, Optimism, Psychological Resilience, Self - Esteem, Emotional stability to Life satisfaction.

Table 6. Regression results

		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-.630	.406		-1.551	.122		
	SE	.235	.080	.181	2.941	.004	.739	1.353
	HO	.311	.073	.283	4.285	.000	.646	1.549
	PR	.274	.081	.237	3.394	.001	.578	1.730
	OP	.131	.062	.115	2.120	.035	.949	1.054
	ES	.186	.062	.185	2.989	.003	.732	1.366
	ESE	.084	.042	.109	2.018	.045	.960	1.041

Life satisfaction

R = 0.677	R Square = 0.458	Adjusted R Square = 0.441
Durbin-Watson = 1,842	F = 27.191	Sig. = 0,000

SPSS Calcution

Table 6, The results of the regression analysis show that Durbin Watson's Test = 1.842; F = 27.191 and Sig value < 0.05, showing that the factors that have an impact on Life satisfaction (from strong to weak, respectively) include: Hope (beta = .283); Psychological Resilience (beta = .237); Self-Efficacy (beta = .181); Emotional Stability (beta = .185); Optimism (beta = .115); Self - Esteem (beta = 109) These factors all have a positive impact on Life satisfaction. With an R square value of .458, it shows that independent factors explain 46 percent of Life satisfaction.

Final, *Table 7*, the results of the regression analysis show that Durbin Watson's Test = 1.586; F = 295.604 and Sig value < 0.05, showing that the Life satisfaction has an impact on Organizational resilience; With an R square value of .599, it shows that Life satisfaction explain 60 percent of Organizational resilience.

Table 7. Regression results

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	1.475	.141		10.485	.000		
	LS	.588	.034	.774	17.193	.000	1.000	1.000

Organizational resilience.

R = 0.774	R Square = 0.599	Adjusted R Square = 0.597
Durbin-Watson = 1,586	F = 295.604	Sig. = 0,000

SPSS Calcution

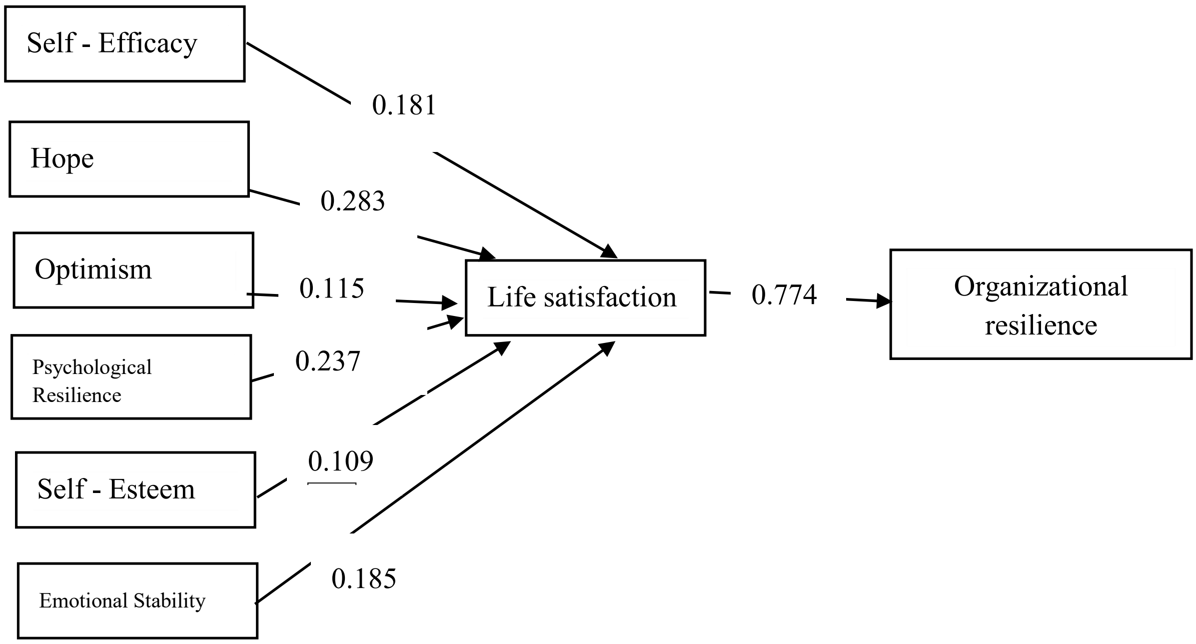

Figure 2. Result model

Hypothesis test	***Result***
H1: Self-efficacy will positive related to life satisfaction.	Supported
H2: Hope will positive related to life satisfaction.	Supported
H3: Optimism will positive related to life satisfaction.	Supported
H4: Psychological Resilience will positive related to life satisfaction.	Supported
H5: Self-esteem will positive related to life satisfaction.	Supported
H6: Emotional stability will positive related to life satisfaction.	Supported
H7: Life satisfaction will positive related to organizational resilience.	Supported

SPSS Calcution

There has been no research in Vietnam that has looked at the relationship between PsyCap and organizational resilience. Previous research has been carried out in countries other than Vietnam to investigate organizational resilience in small and big tourist businesses, as well as the function of PsyCap in major tourism businesses (Kang et al.2018). The goal of the study was to see if the PsyCap of small business owners and managers had an indirect influence on organizational resilience through life satisfaction. According to our findings, the resilience of tourist businesses is influenced by both PsyCap and life satisfaction. The findings show that self-efficacy, hope, optimism, psychological resilience, self-esteem, and emotional stability are substantially linked to life satisfaction among small tourist business owners and managers (Prayag et al., 2020; Deepti Pathak and Gaurav Joshi, 2020).

4.2. Discussion

According to the findings, understanding the cause and effect relationship between psychological capital, life satisfaction, and organizational resilience is critical for improving organizational resilience. PsyCap of budget hotel owners and managers can have a substantial impact on organizational resilience by influencing their life satisfaction. In order to establish resilient companies, psychological capital is essential. The current study adds to the growing body of knowledge about the relationship between PsyCap and organizational resilience by emphasizing the importance of life satisfaction. According to the findings, an individual's resilience improves his or her ability to overcome obstacles and cope with stress, and it also improves through work interactions, resulting in better organizational outcomes (Luthans et al., 2007; Prayag et al., 2020; Deepti Pathak and Gaurav Joshi ,2020). According to the current research, the PsyCap of small hotel owners and managers improves their resilience and overall happiness with life, which improves the organization's ability to bounce back quickly and overcome disaster-related adversity. As a result, with tourism companies chanting a new mantra of sustainability, increasing organizational resilience becomes critical, and the current study helps to this goal by showing the importance of the owner's PsyCap and life satisfaction in promoting organizational resilience.

Current research shows the impact of psychological capital on life happiness of budget hotel owners and managers and the function of their PsyCap and the fulfillment of life in building organ resilience. The role of PsyCap in enhancing overall well-being is obvious from the findings, and that the satisfaction of owners and managers in the recovery of small enterprises during and after disasters is also important, which further indicates that the PsyCap are crucial to leaders, i.e. owners and managers in building organizational resilience (McManus et al., 2008; Nilakant et al., etc.The developing tourist literature attracts the attention and encourages major tourism enterprises to take appropriate steps to cope with the changes and to survive during a crisis (Prayag et al., 2020). It has not, however, attracted the same degree of attention from small tourist companies and has not been prepared for disasters in small tourist enterprises. In small and cheap hotels, organizational resilience relies more on owners or managers' abilities to appraise the situation, adapt to current conditions, innovate and overcome disturbances (Fang et al., 2020). In inexpensive hotels, building resilience requires greater effort than structural adjustments on PsyCap from owners, management or staff. To improve staff resilience engagement in all processes and the exchange of ideas, it is only necessary that employees feel hopeful about favorable results (Prayag et al., 2020, Deepti Pathak and Gaurav Joshi ,2020). Clear goals and paths can help resilience in small hotels to achieve these aims. The PsyCap of budget hotel owners and managers will enable them develop a good, supportive organizational culture and strong internal and external networks will assist hotels to build resilience and overcome COVID-19 issues.

5. Conclusion

In conclusion, the restrictions of the current study work need to be taken into account for all ideas offered. First, COVID-19's influence on a small sample of cheap motels in city Viet Nam is examined. The report concentrates on this study. The effects of COVID-19 may, however, be a focus of further investigation on large tourist companies. Second, the study focuses on the analytical approach for the conclusion of the study to suppress the generalization of statistics. Thirdly, the example was made up of the owners and managers of inexpensive motels, in which both managers and employees at times were an individual. Therefore, the relationships between staff resilience and organizational resilience may be identified in a separate study undertaken in future by significant tourist companies.

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THE RELATIONSHIP BETWEEN ORGANIZATIONAL CULTURE AND FIRM PERFORMANCE: EVIDENCE IN VIETNAM IN THE CONTEXT OF COVID-19 PANDEMIC

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ABSTRACT

As the COVID-19 pandemic is rapidly spreading around the world, many countries are observed employing such many measures as working from home, isolating infected people, or applying self-quarantine, etc. as safeguard strategies. These measures are reportedly impacting performance, the attributes of the organization that are particular to the organizational culture when people work from home. This study aims at examining the relationship between organizational culture and firm performance in this context. Primary data collected from a sample of 169 corporate leaders and managers in Quang Ngai Province of Vietnam was employed in a multiple regression analysis to test relevant hypotheses on the relationship. It is revealed from the analysis that organizational culture is a predictor of firm performance in both aspects of business outcome and organizational effectiveness. However, different from what was found in preceding literature, there is no statistically significant evidence that involvement and adaptability traits of organizational culture are correlated to the business outcome and organizational effectiveness aspects of firm performance, respectively. This finding implies that the outbreak of the COVID -19 pandemic has had a certain impact on some aspects of the relationship.

Keywords: COVID-19, adaptability, mission, organizational culture, firm performance.

1. Introduction

Since its outbreak about two years ago, the COVID-19 pandemic has caused serious socio-economic disorders in almost of the social aspects ranging from the health of human being to that of business entities. In response to this situation, business leaders have had to act quickly and efficiently to confront unexpected changes in the social and economic crisis for the sake of firm performance. Employees are under various unusual pressure such as working from home with less supporting conditions or being impersonally controlled and monitored more closely than before. This may trigger negative feelings, bringing forth changes in trust and relationships among employees and leaders. This situation may raise the concern about changes in the role of organizational culture traits on firm performance.

In the past, changes in the traits of organizational culture and firm performance have attracted a lot of attention from researchers such as Veiseh et al.(2014); Szczepańska-Woszczyna (2015); Yilmaz and Ergun (2008); Xenikou and Simosi (2006); ElKordy (2013). The studies provide important discussion on the role of mission, involvement, consistency, and adaptability elements in firm performance. However, these discussions take place in the context of corporate competition and national culture, no large mixing flute on a global scale such as the current COVID-19 context. Therefore, finding the relationship between organizational culture and firm performance in the context of COVID-19 is meaningful research. The study can show how factors of organizational culture affect firm performance compared to previous research on mission, involvement, consistency, and adaptability traits in the context of COVID-19. The paper seeks to answer the following research questions: (1) How organizational culture affects firm performance. (2) Which aspects of organizational culture are important to firm performance in determining their level of performance?

2. Organisational Culture and Firm Performance

2.1. Organizational Culture

This study uses a theoretical background of Denison's Organizational Culture Model. According to Yilmaz and Ergun (2008), Denison's model is an integrative theory of organizational culture that (1) explains how culture relates to organizational effectiveness, (2) identifies a broad set of traits and value dimensions enabling a fuller understanding of the culture-effectiveness relationship, and (3) provides further insights as to the specific processes by which these traits facilitate or inhibit effectiveness. Roldán and Bray (2009) demonstrated how the model facilitates the measurement and evaluation of behavior patterns. Denison's measure of organizational culture can be used as diagnostic tool that can help managers identify the strengths and weaknesses in their culture. The analysis of the four culture traits and their subdimensions can direct managers towards appropriate actions needed to create, develop, and change the culture (ElKordy, 2013). Recently, Denison and Neale (2018) referred to organizational culture as the underlying values, beliefs, and principles that serve as a foundation for an organization's management system, as well as the set of management practices and behaviors that both exemplify and reinforce those basic principles. These principles and practices endure because they have meaning for members of an organization. They represent strategies for survival that have worked well in the past and that the members believe will work again in the future. A clear understanding of organizational culture is important for all leaders because it influences the way that their organizations react to the changing demands of the business environment. Kabigting et al. (2019) concur with the reputation and popularity of Denison's model as one of the most comprehensive organizational culture tools in the market today. Handari Wahyuningsih et al. (2019) emphasized that Denison's organizational culture model can be applied to evaluate the management approach and might serve as a measure of business competitiveness. Traits of organizational culture specified in the model are elaborated further as follows.

2.1.1. Mission

The mission trait defines the organization's goals and provides the organization's members with a sense of purpose and meaning (Yilmaz & Ergun, 2008). The mission is the degree to which the organization and its members know where they are going, how they intend to get there, and how each individual can contribute to the organization's success (Zakari et al., 2013). Mission - defining a meaningful long-term direction for the organization. A mission provides purpose and meaning by defining a social role and external goals for the organization. It provides a clear direction and goals that serve to define an appropriate course of action for the organization and its members. A sense of mission allows an organization to shape current behavior by envisioning a desired future state (Denison & Neale, 2018).

2.1.2. Involvement

Involvement is the degree to which individuals at all levels of the organization are engaged in pursuit of the mission and work in a collaborative manner to fulfil organizational objectives (Zakari et al., 2013). Involvement - building human capability, ownership, and responsibility. Organizational cultures characterized as "highly involved" strongly encourage employee involvement, and create a sense of ownership and responsibility (Denison & Neale, 2018).

2.1.3. Consistency

Consistency is the organization's core values and the internal systems that support problem - solving, efficiency, and effectiveness at every level and across organizational boundaries (Zakari et al., 2013). Consistency - defining the values and systems that are the basis of a strong culture. Consistency provides a central source of integration, coordination, and control. Consistent organizations develop a mindset and a set of organizational systems that create an internal system of governance based on consensual support (Denison & Neale, 2018).

2.1.4. Adaptability

Adaptability could also refer to the capacity to redefine underlying character in response to large-scale change (Denison & Mishra, 1995). Adaptability is the ability of the company to scan the external environment and respond to the ever-changing needs of its customers and other stakeholders (Zakari et al., 2013). Adaptability is also defined as - translating the demands of the business environment into action. Organizations hold a system of norms and beliefs that support the organization's capacity to receive, interpret, and translate signals from its environment into internal behavioral changes that increase its chances for survival, growth, and development (Denison & Neale, 2018).

2.2. Firm performance

Performance can imply different aspects such as societal performance, organizational performance, employee performance or individual performance, etc. (Uddin et al., 2012). Firm performance is the outcome achieved in satisfying the internal and external goals of a firm. According to Santos and Brito (2012), dimensions of firm performance cannot be used interchangeably, since they represent different aspects and different demands that need to be managed independently. In fact, the accounting-based measurement could reflect the past performance of the company while the market-based indicators helped to anticipate the future performance (Al-Matari et al., 2014). Moreover, some prior studies were stated that it was somehow challenging to find the financial record (Sosiawani et al., 2015). It is important that the company has a set of performance indicators, which are in line with its strategic objectives. The indicators should be selected in order to express the values that are important for the company and are in the areas: strategy - from top to bottom, the results of processes - from the bottom up, in the area of control and improvement, evaluation of opportunities and initiatives (Rylková, 2015). In general, companies build strategies for the long-term future of the entire organization. The goal of each strategy is to achieve a unique positioning of the company in the market. In the context of globalization, there are quite a number of factors that determine the performance of the firm, such as intellectual property, brand, creative potential (Roldán & Bray, 2009; Vo Thi Quy, 2018), number of employees, employee satisfaction, the trust, loyalty of employees (Yilmaz & Ergun, 2008; Roldán & Bray, 2009; Zakari et al., 2013; Vo Thi Quy, 2018), market share, competitiveness (Roldán & Bray, 2009; Zakari et al., 2013; Rylková, 2015), improved innovation (Roldán & Bray, 2009; Zakari et al., 2013). These factors are linked closely to the direct business outcome and effectiveness of a business organization. Therefore, in this study, business performance and organizational effectiveness are those aspects of firm performance that are of the most interest, based on the suggestion of Venkatraman & Vasudevan Ramanujam (1986) and the experiment of Wang et al. (2010).

2.2.1. Business performance

Scholars often criticize the use of accounting measures as they primarily focus on the economic dimension but ignore other aspects of a firm’s performance (Venkatraman & Ramanujam, 1986). Business performance in behavior studies is usually measured based on perceptual assessments. Wang et al. (2010) measured business performance using three indicators: the company's image, the company’s attraction to professionals, and the company's employee morale. These non-financial indices are important for its long-term operation. According to Rylková (2015), business performance in the general form can be describted as the essence of the existence of the whole enterprise. Business performance is closely linked with the choice of indicators. Indicators should involve quantitative and qualitative measures in a company.

2.2.2. Organizational effectiveness

According to Sanjo and Adeniyi (2012), organizational effectiveness is a concept that describes how effective an organization is in achieving the outcome it intends to produce. Cristina et al.(2012) argued that organizational effectiveness is taken to signify “doing the right thing over time,” with results corresponding to guaranteeing the business. Wang et al. (2010) examined the organizational effectiveness using three indicators: the company's innovative degree, the company's market share, and the company's staff turnover.

2.3. The relationship between organizational culture and Firm Performance

2.3.1. The relationship between mission trait and firm performance

Today, the mission has become a familiar concept that shows long-term orientation to the enterprise. Therefore, the mission is only questioned or changed when the organization is affected by the most critical crisis. At a given period, each of the organizations provided a compelling example of the close relationship between the overall purpose and direction of the firm, and the meaning held by each of the organizational members. This loss of meaning and direction seemed to coincide with significant losses of momentum and effectiveness (Denison & Mishra, 1995). According to Denison and Mishra (1995), the mission trait of culture were better predictors of profitability, were also significant predictor of other effectiveness criteria such as quality, employee satisfaction, and overall performance. The mission trait consists of value dimensions such as strategic direction and intent, common goals and objectives, and a long-term vision. Organizations that are below average on the mission trait seem to experience major shortcomings particularly in terms of the marketplace and financial outcomes (Yilmaz & Ergun, 2008). According to Pirayeh et al. (2011), the managers of the company have a long-term perspective and they have well oriented their employees toward long-term goals. Thus, looking ahead and having long-term view will lead to mobilization and motivation in employees in the workplace. One view that has become consistent across organizations is if an organization does not explicitly specify its purpose, strategies, and goals, and more importantly, if these are not embraced by multiple levels within the organization, a great deal of effort applied to other traits and/or improvement initiatives will ultimately have little impact. Thus, the mission was the culture trait with the strongest potential of impacting positively on performance as customer satisfaction, increased market share, competing effectively at the marketplace, employee satisfaction, increased quality of service, and improved innovation (Zakari et al., 2013). According to ElKordy (2013), for leaders to create, develop, and change cultures, they must first develop, clarify, and communicate a unified vision. The rating results of organizational culture’s mission dimension indicate that the dimensions of core values and strategic orientation are much better than other dimensions concerining firm performance (organizational commitment, job satisfaction). Overall, the researchers, stated that the mission trait appears to be the most prominent of the cultural traits in terms of fostering a wide variety of performance indicants. Before the pandemic, the mission was made more prominent by the fact that, although businesses know in advance that they will lose money, they make great efforts to maintain production by paying the base salary when the employee is on leave due to instruction under directive 16, paying the cost of COVID-19 testing, and implementing three at the place (production, isolation, etc., on-site accommodation). It suggests that enterprises will build employee satisfaction and peace of mind. This is the same thing that helps employees to be loyal to the enterprise, to strive to create and innovate with the enterprise to overcome difficulties. Therefore, our hypothesis is:

H1: Cultural traits of mission in organizations exert a significantly positive relationship on firm performance.

2.3.2. The relationship between involvement trait and firm performance

In every organization, meaningful involvement for the stability and growth of the organization. When high levels of involvement and participation create a sense of ownership and responsibility, a greater commitment to the organization and a growing capacity to operate under conditions of autonomy, increase the quality of decisions and their implementation. Thus, the involvement was strong predictor of growth, was also a significant predictor of other effectiveness criteria such as quality, employee satisfaction, and overall performance (Denison & Mishra, 1995). Participation is the most important basis for determining the satisfaction of individuals with the organization. Developing positive employee attitudes requires a cultural orientation that values empowerment, team orientation, and capability development. More, the involvement trait was robust positive effected on all performance indicators as sales growth, market share growth, ROA, quality improvements, new product development (Yilmaz & Ergun, 2008). Referring to involvement, Pirayeh et al.(2011) stated that highly empowered people indicate that they have authority, initiative, and capability to manage and fulfill their jobs. It creates a sense of responsibility in the organization. They have affected on collaboration morale of the employees. A strong organizational culture that encourages the participation and involvement of its members appear to be its most important asset. This is because culture can be one of the elements that an organization can build its competitive advantage around, and which competitors may have difficulty surmounting. Involvement culture trait is rated as the leverage culture trait within organizations, show a moderate positive relationship with the organizational performance items as customer satisfaction, increased market share, competing effectively at the marketplace, increased quality of service, and improved innovation (Zakari et al., 2013). In a study in Russia, Fey & Denison (2000) found that the involvement trait also appears to be highly important to organizational effectiveness. This has provided the opportunity to examine involvement in the context of COVID-19. Under the impact of the decisions, people have to work from home, split shifts, take turns, and challenges of balancing homeschooling child(ren), and maintaining a job. The task division, stronger empowerment and share true information with empathy and optimism can be seen as a solution for participation to improve productivity and firm performance. Therefore, our hypothesis is:

H2: Cultural traits of involvement in organizations exert a significantly positive relationship on firm performance.

2.3.3. The relationship between consistency traits and firm performance

Each group or, more broadly, each organization has its own rules and principles for each individual's work and activities. Under the observation of Denison and Mishra (1995), each organization had a developed mindset and set of organizational systems that could be projected on ambiguous situations. The root of this trait is the concept of normative integration or the pervasiveness of a consensual system of behavioral control. Sources of integration range from a limited set of rules about when and how to agree and disagree, to a "unitary" culture with high conformity and little or no dissent. According to Denison and Mishra (1995), the consistency trait were better predictors of profitability, was also a significant predictors of other effectiveness criteria such as quality, employee satisfaction, and overall performance. With this same view, Pirayeh et al.(2011) said that the coordination and integration among members of the company cause to a pleasant atmosphere to be dominated. But the lowered coordination means that there exist no shared views among the people in an organization. Therefore, the staff in the company attaches great importance to collaboration and agreement and have the shared views about their organization which leads to establishing a desirable balance of the goals throughout organization levels. As such, consistency is essential. To the extent that ElKordy (2013) said that need to use forceful measures as penalizing behaviors that are inconsistent with agreed-upon values. According to Zakari et al. (2013) because for an organization to be able to satisfy its customers, it must be highly stable. What is different today is that the regulations and rules are no longer relevant to the COVID-19 context. Top management must display strength in upholding the rules and regulations of the organization and must add new points to culture during the pandemic. Because at any time, if the rules and regulations of an organization are strongly defined, it can promote better firm performance and productivity. Therefore, our hypothesis is:

H3: Cultural traits of consistency in organizations exert a significantly positive relationship on firm performance.

2.3.4. The relationship between adaptability traits and firm performance

An effective organization must develop norms and beliefs that support its capacity to receive and interpret signals from its environment and translate these into internal cognitive, behavioral, and structural changes (Denison & Mishra, 1995). The staff of the company can adapt themselves to internal and external circumstances and by considering the existing situation, they can change the methods of performing tasks and employ the state of the art or modified methods and be creative and initiative. To create change, the company, together with its staff, uses more advanced techniques and genuine methods, so that there will be the least resistance against the changes. So it enables the staff by using the methods of performing tasks, showing their creativity and initiative (Pirayeh et al., 2011). According to Denison and Mishra (1995), the adaptability trait were strong predictors of growth, was also a significant predictors of other effectiveness criteria such as quality, employee satisfaction, and overall performance. Also, follow Fey and Denison (2000) adaptability proves to be the most important dimension of organizational culture concerning overall firm performance and profitability. In the time of COVID -19, adaptability is tied to the viability of an enterprise. Leaders need to be thoughtful and capable to handle change in uncertain situations ethically (Chen & Sriphon, 2021). Because, the rapid responses offered organizations strategic guidance on implementing and sustaining a virtual platform, the projected implications on business, and how to address community needs, It is necessary through the sharing of values that create new identities and expectations for the future (Mercedes & Burrell, 2021). In general, entrepreneurs and SMEs can navigate the crisis through being agile, adaptive, and exploring new opportunities. Therefore, our hypothesis is:

H3: Cultural traits of adaptability in organizations exert a significantly positive relationship on firm performance.

3. Research method

3.1. Data collection

Because COVID-19 is a global event, management methods are quite similar across regions and limited within the research organization. Self-administered questionnaires were used in collecting research data. The survey was conducted from June 1 and September 15, 2021. Since the role of leaders is very crucial for maintaining firm performance. Firms in Quang Ngai city of Quang Ngai province of Vietnam were chosen as our sample target. Questionnaires are filled by leaders and managers for the firms. The questionnaires were completed voluntarily by all respondents. There were 200 questionnaires were distributed, of which 169 valid questionnaires were returned (total return rate of 85%).

3.2. Measures

Measures of the cultural traits are adopted from Denison’s Organizational Culture Survey. Denison's measure of organizational culture can be used as diagnostic tool that can help managers identify the strengths and weaknesses in the culture (ElKordy, 2013). This instrument includes a measure of four major cultural traits, each composed of three component indexes. Each of the 12 component indexes is measured with five items. Roldán and Bray (2009) via the Chi-square test of the relationship between organizational culture come up with a sample of 12 items out of a total of 60. For convenience in studying the organizational culture of many types of enterprises, this study used 12 representative items of the indexes of organizational culture, all of which are five-point Likert scales with anchors strongly disagree (=1) to strongly agree (=5).

For the measurement of firm performance, leaders, managers of the firms were asked to assess their firm’s level of performance. According to Santos and Brito (2012) factors such as business performance and organizational effectiveness are widely used. Business performance indicators include the company's image, the company’s attraction to professionals, the company's employee morale. Organizational effectiveness indicators include the company's innovative degree, the company's market share, and the company's staff turnover. They were adopted to ask respondents for the performance level of their companies for the past 3 years, compared with different management performances of their competitors in the same industry. The questionnaire items were derived mainly from Roldán and Bray (2009). Respondents used their cognition to tick off corresponding options, uses a 5-point Likert scale with anchors strongly disagree (=1) to strongly agree (=5). This type of questionnaire is simple enough for leaders, managers to spare time in offering proper responses.

3.3. Data analysis method

Each questionnaire response is captured onto a computer software program for analysis and control. Descriptive analysis, factor analysis, and regression analysis were used to determine the causal relationship between organizational culture and firm performance.

4. Results and discussion

4.1. Sample characteristics

Of the subjects, 68.6% were male and 31.4 % were female and the average age was between 41 and 50 years (45%); 45% had an experience at the firm of 5-10 years, and 79.9 % had had a university. The majority of leaders and managers were department heads (40.2%), (see Table 1).

Table 1. Respondent profile

Characteristics		Frequency	Percentage
Gender	Male	116	68.6 %
	Female	53	31.4 %
Age	<30	8	4.7 %
	31-40	62	36.7%
	41-50	76	45%
	51-60	22	13%
	>60	1	0.6%
Education Level	Under university	5	3 %
	University	135	79.9%
	After university	29	17.2%
Experience	Less than 5 years	35	20.7 %
	From 5-10 years	76	45%
	Over 10 years	58	34.3%
Position	President	62	36.7 %
	Vice president	18	10.7%
	Department head	68	40.2%
	Chief accountant	21	12.4%
Type of business	State enterprises	25	14.8%
	Non-state enterprises	129	76.3%
	Enterprises with foreign capital	15	8.9%
	Other	0	0

4.2. Reliability analysis

Table 2 shows Cronbach's alpha coefficients for all constructs. Overall, the constructs achieve high reliability because the coefficients are above 0.7.

Table 2. Constructs Cronbach's alpha coefficients

Construct	Number of items	Cronbach's alpha
Organizational culture		
Mission	3	0.868
Involvement	3	0.840

Consistency	3	0.816
Adaptability	3	0.824
Firm performance		
Business performance	3	0.850
Organization effectiveness	3	0.754

4.3. EFA analysis

In table 3, the results of the factor analysis are depicted. The factor loadings of culture, the KMO value is 0.843, which is above the suggested, threshold of 0.6, the low significance of Bartlett's test also satisfies the requirements (Chi-square = 970.306). The factor loadings with a threshold greater than 0.5 are considered. The final factor loading matrix shows that the four culture components, which are initially extracted, account for 76.197% of the total variance in the 12 cultural artifacts, with the eigenvalues greater than 1.0, which indicates that those extracted artifacts can help to explain the organizational culture.

Table 3. Factor loading of culture

Variables	Miss	Invol	Adap	Consi
1. Strategy leads organizations to change the way compete	0.870			
2. Understand what needs to be done.	0.853			
3. Vision creates excitement and motivation.	0.782			
4. Decisions made where the best information.		0.839		
5. Relationship between job and goals.		0.826		
6. Investment in the skills of employees.		0.795		
7. Different parts cooperate to create change.			0.837	
8. Customer influences our decisions.			0.817	
9. The "right hand knows what the left hand is doing."			0.814	
10. The leaders and managers "practice what they preach				0.833
11. Agreement about the right way and the wrong way to do things.				0.826
12. Alignment of goals across levels.				0.798
Approx. Chi-Square				970.306
KMO				0.843
Bartlett's Test of Sphericity df				66
Sig				0.000
Total Variance Explained				76.197%

The factor analysis for firm performance indicates two factors solution with the eigenvalues greater than 1.0, and the two-factor component explains 73.293% of the total variance. The KMO measure of sampling adequacy is 0.783, which is considered as sufficient intercorrelation while Bartlett's test of sphericity is significant with Chi-square at 413.653. After factor analysis, all items remain. The items are grouped together in the intended theoretical manner. Table 4 illustrates the details of the factors.

Table 4. Factor loading of performance

Variables	Busi	Orga
1. Image is better than that of the competitors.	0.858	
2. Attraction to professionals was higher than competitors.	0.852	
3. Employee morale is higher than competitors.	0.819	
4. Innovative degree is higher than competitors		0.828
5. Market share is higher than competitors.		0.812
6. Staff turnover was lower than competitors		0.701
Approx. Chi-Square		413.653
KMO		0.783
Bartlett's Test of Sphericity df		15
Sig		0.000
Total Variance Explained		73.293%

The outcomes of Pearson correlation coefficient found statistically significant correlations between each dimensions of organizational culture and firm performance (business performance and organization effectiveness). Mission has (r (169) = 0.477, p < 0.00), Involvement has (r (169) = 0.402, p <0.00, Consistence has (r(169) = 0.393, p < 0.00), Adaptability found (r(169) = 0.490, p< 0.00). All factors of organizational culture have strong correlation with firm performance including the summated predictor variable (See table 5).

Table 5: Correlation between components of organizational culture and firm performance

		Busi	Orga	Miss	Invol	Consis	Adapt
Busi	Pearson Correlation	1	.534**	.477**	.402**	.393**	.490**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	169	169	169	169	169	169
Orga	Pearson Correlation	.534**	1	.440**	.422**	.399**	.353**
	Sig. (2-tailed)	0.000		.000	.000	.000	.000
	N	169	169	169	169	169	169
Miss	Pearson Correlation	.477**	.440**	1	.451**	.402**	.434**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	169	169	169	169	169	169
Invol	Pearson Correlation	.402**	.422**	.451**	1	.424**	.386**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	169	169	169	169	169	169
Consis	Pearson Correlation	.393**	.399**	.402**	.424**	1	.322**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	169	169	169	169	169	169
Adapt	Pearson Correlation	.490**	.353**	.434**	.386**	.322**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	169	169	169	169	169	169

**. Correlation is significant at the 0.01 level (2-tailed).

4.4. Regression analysis

4.4.1. Regression analysis between organizational culture and business performance

The adjusted R^2 is 0.364, which means that the predictor variables account for 36.4% of the variance in business performance. Further, the *F* statistic is significant at 0.000, which shows the fitness of the model. The result of regression analysis is presented in table 6,7.

Table 6: Model summary of regression analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.603[a]	0.364	0.348	0.69769	2.023

a. Predictors: (Constant), Adapt, Consis, Invol, Miss

b. Dependent Variable: Busi

Table 7: ANOVA table for significance of the model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45.614	4	11.404	23.427	0.000[b]
	Residual	79.831	164	0.487		
	Total	125.445	168			

a. Dependent Variable: Busi

b. Predictors: (Constant), Adapt, Consis, Invol, Miss

The Coefficients table presents the standardized Beta coefficient between the predictor variable components of organizational culture and the dependent variable business performance. The Beta coefficient show positive and statistically significant at the different levels. Beta for mission (t (164) = 3.122, p = 0.002); Involvement (t (164) = 1.588, p = 0.114); Consistency (t (164) = 2.144, p = 0.033) and Adaptability (t (164) = 4.084, p = 0.000). The one factors Involvement have higher t value with significant p value less than .05. The three factors are found determinant in predicting business performance.

Table 8. Influence of organizational culture traits on business performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.328	0.334		0.981	0.328
	Miss	0.248	0.079	0.235	3.122	0.002
	Invol	0.126	0.079	0.118	1.588	0.114
	Consis	0.168	0.078	0.154	2.144	0.033
	Adapt	0.335	0.082	0.293	4.084	0.000

a. Dependent Variable: Busi

4.4.2. Regression analysis between organizational culture and organizational effectiveness

The adjusted R^2 is 0.296, which means that the predictor variables account for 29.8% of the variance in business performance. Further, the F statistic is significant at 0.000, which shows the fitness of the model. The result of regression analysis is presented in Table 6, 7.

Table 9. Model summary of regression analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.546[a]	0.298	0.281	0.59299	1.920

a. Predictors: (Constant), Adapt, Consis, Invol, Miss

b. Dependent Variable: Orga

Table 10. ANOVA table for significance of the model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.494	4	6.124	17.414	0.000[b]
	Residual	57.669	164	0.352		
	Total	82.163	168			

a. Dependent Variable: Orga

b. Predictors: (Constant), Adapt, Consis, Invol, Miss

The Coefficients table presents the standardized Beta coefficient between the predictor variable components of organizational culture and the dependent variable organization effectiveness. The Beta coefficient show positive and statistically significant at the different levels. Beta for mission (t (164) = 2.842, p = 0.005); Involvement (t (164) = 2.492, p = 0.014); Consistency (t (164) = 2.488, p = 0.014) and Adaptability (t (164) = 1.588, p = 0.114). The one factors Involvement have higher t value with significant p value less than .05. The three factors are found determinant in predicting organization effectiveness.

Table 11. Influence of organizational culture traits on organization effectiveness

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.910	0.284		3.203	0.002
	Miss	0.192	0.068	0.225	2.842	0.005
	Invol	0.168	0.067	0.195	2.492	0.014
	Consis	0.166	0.067	0.187	2.488	0.014
	Adapt	0.111	0.070	0.120	1.588	0.114

a. Dependent Variable: Orga

5. Discussion

Yilmaz and Ergun (2008) examined the effects of four major organizational culture traits on measures of firm effectiveness and found that the mission trait is the most prominent among the four traits in terms of fostering overall firm performance, sales growth, market share growth, and ROA. In addition, a firm's ability to successfully develop new products is influenced primarily by adaptability and consistency traits.

Employee satisfaction is determined for the most part by the involvement trait. Shahzad et al. (2012) also examined various concepts on organization culture and performance and found that organizational culture has a deep impact on the variety of organizations's process, employees, and their performance, consistent with the findings of our research.

In the context of Vietnam, Hang et al. (2021) also illustrated the similar general finding that the four dimensions of organizational culture do affect business performance, in which the test of the impact of the involvement trait was supported with statistically significant evidence. However, in this study, there are significant evidence to conclude that traits of mission, consistency, and adaptability do have a positive impact on business performance, not applied to that of involvement. The involvement concept shows the sense of ownership, collaboration morale, and responsibility (Denison & Mishra, 1995; Pirayeh et al. 2011; Zakari et al., 2013). The epidemic may have affected the morale of employees and partners significantly, causing the incidence. However, the chaos of COVID-19 may intensify the impact of other traits on direct business outcomes. Difficulty must have triggered adaptability. While the government puts the health of the entire population above all else, managers must lead the organzation in a flexible way but still anchor to long-term strategic direction and mission in the hope for a better period of normalcy to come at hand. In addition, compliance with regulations on epidemic prevention may have been dominant, upgrading the role of consistency.

As for the role of organizational culture on organizational effectiveness, the traits of mission, involvement, and consistency are good predictors while that of adaptability is not. Adaptability is the capacity to receive and interpret signals from the environment (Denison & Mishra, 1995). Actions of adaptability are those such as changing the methods of performing tasks and employing the state of the art or modified methods (Pirayeh et al., 2011). Organizational effectiveness is the concept of how effective an organization is in achieving the outcomes the organization intends to produce. According to Chen and Sriphon (2021), for the sake of effectiveness, leaders need good communication skills to share with employees true information with empathy and optimism, and COVID-19 has increased the leadership need to amplify knowledge on how to build effective enterprise sustainability. However, the pandemic makes it difficult for leaders to adapt to ensure sustainable stability in this context. The adaptation widely depends on the government's regulations on epidemic control where close coordination between local authorities and enterprises is requested to ensure production conditions. Therefore, adaptability traits may connect more closely to business performance but not to effectiveness.

6. Conclusion

This study examined the relationship between organizational culture and firm performance in the context of COVID-19. The survey data compiled from the sample of 169 valid responses from leaders and managers for firms in Quang Ngai province of Vietnam facilitated the measurement and evaluation of the behavior patterns of research concern. The regression results showed findings that are in line with the view that each of the cultural traits of involvement, consistency, adaptability, and mission influence the firm performance in general. However, it is also found that there are no statistically significant evidence for the effect of involvement trait on business performance and that of adaptability trait on organizational effectiveness. These novel findings are accrued to the influence of the COVID-19 pandemic in the context of Vietnam. Future studies may add the COVID-19 moderator variable, new and more modern methods.

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EVALUATING THE IMPACTS OF THE COVID-19 PANDEMIC ON THE LOGISTICS INDUSTRY IN VIET NAM

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ABSTRACT

The COVID-19 pandemic has severely impacted Vietnam's economy, including the logistics segment. The authors, therefore, utilize such tools as Porter's Five Forces Analysis, PESTEL Analysis, and SWOT Analysis to evaluate the impacts of COVID-19 on the logistics industry in Vietnam. The results of the analyses provide an overview of the logistics industry in Vietnam in the time of COVID-19, as well as some suggestions for the logistics firms.

Keywords: logistics, industry analysis, strategic management

1. Introduction

The COVID-19 pandemic has been and is impacting the world economy. UNCTAD (2021) predicted that the global GDP could lose more than $4 trillion for the years 2020 and 2021 because of COVID-19. OECD (2021) stated that: "The COVID-19 pandemic has triggered the deepest economic recession in nearly a century, threatening health, disrupting economic activity, and hurting well-being and jobs". The study of Meyer, et al. (2021) also indicated that the pandemic has led to supply shortage and supply disruption, causing the overshadowed importance of a sustainable supply chain.

In Vietnam, the economy is considered to be recovering this year from a low base in 2020, but the number of businesses leaving the market remains high (Minh & Ta, 2021). The recent surge of COVID-19 infections has forced factories to shut down, causing disruption to the supply chain and hitting one of the world's busiest clothing and footwear manufacture centers (Reed & Hille, 2021). The pandemic also hits the agriculture sector of Vietnam as the economy relies heavily on exports and the country is facing infection clusters and movement restrictions (Nguyen, 2021). This implies a heavy negative impact on the logistics sector. Indeed, according to Vietnam Logistics Business Association (VLA), up to 50% of the enterprises in the logistics segment have experienced a downturn in activity and revenue, and many struggling firms are in dire need of support to survive the pandemic (VNA, 2021). Figure 1 shows the impact of the pandemic on the logistics enterprises in Vietnam in the year of 2020.

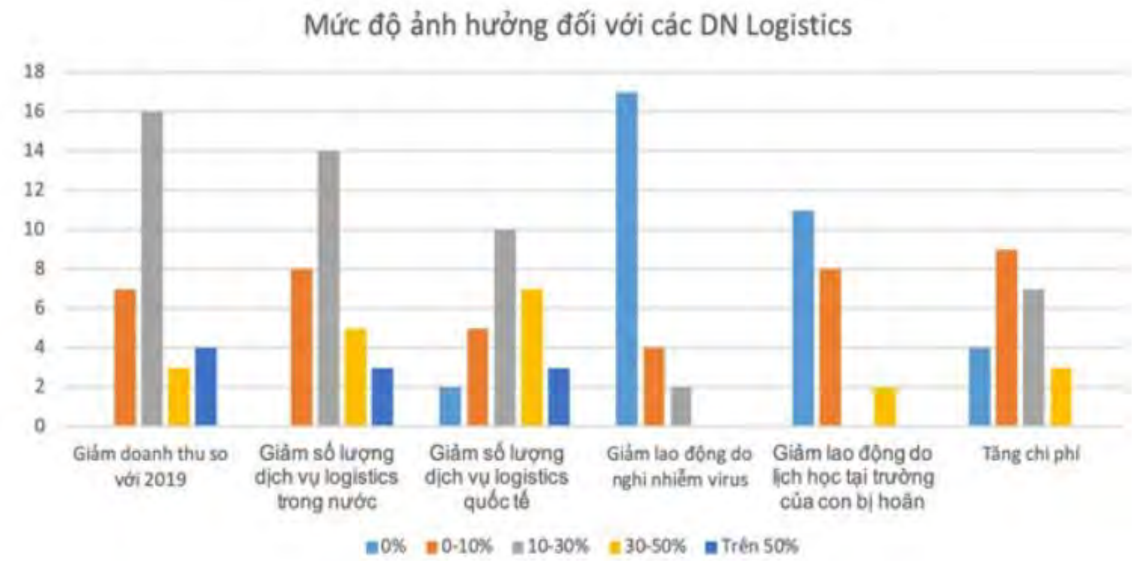

Figure1. Impact of COVID-19 pandemic on Vietnam Logistics enterprises

Source: VLA

Given the severe damage that the COVID-19 pandemic is causing to the Vietnam economy and logistics segment, as well as the world supply chain, a comprehensive analysis on the current situation is necessary. Therefore, the authors aim to utilize the most popular strategic tools, which are PESTEL Analysis, Porter's 5 Forces Framework, and SWOT Analysis to analyze the impacts of the COVID-19 pandemic on the Logistics industry in Vietnam. In order to do so, the research objectives include:

- Reviewing PESTEL Analysis, Porter's 5 Forces Framework, and SWOT Analysis.
- Gathering data.
- Analyzing the data using the models reviewed.
- Providing findings and recommendations

2. Theoretical framework

2.1. PESTEL Analysis

PESTEL Analysis is an analytical tool that provides a framework and understanding of the external environment for strategic planning. PESTEL includes the factors such as Political, Economic, Social, Technological, Environmental, and Legal. The Political factor is related to how government policies impact a field (Oxford College, 2016). Economic factor includes employment opportunities, fiscal implication, and costs of materials (Oxford College, 2016). The Social factor focuses on the social environment or the emerging trends of an organization or a field (Oxford College, 2016). The Technological factor considers the changes in the technologies applied in the field (Oxford College, 2016). Environment factor implies the impacts that the field of study has on the sustainability and ecological environment (Oxford College, 2016). The Legal factor is about any topic relating to health, safety, restrictions, and regulations that an organization in the field of study has to deal with (Oxford College, 2016). Figure 2 illustrates the PESTEL model.

Figure 2. PESTEL Model

The COVID-19 pandemic has affected many aspects of the lives of people around the world, and governments have by far issued a lot of policies, regulations, and restrictions to face the pandemic. As a result, the macro environment of many enterprises, including that of logistics enterprises, has experienced significant changes. PESTEL Analysis has been used to evaluate the external environmental changes in many fields (Kolios & Read, 2013; Christodoulou & Cullinane, 2019; Matovic, 2020) Applying PESTEL Analysis is therefore relevant to identifying the effects of COVID-19 on the logistics industry in Vietnam.

The PESTEL however does face some criticism for its disadvantages: it is too simple and therefore cannot give full pictures, factors change quickly, most data are difficult to find. The PESTEL is as a result only suitable for giving a short-term and simple picture of the field in question. In this paper, the authors only aim to analyze the short-term effects of the pandemic on the logistics industry, because the pandemic is not going to last forever.

2.2. Porter's Five Forces Framework

Porter's Five Forces Framework is a tool for analyzing the competitive intensity and attractiveness of an industry. The Five Forces mentioned include: (1) the threat from potential entrants, (2) the bargaining power of suppliers, (3) the bargaining power of buyers, (4) pressure from substitute products, and (5) the intensity of competitive rivalry. Figure 3 shows the Five Forces Framework.

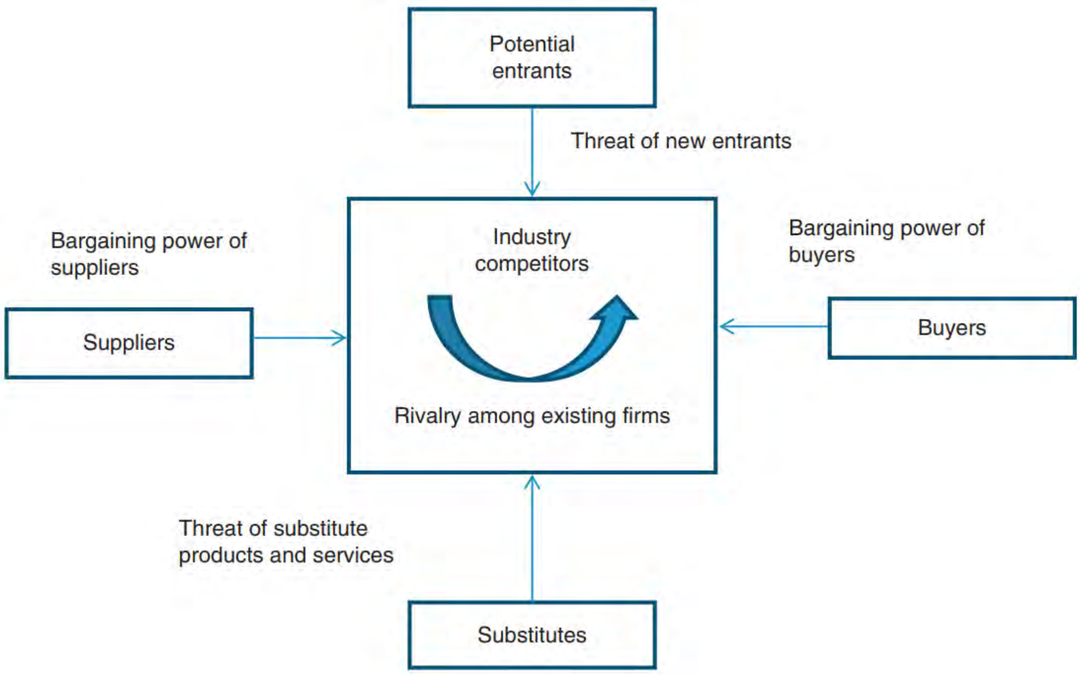

Figure 3. Porter's Five Forces Framework

Source: Adapted from Porter (1980)

According to Baburaj & Narayanan (2016), the Five Forces Framework has led to some implications for decision-making and strategies. Firstly, it enables an entrant to make better decisions on entering an industry. Secondly, it provides the incumbent firms better understanding of the rivalry within the industry in question. Furthermore, such an understanding allows the incumbent ones to build strategies to alter the bargaining power to their favor. Finally, an industry analysis allows firms to make timely decisions on whether to exit an industry that has become unprofitable or might become unprofitable in the future. Given the mentioned implications, applying the Five Forces Framework would be relevant to this study because the authors aim to evaluate the competition and attractiveness of the logistics industry in Vietnam amid the COVID-19 pandemic.

Some criticisms against the Five Forces Framework include: (1) the relative stability in the structural characteristics is assumed in the framework; (2) its suitability to developed countries is better than to the developing ones; and (3) it does not take into account the effects of globalization (Baburaj & Narayanan, 2016).

This study only evaluates the short-term effects of the pandemic on the logistics industry in Vietnam, so the use of the Five Forces Framework is still relevant despite the shortcomings.

In this paper, the authors do not intend to discuss the "pressure from substitute products" factor, because we view the logistics industry as a whole, and the threat from substitutes in the logistics industry is low.

2.3. SWOT Analysis

"SWOT Analysis is a strategic planning framework used in the evaluation of an organization, a plan, a project or a business activity" (Gurel & Tat, 2017). SWOT Analysis is composed of two dimensions: Internal Factors and External Factors. The Internal Factors include Strengths and Weaknesses, while the External ones include Opportunities and Threats. Figure 4 shows the elements of SWOT Analysis.

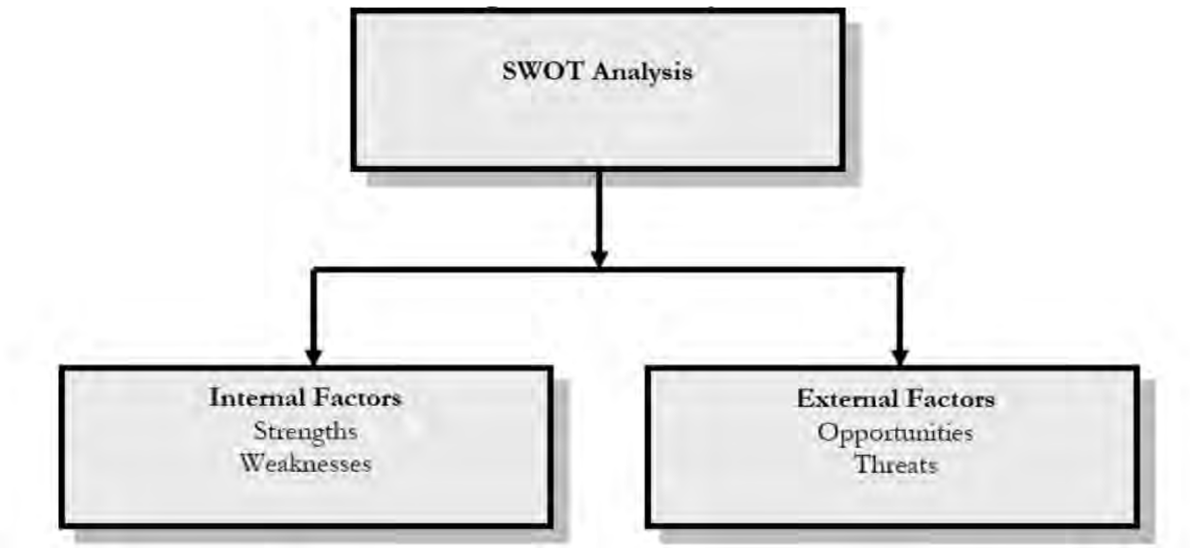

Figure 4. SWOT Analysis

In the scope of this study, the authors would love to analyze the Strengths and Weaknesses of the logistics industry operation in Vietnam as internal factors, and the Opportunities and Threats from the global situation as external factors. Applying SWOT has some advantages and disadvantages. In terms of advantages, SWOT Analysis can (1) provide general perspectives, (2) interactionally provide macro evaluations, and (3) prepare substructures for strategic decisions (Gurel & Tat, 2017). The disadvantages of SWOT Analysis include: (1) the analysis might not give specific details, (2) the analysis might not be suitable for the changing and dynamic environment, and (3) the analysis can be biased.

The authors would love to combine three different frameworks in this study because no single tool is perfect. Thus, combining the tools can provide a better strategic picture of the logistics industry in Vietnam amid the COVID-19 pandemic.

3. Research method

This research is a secondary one that is based on readily available data. The data gathered from the online articles and reports is put into the frameworks discussed in Literature Review and then combined, compared, and analyzed. The authors then rely on the results of the analyses to make a conclusion.

The advantage of secondary research is that it is cost-saving and little time-consuming. However, not every information needed is available. Furthermore, the credibility of the source of data is also a concern. The authors, therefore, try to access the most reliable and reputable sources that we can reach.

4. Results and discussion

4.1. Results

4.1.1. PESTEL Analysis

Political Factor

Because of the COVID-19 pandemic, the Vietnam government has run the policies of social distancing and closing borders, leading to the decline in productivity, and the changing operational models for the distribution systems and logistics supply chain (Vu, et al., 2021).

In May 2021, Vietnam held the 15th National Assembly amid a new COVID-19 outbreak (Reuters, 2021). Although a new parliament was elected, it is expected that there will be little change in the political environment of Vietnam.

Economic Factor

According to the forecast of the International Monetary Fund (IMF), lower domestic and international demand would slow the economic growth down from 7% to 2.7% in 2020 but the impact would be one of the mildest in the ASEAN region (Whitehead, 2020). The International Finance Corporation also recognized the effects of the pandemic on Vietnam's economy in the first quarter of 2020: slower GDP growth (3.8%), large numbers of bankruptcies, increased unemployment, and disrupted education (Whitehead, 2020).

In the "East Asia and the Pacific in the time of COVID-19" report by the World Bank, Vietnam's economy remains resilient although it has suffered from declining manufacturing and tourism (Samuel, 2020). The report further states that while the pandemic affects Vietnam's economy short-term, in the long run, Vietnam economy can overcome the external risks by diversifying trade flows and improving competitiveness.

Social Factor

Education and training have been disrupted in Vietnam because of the pandemic. For safety, a lot of schools and education centers have been requested to close and switch to online teaching by the government. The education and training providers, therefore, have to adjust their curriculum, training plan, and administrative approaches. This in short term has had a significant impact on the quality of the education and training programs (Vu, et al., 2021).

According to the report by Vu, et al. (2021), social distancing has led to millions of job losses, as well as the need for new skills to adapt to the new situation. The education and training providers also struggle to adopt new forms of training and cooperate with enterprises, leading to limited training of new skills and competencies for students to meet the demand of the labor market (Vu, et al., 2021).

Technological Factor

In the context of Industrial Revolution 4.0, the global supply chains that include ones in Vietnam have witnessed the continuous digitalization and disruptive innovations such as the Internet of Things, cloud computing, additive manufacturing, etc. Such innovations have undoubtedly been changing manufacturing, logistics, and other processes of supply chains.

Currently, in the time of the COVID-19 pandemic, because of practical requirements, many projects developing digital platforms for logistics services in Vietnam are speeding up (Nguyen, 2020). The pandemic, therefore, has become a force pushing the digitalization of the logistics segment in Vietnam.

Environmental Factor

Climate change and environmental pollution have pressured the logistics service providers to give out green logistics solutions such as green transportation or green packaging, etc. In Vietnam in the time of COVID-19, because of the lockdown, air quality has been improved, and the economic gains from better air quality are roughly $0.6 billion US dollars (Dang & Trinh, 2020). However, this positive impact is only short-term, in long term, there is still the pressure to push green logistics solutions into the market.

Legal Factor

To support businesses to deal with the impacts and uncertainties caused by COVID-19, the Vietnam government has offered a tax relief and support packages. As of 30th, September 2020, "Businesses with total revenue in 2020 not exceeding VND200 billion (around USD8.5m) shall be entitled to a 30% reduction of CIT payable in 2020" (KPMG, 2020). The government also has plans to grant tax and fee exemption, reduction, to suspend periodical tax and customs inspection during 2020 on enterprises that have no sign of non-compliance, and to propose a support package of VND30,000 billion (around USD1.3 billion) (Nguyen, 2020).

4.1.2. Porter's Five Forces Model Framework

The threat from potential entrants

Vietnam has recently signed the Vietnam-EU Free Trade Agreement (EVFTA), committing to open the market for air transport, road, railway, sea freight, inland waterway transport, and a number of services to support all modes of transport. The EVFTA will protect and open up opportunities for European logistics players to enter the potential Vietnam market, leaving great pressure for domestic logistics services (Nguyen, 2020).

In recent years, the logistics industry in Vietnam has witnessed the emergence of e-commerce logistics. "The high growth of the e-commerce industry offers more opportunities for logistics companies to tap into the market's potential" (Le, 2019). With the social distancing, the demand for e-commerce logistics grows even more rapidly, boosting the firms to grow and enter the market. The emerging e-commerce logistics however is not a remarkable threat to the existing traditional logistics firms because it serves different demand and customer segments from the traditional ones.

The bargaining power of suppliers

The main suppliers for logistics companies are the automobile providing ones that offer from lightweight vehicles, forklifts to trucks and cranes. In the context of Industrial Revolution 4.0, the suppliers for logistics services could also be the ones providing them with logistics information systems, logistics operation scheme, logistics technology, and logistics operation site.

During the time of the COVID-19 pandemic, the automobile enterprises witness a drop in the number of vehicles sold (Vietnamplus, 2021), but a rise in earnings (Vietnamnews, 2021). This information implies that the number of enterprises entering and leaving this industry because of the pandemic should be small. As a result, there is little change in the bargaining power of automobile suppliers.

The pandemic has given a push to digital transformation in the logistics segment (Nguyen, 2020). As a result, in short term, the bargaining power of the tech companies is expected to increase. However, in the long run, more companies will enter this segment and the bargaining power of the technology providers will decrease.

The bargaining power of buyers

It remains unclear to the authors whether the COVID-19 pandemic increases or decreases the bargaining power of buyers in the logistics segment in Vietnam. Because of the COVID-19 pandemic, many businesses have been forced to either close or reduce their scope of productivity, leading to a drop in demand for logistics (Nguyen, 2020). This should indicate that the bargaining power of the remaining buyers on the market will increase. Nonetheless, the number of logistics service providers also drops: a number of small and medium-sized logistics enterprises have to either accept the solutions of dissolution or temporarily suspend their operations to wait for recovery opportunities in the future; and most of the enterprises that can cope well with the pandemic have chosen to operate moderately (Nguyen, 2020).

The intensity of competitive rivalry

The pandemic has forced many logistics businesses to either suspend or close, however, the demand in the market also falls. There is a lack of evidence on which trend is stronger between the two mentioned ones, as a result, the impact of COVID-19 on the intensity of competitive rivalry in the logistics industry in Vietnam is unclear.

4.1.3. The SWOT Analysis

In this paper, the authors aim to evaluate the impacts of the COVID-19 pandemic on the logistics industry in Vietnam. Therefore, we only take the information related to the Vietnam logistics sector amid the COVID-19 pandemic into consideration. The SWOT Analysis is as follow:

Table 1. The SWOT Analysis of Vietnam logistics industry amid the COVID-19 pandemic

Strengths: The logistics sector in Vietnam is considered to be resilient during uncertainties: regardless of the pressure of the pandemic, the logistics sector still sees the potential for growth, attracting many foreign investors (Dang, 2021).	Weaknesses: The quality of labor for logistics in Vietnam is still low (VLR, 2018), and the pandemic has worsened the training conditions in Vietnam (Vu, et al., 2021). The logistics services in Vietnam are fragmented and with high costs (VLR, 2018), and the pressure of the pandemic has forced many enterprises to close or suspend business, raising the cost (Nguyen, 2020).
Opportunities: The demand for e-commerce logistics is on the rise because of social distancing. The social distancing also pressures the logistics service providers to speed up the digital transformation. The newly signed EVFTA gives opportunities to develop business scales and delivery quality (Nguyen, 2020).	Challenges: The newly signed EVFTA creates a pressure on competitiveness (Nguyen, 2020). The pandemic has caused damages to the economy and the logistics service providers have to overcome the difficulties caused by those damages.

4.2. Discussion

The COVID-19 pandemic has impacted the macro-environment for running logistics businesses in Vietnam in many different ways. The Vietnam economy however is still a promising land for the logistics segment overall, with a huge pressure for the businesses to innovate to cope with the novel uncertain situation.

In general, the competitiveness of the Vietnamese logistics industry has risen recently because of the newly-signed EVFTA. However, it is still unclear whether the pandemic has increased the rivalry within the industry because of the lack of evidence that helps evaluating the weight of the trends.

While the resilience of the logistics industry in Vietnam is considered to be high, the pandemic has worsened the weaknesses of the industry. In the time of the pandemic, a lot of changes in the opportunities and challenges for the Vietnam logistics segment have also happened.

5. Conclusion

A synthesis of key points and practical and managerial implications are crucial elements of conclusion section.

The paper has provided an analysis of the impacts of the COVID-19 pandemic on the macro-environment, industrial environment, and the internal/external factors of the logistics industry in Vietnam. Overall, the pandemic has negatively impacted the Vietnam logistics industry, but the prospect of the industry as a whole is still positive for the logistics service providers. The pandemic has also pressured the industry to innovate to cope with the situation, changing the market in the long term, even after the pandemic ends.

There are some limitations to this paper. First of all, the data used in this paper is not the newest update. Vietnam is now facing the fourth wave of the pandemic with the novel delta variant and the situation has changed compared to last year or earlier this year. Secondly, because this is secondary research, the direct data is limited and the authors have to infer from the existing data, leading to the possible inaccuracy. Finally, the information gained from the analyses are general, because there is not yet any specific research to weigh the influence of the trends. This, however, leaves questions for further researches.

Through this paper, the authors would love to suggest the logistics service providers in Vietnam invest more into innovation and work with education as well as training centers to enhance the skills of the logistics workforce. By doing that, the enterprises can enhance their competitive advantages to overcome the difficulties and challenges that emerged during the time of the pandemic. The Vietnamese logistics enterprises can also overcome threats from the entrant of new players after the EVFTA is signed by improving the cooperation and reducing the fragmentation in the industry.

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SOLUTIONS FOR DIGITAL TRANSFORMATION IN HIGHER EDUCATION

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ABSTRACT

Digital transformation now became as urgent requirement during this academic season due to the expanding pandemic of COVID-19 with dangerous delta variant and others. Almost Vietnamese universities have to move from off-line lectures to online ones. This faced both students and lectures with unexpected challenges. However, at the moment, almost universities only concentrate on a movement from traditional teaching and learning to online ones using information technology (IT) supports (MS teams, zoom, etc.). The digital transformation in higher education is not only changing to online teaching and learning. This transformation includes many factors such as universities' management, universities' infrastructure, workforce, cultures, or student evaluations, training, etc. This paper shows the current context of educational digital transformation in the higher education in Vietnam (universities) in order to propose some solutions of movement from current state to reliable digital transformation.

Keywords: Digital Transformation; University; Education; Information Technology (IT).

1. Introduction

Digital transformation is an inevitable trend, happening very quickly, especially in the context of the current Industry 4.0 revolution. In the world, many countries have been implementing national strategies on digital transformation such as in the UK, Australia, Denmark, Estonia... Many digital transformation contents are very broad and diverse and concentrate to alternative areas such as digital government (e.g. online public services), digital economy (eg. digital finance, or e-commerce), digital society (e.g. e-education, e-health care, e-culture), etc.

Starting in June 2020, the Vietnamese Prime Minister has approved the National Digital Transformation Program to 2025 with orientation to 2030, in which, education and training can be seen as one of the most priority areas to deploy the digital transformation. The main requirements are to develop a support platform for distance learning and teaching as well as applying digital technology in management, teaching and learning. The digital transformation also includes digitizing documents and textbooks, building a platform to share teaching and learning resources in both face-to-face and online forms in order to develop technology for education towards personalized training.

The Covid-19 pandemic has put much pressure on education activities. However, in the mean time, it also created a driving force for stronger digital transformation. It creates opportunities and motivation for universities' lecturers and students to adapt and apply alternative online teaching methods. The beginning results of online teaching during the academic year 2020 -2021 are evaluated well. However, the education and training sector still needs to reorganize digital transformation activities in a more professional way to improve efficiency.

The research focuses on analyzing some basic contents of digital transformation in education and training in higher education specially in the universities. The current situation as well as results achieved and exists, difficulties also are shown in the research. From these. paper proposes some recommendations and future-oriented solutions.

2. Theorical basic and literature review

Nowadays, the term of digital transformation has become popular and it can be seen as a priority task which can be done in higher education organizations like university. This transformation needs a natural process for universities that claim to be high changes as well as be highly competitive in the universities' domain. There are some definitions of digital transformation in the side of business. For example, according to Hess et al (2016), digital transformation is concerned with the changes digital technologies which can bring a company's business model. This model result in changed products or organizational structures or in the automation of processes.

Gobble (2018) defined that digital transformation can be seen as the deeply transformation of business activities, processes, competencies in the organizations. Its models are for the maximum transformation of the changes and opportunities of technologies. Its models quickly impact on society in a strategic and prioritized way. There is also another definition shown that digital transformation can be seen as a series of deep and coordinated culture, workforce, and technology shifts. This transformation enables new educational and operating models as well as transform the university's operations, strategic directions, and value proposition. Note that the digital transformation is different to digitization (of analog information) and digitalization. The development of transformation in an organization can be seen in Figure 1.

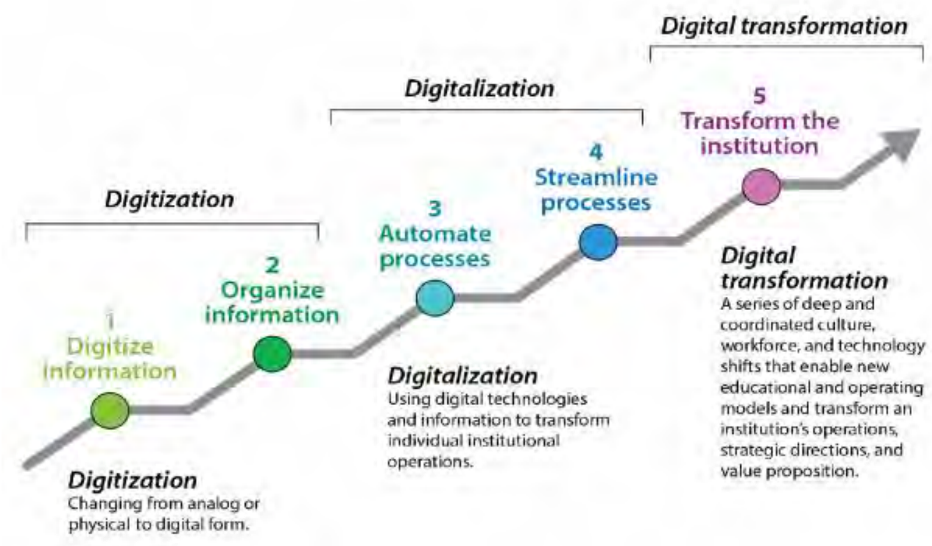

Figure 1: Digital transformation in context (Brook and McCormack, 2020).

According to Brook & MacCormack (2020), digital transformation is highest level (level 5 in Figure 1) of changes in where the transformation is performed in whole university. The new models of education and training can be applied to create the innovation in the universities.

There are many publications related to digital transformation in higher education. For example, according to Sandkuhl et al (2017), the digital transformation is described as the emergence of the fourth industrial revolution with three essential factors. First, the speed, it means that many new technologies are applied and connected to each other in alternative sectors in the educational institutions. They are very flexible moved quickly at an exponential speed and triggering each other. Secondly, the width and depth, the digitization is brought many the changes in higher education sectors as it makes the increase in technology diversity. Lastly, the system impact, it is expected to undergo a total change not only inside the institution but also in industries, and even countries.

The author in (McKinsey, 2016) breaks digital transformation into three attributes: creating value, optimizing the processes that execute a vision of customer experiences, and building foundational capabilities that support the entire structure. The publication in Schwertner (2017), and Solis (2016) shown the reasons why organizations undergo digital transformation. According to them the main reasons are related to the issues of competitive advantage and survival. Therefore, digital transformation of an organization (such as higher education) represents an objective process capable at responding to disruption in critical functions and changing organizations environments.

Although many publications have been focused on digital transformation in general particular to higher education. However, educational institutions in each country have their own plan for digital transformation as the diversity of national characteristics. Therefore, this research is carried out based on document analysis method such as trend of digital transformation in education, development and application of electronic teaching technology etc. The statistical method is also used with universities data such as number of Vietnamese universities, universities' students and lectures, etc. in order to provide the current picture of Vietnamese education in the trend of digital transformation. Based on these methods as well as the framework derived from Bumann &Peter (2019) in which the readiness of learner is most important factor, the research proposes some solutions for Vietnamese university educations.

3. Overview of digital transformation in Higher Education

According to Christopher et al (2020), the radial scheme of the dimensions, which within a higher education, have received the digital transformation or have been forced to intervene in digital transformation in education processes. In these, teaching has been the dimension most influenced by technologies intervention, while the least addressed has been the marketing dimension.

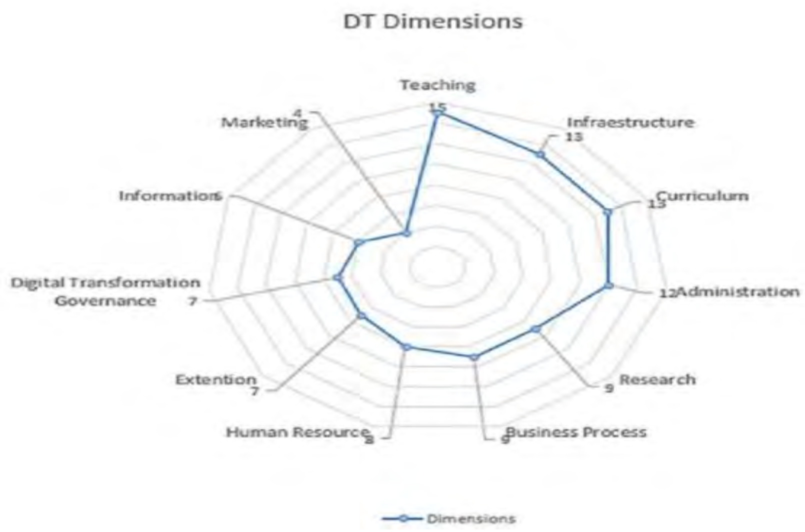

Figure 2: Radar of the dimensions of the digital transformation in higher education (Christopher et al, 2020)

Also in Figure 2, the infrastructure, curriculum and administration have been transformed digitally in the same second level. These show that in higher education, not only the teaching should be transformed to digital model but also many related factors need to be transformed simultaneously.

According to survey of transformation in higher education in Euro, in 2020, a plurality of IT leaders (44%) report that their universities are engaged in digital transformation, with another 27% reporting that they are developing a digital transformation strategy (Brook and McCormack, 2020).

The COVID-19 pandemic can be seen as a digital transformation accelerant. There seems to be little doubt in respondents' minds that the COVID-19 pandemic has been a factor in accelerating their universities' digital transformation journey. According to the survey (Brook and McCormack, 2020), more than three-quarters (79%) of respondents reported that the pandemic has spurred digital transformation at their institution to a "moderate" or "large" extent, while less than 1% of respondents reported that it hadn't sped up digital transformation at their institution at all.

The functional sectors in higher education have lightly changed. For example, to digital transformation in universities, the ranking of functional sectors as Central IT, Enrollment/admissions/recruiting, Student learning, Faculty teaching, Library, etc. There are some priorities for digital transformation have shifted since 2019. Online course design and faculty development rose in importance over the past year as areas of focus and investment for universities.

In the field of education and training, digital transformation will support educational innovation in the direction of reducing lectures, transferring knowledge to developing learners' capacity, increasing self-study ability, and creating learning opportunities anytime, anywhere. The central of transformation here means humanize learning, and contributing to the creation of a learning society and lifelong learning. The explosion of technology platforms IoT (Internet of Things), Big Data, AI (Artificial Intelligence), SMAC (social network - mobile - big data analysis - cloud computing) is forming the digital education infrastructure. Accordingly, many smart education models are being developed on the basis of IT (Information Technology) applications. These education models can effectively support personalization of learning. For example, each person can learn a separate curriculum and learning method unlike others and this is done automatically by IT systems. Moreover, the systems can help students and lecturers access to the huge knowledge store on the network fast and easily. They also help the interaction between families, schools, lecturers, students almost instantaneously.

4. Context of digital transformation of teaching and training in higher education in Vietnam

In 2020, Vietnam's education and training sector achieved about 4.03% of Vietnamese GDP in total (about 252.32 trillion VND over 6,293 trillion VND) (Vietnam innovation & tech investment report, 2020). For employment salary in education sector in Vietnam, in 2019, the monthly gross salary is about six million VND on the average for a new lecturer (new entry jobs), and about eight million VND for the experienced staffs, about 13 million VND for leaders and supervisors, as well as 20 million VND for the high manager positions.

There is increased number of new established businesses in education services recently. It generates many jobs positions in education field. The strategy of Vietnam's socio-economic development from 2011-2020 might include many efforts to modernize the education system. It contains advancing human capital development, increasing enrollments, and adapting the education system in order to be adapt to the requirements of the Vietnamese market-based economy. Vietnamese government does not only want to improve national education but also goes towards facilitating internationalization. The number of universities in Vietnam from 2016 to 2019 can be seen in Figure 3.

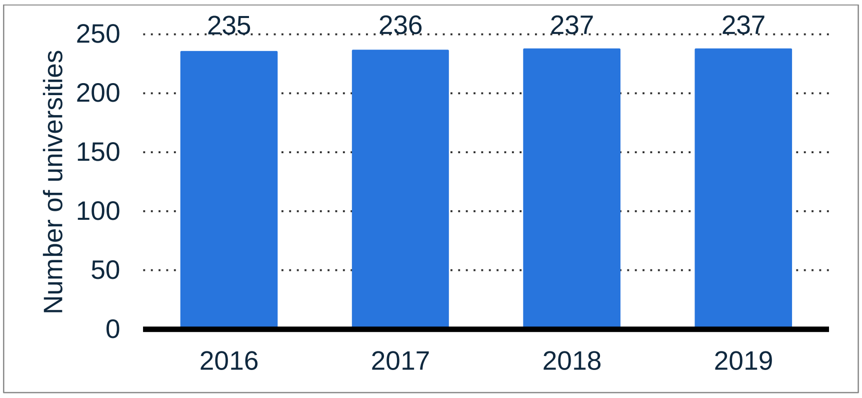

Figure 3: Number of Vietnamese universities (Statista, 2021)

In 2019, there were approximately 237 universities located in Vietnam, indicating no change from the previous year. In that year, there were 172 public universities and 65 private universities in the country. The number of university students in Vietnam from 2016 to 2019 is over 1.5 millions which can be seen in Figure 4. This Figure shows there is no change in student rate over these years.

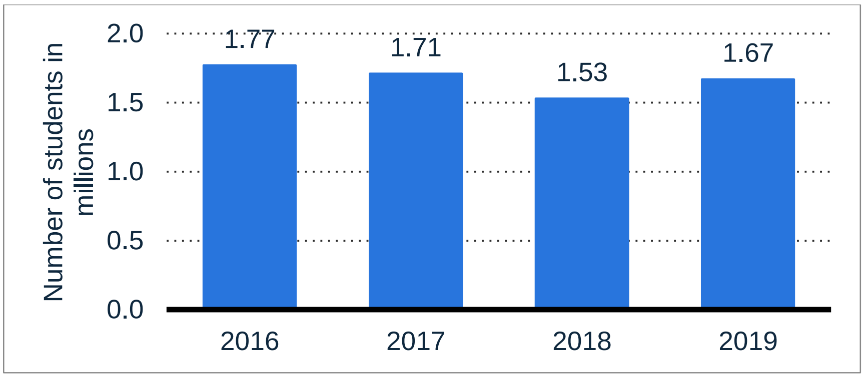

Figure 4: Number of Vietnamese universities students (Statista, 2021)

In 2019, there were approximately 1.67 million university students in Vietnam. In that year, the number of universities reached 237 in the country.

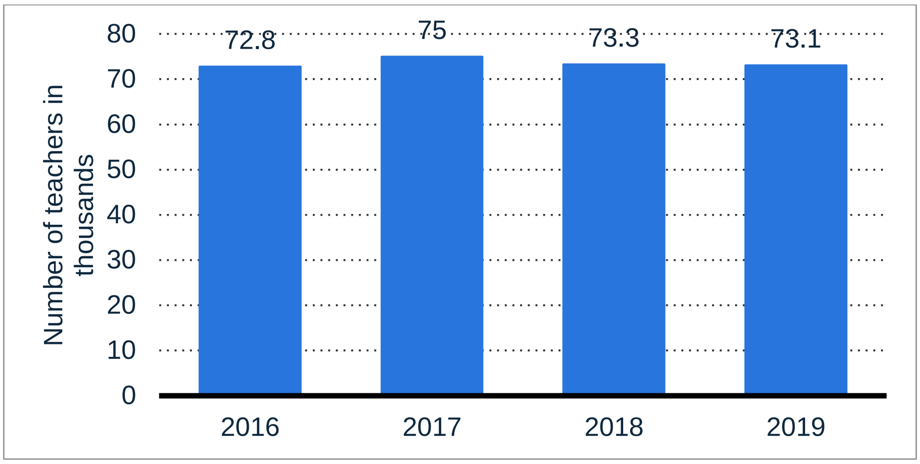

Figure 5: Number of Vietnamese universities lecturers (Statista, 2021)

In 2019, there were approximately 73.1 thousand university teachers in Vietnam. In that year, the number of university students in the country reached 1.67 million. Value of capital invested in startups in the education sector in Vietnam from 2013 to 2020 (in million U.S. dollars- Statista, 2021). In 2020, startups within the digital education segment in Vietnam received a total of eight million U.S. dollars in capital investment. From 2013 to 2020, around 109 million U.S. dollars was invested in digital education startups in the country. (Vietnam innovation & tech investment report 2020, page 11)

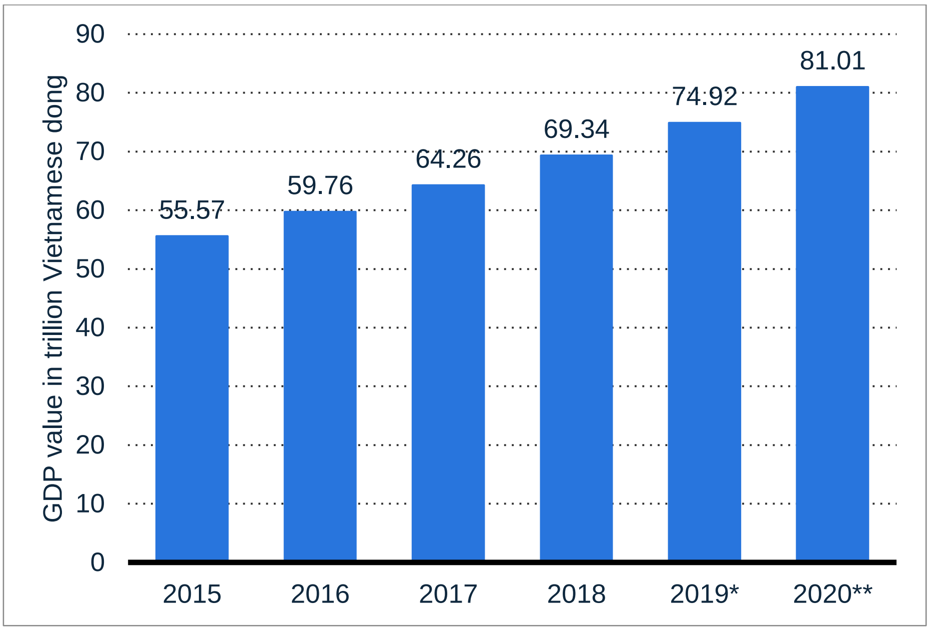

Figure 6: GDP value invested to Vietnamese Education (Statista, 2021)

In 2019, the expenditure for local Vietnamese universities is approximately 216.5 trillion VND while the expenditure for public universities is about 28.34 trillion VND. In that year, the GDP contribution of education and training sector is at 3.82%, and GDP value contributes about 230.7 trillion VND. Also in that year, there are about 4.13 thousand newly established businesses in the field of educational services.

Education and its societal effects in Vietnam increase synchronously with the rapid economic progress in Vietnam. The government has invested much in nurturing human capital. However, the education system still has been a subject to some criticism because of the high pressure. According to a survey among young citizens in Vietnam, 69.3 percent of respondents stated that their current education and skills level will need to be constantly updated. In Vietnam, together with high expectations from Vietnamese parents, this might lead to social issues such as depression, anxiety among students. For example, online learning problems faced by student during the COVID-19 pandemic in Vietnam as of April 2020 (see in Figure 7)

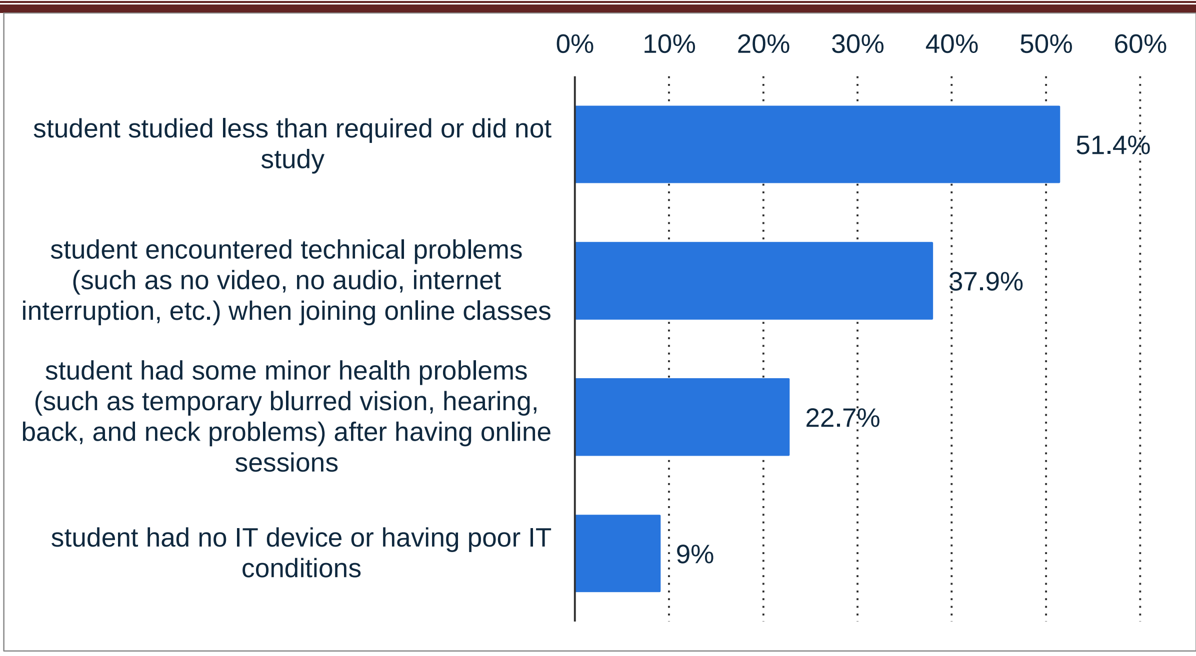

Figure 7: Online learning problems faced by student during the COVID-19 pandemic in Vietnam in 2020 (Statista, 2021)

According to a survey in April 2020, a half of students' parents of the respondents believed that their children studied less than requirements from universities or sometimes, they did not study as much as normal studying when they have to study online learning during the COVID-19 pandemic. The reasons might be the technical problems. The survey has stated that reason in 38% of the surveyed parents. With the expansion of COVID 19 with delta variant, these issues also increase rapidly and seriously.

The process of digital transformation in higher education in Vietnam is happening along with the trend of digital transformation in the economy. At the macro level, digital transformation in education and training in general and higher education in particular is confirmed as one of the eight priority areas for digital transformation (Huy Lân, 2021). The Ministry of Education and Training has also issued a number of regulations as a basis for promoting digital transformation such as: regulations on information technology application in management, operation, and teaching, organize online training, form regulations on distance training at university and postgraduate levels. Stating from 2018, the information of 393 universities and colleges with 2.5 million students and 120,000 lecturers was also updated on the industry database system...Today, many universities have mastered active in digital transformation. For example, Ho Chi Minh City University of Technology and Education, has established a Virtual Teaching Center (UTEx), organizes online courses, builds a large data center, etc. Therefore, in there, 100% of the university's classes can be taught online. Another university, which has big change of digital transformation can be seen as University of Economics Ho Chi Minh City (UEH). It has been implementing the digitization process since 2009 when it first implemented the credit training system. In 2016, the e-learning system was put into operation according to the teaching model in combination with the whole school. Therefore, today, 100% of classes have deployed auxiliary online tools.

Although many universities have some certain achievements in digital transformation, but Vietnamese universities reach the digital levels at somehow of 1 (transform information from analog to digital form) or highest of 3 (automate process) in Figure 1. Therefore, universities need to transform themselves even more and more strongly to achieve the highest level of digital transformation (level 5) as the true of digital transformation.

5. Suggested solutions for university educations

Digital transformation in higher education is not simply a process of changing the way of teaching and learning, or the transition from face-to-face teaching and learning to online teaching and learning. Digital transformation in higher education is essentially bringing all training activities to a digital environment, which is a change in the way training activities operate on four key contents: teaching activities, learning activities. practice, research activities, and management of teaching, learning and research processes in whole universities.

In order to transform to digital transformation, universities should concentrate to their capability in step by step promoting digital transformation such as: regulations on information technology application in management, operation, and teaching; organize online training, form regulations on distance training at university and postgraduate levels.

The recent Covid-19 pandemic brought pressure to educational activities, but it created a driving force for stronger digital transformation as well as created opportunities and motivation for teachers and students to adapt and apply online teaching methods. According to the education conference held in 2021 (Huy Lân, 2021), the results of online teaching during the Covid-19 epidemic are evaluated well. However, the education and training industry still needs to reorganize digital transformation activities in a more methodical way to improve efficiency. There are some suggested solutions which might be the essential ones for each university going the right way in digital transformation direction.

Technology Shifts

Technology Shift here means moving toward the centralization of sourcing and technology infrastructure. These are putted inside or outside the university. They can be seen as the key priorities effect to universities' outcomes. The applications, which are emerged technologies, are applied to education, research in the university to be viewed as potential university's differentiators. These applications can support for the universities in the development, selection, and deployment of new technologies.

For this solution, information technology (IT) is an important factor in universities innovation. The first shift is changing of IT leaders' minds. The IT leaders must follow innovative practices. They will create digital environments in the university so that this environment can provide the ready and flexible change for the teaching and training. At the same time, they must also manage a complex and changing of technology in a way that enables the university and all academic activities can adapt to the rapidly and efficiently strategic aims. The university digital transformation initiatives can succeed only via the strategic application going with a changing set of technologies.

Culture Shifts

The digital transformation requires a new approach to how university leaders interact with each other. This is an approach to focus on progress toward university goals. The university broad emphasis on change management, and an increase in university agility and flexibility to meet rapidly changing needs. To transform to the digital one in culture side, the university should clear the evidence as follows:

- Whether the innovation is strategic, and driven by university ambitions?
- The university leaders are willing to adopt new strategic directions?
- The university relies on data and analytics to inform and adjust university's courses
- The university shift from risk aversion to risk management
- Information Technology investments and initiatives fully align with university priorities.
- University culture of trust and it is supported by accountability and data
- University has investments and technology implementations specific to digital transformation projects.
- Increased use of data and analytics to inform and guide the digital transformation process

Workforce Shifts

The universities changes related to digital transformation not only are having a strong impact on the workday of universities' lecturers but also they are creating a need for new skills and competencies across the university community. All these changes will be creating many opportunities as well as demanding a reinvention of human resource management inside the universities.

- Some signals of the shifts in workforce in the universities as follows:
- Many new jobs and roles in the universities are created.

- The IT staffs in the universities have deep knowledge related the new trend (so-called new business)
- Increase the changes and scope of using IT in alternative of works. This has liaison roles to align with expanding role of data and digital technologies in learning, teaching and research, administration in the universities.
- Ongoing focus on new and shifting professional competencies that require continuous role innovation
- Increasing importance of skills such as teamwork, collaboration, and communication using the advantage of IT.
- Universities have agility and flexibility in restructuring the workforce in order to adapt to agility and flexibility in restructuring the workforce to adapt the rapid and ongoing changes
- Universities increase emphasis on work/life balance. They have flexible schedules and work locations, and new benefits to increase hiring and retention success.
- Etc.

However, the process of digital transformation of higher education currently has many limitations and lack of synchronization whether the digitalization of universities' subjects is still individual, spontaneous, not systematic. Moreover, it seems difficult to check the quality and lacking in quality as well as lack of sharing cohesion between other faculties in the university. Although the Ministry of Education and Training has issued guiding documents, it has not been synchronized. For example, only online teaching and learning has been recognized, but there is not yet many recognized reality online exam results in many universities. Almost universities perform examination as the temporary solutions. Besides, investment resources, both human resources in information technology and facilities and equipment, especially in some private universities, are also limited...

In order to promote digital transformation in higher education, it is necessary to focus on the following solutions in the near future as:

Firstly, it is necessary to continue to raise awareness of the inevitable trend and content of the digital transformation process in higher education, not only for teachers and learners, but also more importantly for the heads of management in the universities. The main point of views is that the resistance to digital transformation of an organization is mainly in the head, not in the employees, because the employees and customers of that organization always benefit from digital transformation.

Secondly, perfecting mechanisms and policies to create a legal corridor for digital transformation such as regulations on recognition of results of online learning and exams, regulations on copyright and intellectual property in digital materials, on the meaning of digital transformation as well as the duties and responsibilities of online teachers and learners.

Thirdly, invest in IT infrastructure and synchronous facilities for teaching, learning and research activities as well as for training management activities. It is necessary to have a program and plan to train IT resources one step ahead and at the same time upgrade universal IT skills for teachers and learners to ensure the requirements of working in the digital environment. More over, the universities should invest in IT infrastructure and synchronous facilities for teaching, learning and research activities as well as for training management activities

Last but not least, the roadmap for digital transformation of higher education is not necessarily sequential from digitizing information to building a complete database then digitizing the process and digital transformation. In order to promote and shorten the digital transformation process, digital transformation should be carried out smoothly and synchronously, together with the digitization of data and the digitization of operational and management processes. This concurrency together with the use of the latest digital technologies will make the digital transformation of higher education faster and more efficient.

6. Conclusion

In summary, digital transformation in higher education and training focuses on two main issues: digital transformation in educational management and digital transformation in teaching and training including testing, assessment, etc. The management here includes digitizing management information, creating internal connected database systems. It also including a deploying online public services using the advantage of new technologies in order to manage and support decision making quickly and accurately. In teaching and training, the universities transform all universities' activities and their materials to digital environment. For example, they are e-textbooks, electronic lectures, e-learning lecture warehouses, digital libraries, virtual laboratories to deploy online training system and building virtual universities.

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DISCOVER ORGANIZATIONAL CULTURAL VALUES THAT SUPPORT SUCCESSFUL DIGITAL TRANSFORMATION IN VIETNAMESE BUSINESSES

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ABSTRACT

Digital transformation is the process of changing from a traditional model to a digital business, by using data and digital technology to change the operating procedure, leadership, working processes and organizational culture. There are many factors that affect the success of digital transformation, of which a suitable organizational culture is considered a comprehensive and profound impact factor. The objective of this study is to explore the organizational cultural values that support successful digital transformation in Vietnamese enterprises. This study uses Delphi method to take advantage of the method in finding agreement opinion of experts on an issue. The interview process was conducted in 3 independent rounds, with the participation of 29 experts in the fields of research on organizational culture, consulting and training on digital transformation and digital transformation practice. From 165 initial suggestions, experts through Delphi method have reached a high consensus in synthesizing into 15 typical cultural values, which are considered as target cultural values that need to be built to support for the success of the argument passing. The research results both supplement the scientific bases and methods for the study of digital culture in the organization, and are also effective in helping businesses to orient the process of building organizational culture in the context of the current Industry 4.0 situation.

Keywords: Digital transformation, culture, organizational culture, cultural values, Delphi method, experts.

1. Introduction

In the context of the industrial revolution 4.0, digital technology appeared and developed extremely strongly, which led to a fundamental change in the business environment, competitive dynamics and especially a change in customer's requirement. In the era of digital technology and the Internet, the diversity and rapid change in customer needs is increasing, the personalization in demand as well as the requirement for quick response is increasingly obvious… Besides, information Comparative information and the ability to choose products and services are also getting richer. If the business does not meet the demand, the customer's departure is obvious. It is this that pushes businesses to carry out digital transformation to bring a better experience to customers and create conditions that are different from competitors. Digital transformation in the current context is a mandatory and inevitable choice for businesses.

Digital transformation is a comprehensive change process, from the digitization of products to the production process, the integration of digital technology into all areas of the business and more importantly, the transformation and digitize the entire enterprise business model as well as existing organizational conditions such as structure, processes and culture (Fitzgerald et al., 2014). Organizational culture is a valuable strategic resource that supports any transformation in an organization (Piccinini et al., 2015), and organizational culture can also be a deterrent to change (Tai Nguyen, 2019) if cultural values are not appropriate. In both theoretical and practical aspect, cultural change is considered as essential for successful business transformation, especially in response to disruptive transformations caused by new technologies (Philip and McKeown, 2004).

In recent years, number of studies that focus on examining the impact from organizational culture on business transformation and digital transformation has been risen dramatically, in which the important role of organizational culture in business transformation has been strongly affirmed (Porter and Heppelmann, 2014). However, the impact from universal cultural values and individual cultural values on the necessary digital transformation process in corporate culture have not been widely discovered. In Vietnam, the term digital transformation has only been highlighted in recent years, and studies on the impact of culture on digital transformation have not been extensively conducted. Since organizational culture is strongly influenced by national culture (Hofstede), thus, previous findings from studies that conducted in European countries might not be completely consistent when have been considered under Asian business environment. The question of "What organizational culture values are important for a successful digital transformation business?" is a gap that has not been answered satisfactorily and is also the reason we conducted this study. Thus, Our study results in an exploratory attempt to specify an organizational culture supportive of digital transformation. With the identification of target cultural values ideal for cultural change initiatives, we close a gap in research and lay the foundation for future research on the role of culture in digital transformation.

The purpose of the study is to explore the cultural values that support the digital transformation process of Vietnamese enterprises. This is also the set of target cultural values that digital transformation businesses need to focus on and can be seen as a content of digital transformation in businesses. we use the Delphi method to summarize the opinions of experts who have specialized knowledge, practical experience and deep understanding on the transformation process. The research results also develop the foundation for further studies in the field of organizational culture and digital transformation in Vietnam.

2. Literature review

2.1. The concept of organizational culture

Organizational culture is a multidimensional concept and can be approached from many different angles. Each individual and each organization has a different understanding of the concept of organizational culture, because each individual's social perception is made up of different backgrounds of knowledge, understanding and experience. In short, organizational culture is *the totality of values built up during the development and operation process of an organization, which becoming deeply ingrained values, concepts, and traditional activities of the organization, influencing the feelings, ways of thinking and behavior of all members of the organization to pursuit and aim to the common goals, and creating the unique identity of each organization.*

Organizational culture is structured by many different components, in which many researchers have proposed different models according to their own approach and perspective. According to Edgar H. Schein (2020), organizational culture structure can be divided into three different layers. The term "layer" refers to the perceptible level of cultural values in an organization or the visible of those cultural values. This is a unique approach, arising from the phenomenon to the essence of a culture, helping to fully and deeply understand the components that establish the culture (Edgar, 2020). The organizational culture value structure diagram is illustrated as shown in **Figure 1.**

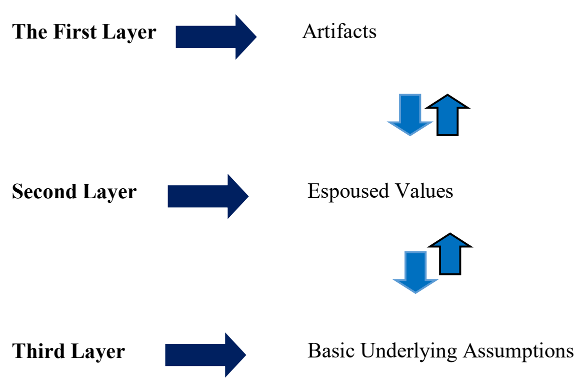

Figure 1: Organizational culture structure

- Artifacts includes all the tangible signs that a person can see, hear and feel when interacting with a business such as architecture, layout, technology, products, rituals and annual festivals, the icons, logos, slogans, brochures, costumes, attitudes and behavior of the employees... The important point of this layer is that it can be seen easily but very difficult to be interpreted. This first layer of values is only an external manifestation of the organizational culture system, which is easy to change and rarely shows the true values in the organization's culture.

- Espoused values are principles, philosophies, strategies and goals that guide the activities of all employees and are often publicly announced by the organization. These are the core values that the organization focuses on, supports, and expects all its members to share, and which the leader needs to build steadily. This cultural value is expressed through the vision, mission and goals of the organization, business philosophy, attitude towards customers, reciprocal relationships, behavior among members of the organization…

-Basic underlying assumptions, which are the deepest value layer of organizational culture, are common ground concepts such as unconscious beliefs, perceptions, thoughts and feelings, and have formed for a long time. These concepts are ingrained in the psychology of most members of that culture and become implicit, popular, recognized and important foundation cultural concept.

The selected and created cultural values act as a mechanism to affirm the organization's goals, guide and shape the mutual behaviors among members of the organization, between individuals and the organization, and between members and leaders. Organizational culture establishes a value system through which members of the organization share, uphold, and behave according to those values. Organizational culture has a great impact on motivating employees, increasing the engagement between employees with each other and with the organization. Organizational culture also has a great impact in attracting and retaining talented people and plays an important role in differentiating one business from another. Major of previous studies have shown that organizational culture is an important resource, helping businesses to improve their competitiveness and develop sustainably. Therefore, identifying, developing and continuously improving cultural values is one of the most important tasks for businesses to improve their human resources in addition to other investment activities.

2.2. Digital transformation concept

Digital transformation is the use of data and technology to change the process of development, the way of living and working, and people's lives in a better way. The digital transformation process of the enterprises can be separated into different stages according to the level, characteristics and scope of the digital application. Digital transformation consists of stages: (i) Digitization - is the creation of digital representations of physical objects; (ii) Digitalization of the organization - is the transformation or creation of business or operational models with data and digital technology, and (iii) Digital Transformation - is the comprehensive transformation of the organization from thinking, models, leadership, procedures and corporate culture.

Thus, digital transformation is the integration of digital technologies into all areas of an enterprise, taking advantage of technologies to fundamentally change the way it operates, business model and provides new value-added services for customers, as well as speeding up business operations. The digital transformation process will include technology transformation, which is considered as a necessary condition for digital transformation; however, investment in technology does not always lead to a successful digital transformation. At the highest level, digital transformation is also about changing business models, perceptions, organizational culture and the whole operational system.

Digital transformation is an enterprise-wide transformation that impacts all aspects of an organization. This can be seen as a comprehensive transformation process, from technology and techniques to business models, organizational culture, and transformation in each member of the enterprise. Digital transformation is characterized by an evolutionary process, which is not a one-time change from one state to another but rather the acceptance of constant change as a new permanent reality. It requires a sustainable approach to ensure that the changes will be accepted and practiced by all of organizational members. Digital transformation is essentially transforming the way an organization operates and its ecosystem so that the organization can recover, improve the competitive advantage and adapt with the constantly and rapidly changes in the market.

2.3. Organizational culture and digital transformation

Digital transformation is a process of comprehensive and profound operational changes throughout an enterprise. To be successful, businesses are required to have a strategy with a clear vision of what the organization is trying to develop. The vision needs to be compelling and must create value for the organization, employees, customers and other stakeholders. The most important thing in the digital transformation strategy is the inspire and spread from the leadership's determination to all members. Digital transformation can only be successful if all members have a clear sense, understanding and shared the common targets. Digital transformation is not only a change in technology, but also a fundamental transformation in organizational culture, of which the most important is the transformation of people's beliefs and attitudes. In that respect, the transformation of organizational culture is both a part of the transformation process and is a crucial element to the success of the transformation. Digital transformation is not only the creation of products, services and customer interactions on digital technology, but also the entire core activities driven by technology. Therefore, it requires a great change in the actions of employees, as well as the individual's behavior towards other stakeholders both internally and externally. However, these comprehensive changes can lead to the problem that the traditional way of working might become conflict with the new way of working, in which technological applications are applied. This necessitates the creation of an appropriate organizational culture that accompanies the implementation of the transformation strategy. Digital culture motivates employees to get results faster, attract and retain better talent. Organizations that ignore the cultural transformation factor might face the risk of transformation failure. In a recent study Erin Casteel stated, “When I ask business leaders what the biggest obstacle to change is in their organizations, the answer is always the same – culture. We are all well aware that the changes are needed to survive and develop in 2021, and beyond that, the changes will not be possible without evolving our organizational culture” (Erin Casteel, 2021). In the report of Capgemini Digital Transformation Institute (2018), through a survey of 340 businesses with 1,700 respondents, the results showed that 67% of respondents said that organizational culture that is slow to change is the biggest obstacle to the success of digital transformation.

Most recent studies have acknowledged the important role of culture, but apart from some general observations, there not much in-depth studies have been conducted to answer specifically about the core cultural values that is critical to the success of this transition.

3. Research method

The Delphi method is an iterative process of collecting and extracting anonymous assessments by experts, using a range of data collection and analysis techniques. This method is based on the expertise of experts and aims to reach consensus on a particular question through a structured process of repeated questionnaires with controlled feedback (Okoli and Pawlowski, 2004). Summarizing the use of the method, most studies agree that it is very important to carefully select experts to answer the questionnaire in two or more rounds (Dalkey and Helmer, 1969). The Delphi method does not allow the selection of expert groups randomly, but the group of experts must be selected based on suspicious consideration of factors such as relevant experience and field of study (Ameyaw, 2016). Studies on this method (Le Thi Ngoc Anh, 2017) also show that experts are considered qualified to join Delphi if they have expertise and experience related to the research problem, are able to provide useful results (Okoli and Pawlowski, 2004).

Regarding the implementation process of the method, the review of studies using this method shows that there is no major difference in the number of rounds of repeating the survey of experts, usually from 1 to 3 rounds. However, there is a big difference in the number of experts participating in the survey, which can range from a few experts to hundreds of them (Le Thi Ngoc Anh, 2017). For example, the study by Hartman and Baldwin (1995) conducted only one round but with 62 experts; while the study of Roberson, Collins, and Oreg (2005) conducted two rounds with 171 experts; Nambisan et al. (1999) conducted three rounds with only six experts… These studies further confirm that Delphi is not a rigid method but can be adapted to each specific research condition and problem. possible (Skulmoski et al., 2007).

Although there are many different Delphi designs, the ranking Delphi style, for the purpose of problem identification and prioritization, is the most common style (Okoli and Pawlowski 2004; Skinner et al. 2015), which in this study was shown as **figure 2.**

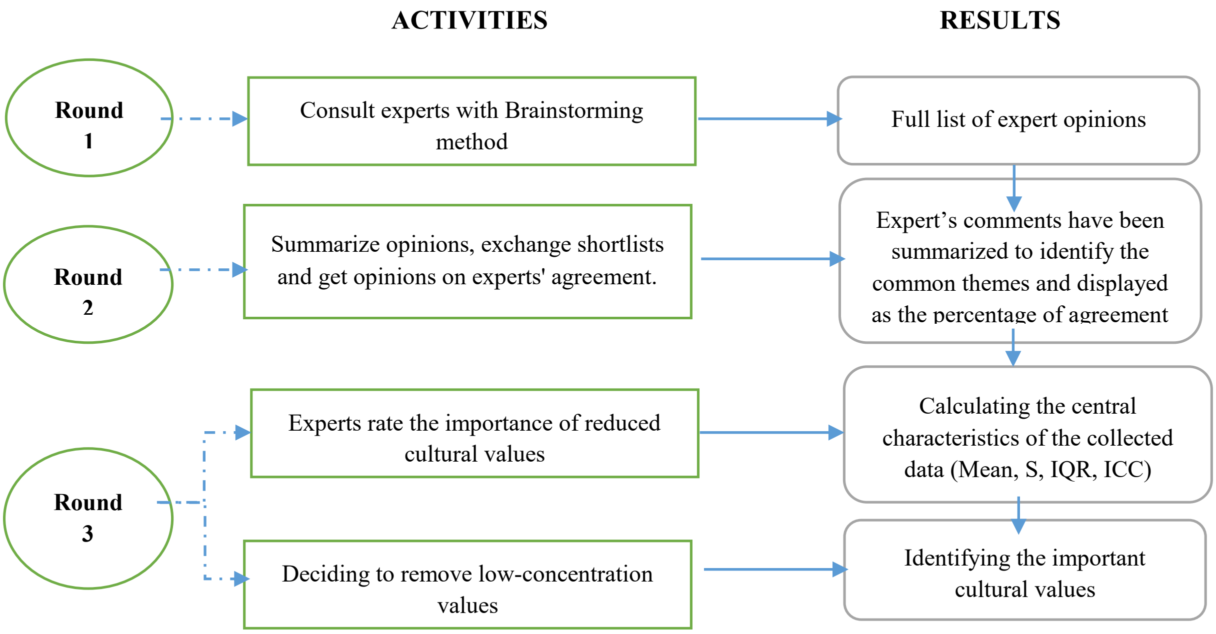

Figure 2: Study design using Delphi Method

Expert selection: in the Delphi method, the research result is the consensus of experts on the research problem. Therefore, the competence of the expert will have a decisive influence on the quality of the entire study. Previous studies that applied Delphi method consistently emphasized that the experts participating in Delphi should be people with education and professional qualifications and it would be better if they have or are holding leadership positions in related fields (Ludwig, 1997; Miller, 2006). To satisfy this requirement, the researchers define the selection requirements and then invites the experts based on the following criteria: experts are people who are knowledgeable about organizational culture or knowledgeable about digital transformation or are practitioners of digital transformation in enterprises (table 1).

Table 1: Criteria for inviting experts to participate in the research process

No	Experts	Qualification requirements	Proof of professional competence
1	An expert has a deep understanding of the organizational culture	Phd	- There are scientific articles on the topic of organizational culture. - Participate in compiling textbooks or monographs on organizational culture. - Be a thesis supervisor or conduct a doctoral thesis on the topic of organizational culture
2	An expert has a deep understanding of digital transformation in the business	Master	- Was or is a consultant on digital transformation for businesses - Has provided information technology services, or software to organizations.
3	Experts are practitioners	Bachelor	- Being CEO in digital transformation businesses.

	of digital transformation		- Project manager for digital transformation in the enterprise.

Using these criteria, with previously established personal relationships, searching for information on the internet, the research team approached and invited 29 experts to participate in the research process. The composition of experts is presented in Table 2.

Table 2: Summary of the number of experts participating in the research group

No	Experts	Number of Experts	29
1	Cultural researcher	6	21%
2	Digital transformation consultant and researcher	11	38%
3	CEO and project manager	12	41%

Round 1: Using Braistorming method, each expert (29 experts) was received an open-ended questionnaire, with a single question "What organizational cultural values do you think that businesses need to have to support the success of the digital transformation?". Experts were asked to list at least 5 values from their own point of view. Experts will actively think and answer according to their own opinions. For each value, experts were asked to give a brief and general title, followed by a description of the values. This is the step to maximize the ability of experts to create the initial set of cultural values. The opinions that are unclear or difficult to understand will be directly contacted by the research team with experts to further clarify and confirm their opinions.

Round 2: After receiving feedback from experts from round 1, the research team screened, compared, and integrated comments with similar content; recognized different values, reduced all initial ideas into a more compact list of cultural values. The purpose of this step is to condense the expert opinion. A secondary questionnaire records all comments received from round 1 and the integrated comments will be sent to the experts. Each expert was asked to confirm agreement/disagree, to provide amend or supplement comments (if needed), then send the answered questionnaires back to the research team. Based on expert feedback, the research team synthesized the most condensed version of cultural values into the final version. The purpose of this step is to narrow down opinions, eliminate differences, and initially seek consensus among experts on cultural values.

Round 3: The questionnaires that record the level of agreement on each cultural value, in the shortened list, were sent to the experts. Experts were asked to rate each cultural value on the Likert scale with 5 levels from 1-Strongly disagree; 2- Disagree; 3- Normal; 4- Agree and 5- Strongly agree. Experts, then, scored and sent the results to the research team. The goal of round 3 is to use the results of the assessment to reach consensus among experts. Once agreement or stability has been reached, the Delphi research process is complete. The Delphi method terminates if all values are accepted and there is a high degree of consensus and confidence.

Assessing the consensus level of experts: With a 5-point Likert scale, the consensus of experts is said to be satisfactory when the cultural values satisfy the following criteria: The average values from 3.5 or higher, the interquartile or spread (IQR) is 1 or less and the standard deviation is less than 1.

Evaluating the reliability of the average values of the experts' evaluation results: To assess the reliability of the average values of the experts' evaluation results, this study uses the Intraclass Correlation Coefficient (ICC). Statistically, the ICC is a descriptive statistical indicator that can be used to quantitatively measure units organized into groups (Nguyen Thanh An et al., 2019). This index will describe the closeness of units in the same group. The value of the ICC is similar to that for the correlation coefficient, in which the absolute value ranges from 0 to 1. Cicchetti (1994) gave the scale for the ICC index as follows: Less than 0.40

means Weak; From 0.40 to 0.59 means Medium; From 0.60 to 0.74 means Good; From 0.75 to 1.00 means Very good.

4. Results and discussion

4.1. Results

With 29 experts agreeing to participate in the answer, the survey data results through rounds and is processed as below.

Round 1: The research team submitted a proposal and received 29 responses (100%) with 165 cultural values named and described by experts. Each expert suggested five to seven values. However, the response time of the experts is quite long since they needed to consider and be consulted carefully before providing answers. This ensures diversity, expressing deep understanding based on their knowledge and experience into the responses.

Round 2: From 165 values, the research team checks for overlap, arranges and integrates similar ideas, lists different opinions with only one value. 25 values had been syntehsized from 165 original values. Then, the initial record of 165 values and the summary of 25 values was sent back to the experts (Question Round 2). Experts were required to review and confirm, provide comments or corrections. Based on the responses in the second round, the results of 25 cultural values have been consistently agreed but the description of each value is needed to be further adjusted.

Round 3: Questionnaire for round 3 including 25 values with Likert scale of 5 rating levels for each value is sent to experts. Experts assessed the need for cultural values for digital transformation according to their own judgment and send the results to the research team.

With the selection criteria being the mean value ≥ 3.5; Standard deviation S ≤ 1; The IQR quartile < 1, from 25 values after comparing with the rejection criteria, only 15 values remain as shown in **Table 3.**

Table 3 Number of experts answering and aggregated results after 3 rounds

Rounds of data collection	**Number of experts**		**Number of values**
Round 1: Consult experts by Brainstorming	29	100%	165
Round 2: Synthesis of opinions	29	100%	25
Round 3: Identify the official culture set	25	90%	15

Round 3: this round aims to assess the importance of each values toward the business digital transformation. Questionnaires with 5-level Likert scale from 1-Very unimportant to 5-Very important were sent back to the experts. Experts scored each cultural value according to their own judgment. The results of the responses were returned to the research team. Based on the evaluation data, the research team calculated the indicators that reflect the average score and the level of consensus to draw conclusions about the most important set of cultural values. Based on the results from 25 values, the research team has identified 15 values with high average scores and high consensus of experts.

According to the results after conducting three rounds, a set of cultural values that support the success of businesses in digital transformation is established and presented in **Table 4.**

Calculation results of ICC values show that the value of the mean values is 0.76, which means that these averages have a very good level of confidence at the use level.

Table 4. List of necessary cultural values to be established

No	CULTURAL VALUES	Round 2	Round 3		
		Proportion of experts selected	Mean	Standard deviation	IQR
1	**Entrepreneurship**: Entrepreneurial spirit is molded in the leader and spread to each member, that is constantly exploring and developing business ideas, seeking change; willingness to innovate/creative, proactively compete and dare to take risks to develop the business.	95%	4.6	0.5	1
2	**Agility and flexibility**: The members of the organization are always ready to work, flexible and adaptable to react to change. The organizational structure is simple, there are few hierarchies, information exchange and transfer is easy to change and adjust when needed.	97%	4.56	0.51	1
3	**Openness to innovation and creativity**: New trends and ideas are seen as opportunities to develop and show how their members deal with change; organization's willingness to accept, implement, and promote change. The organization is always ready and undisturbed by change.	93%	4.36	0.49	1
4	**Drive Learning and Encourage Experimentation at All Levels**: Organizational innovation and growth is based on the application of new knowledge and skills. Learning-oriented organizations have mechanisms to link members to combine knowledge and share knowledge; Learning is seen as an investment in development.	89%	4.16	0.55	0.5
5	**Customer focus**: The overall culture of the business is all about the customer. An organization's products, processes, and operating mechanisms are designed with the focus on satisfying customer needs and continuously adapting to their changes. Digital transformation is seen by businesses as an opportunity to better serve customers.	91%	4.48	0.51	1
6	**Leadership behavior**: Sensitivity in technology application and digital vision, specific strategy and action plan, ready mindset and ability to influence those around you to agree with me. Leaders are the ones who initiate and create inspiration and motivation for employees in digital transformation.	87%	4.52	0.51	1
7	**Employee Engagement:** Changing the company's vision and internal operations associated with the digital era, creating associations dedicated to digital transformation, and always encouraging employees to cultivate a digital technology" and continuously learning new technologies.	88%	4.36	0.49	1

8	**Taking risks by creativity and innovation**: Enterprises are willing to take risks, that readiness is guaranteed by the regulations of the organization.	85%	4.36	0.49	1
9	**Diversity and inclusion:** Create a diverse and inclusive workplace environment between generations, removing barriers to hierarchy and bias.	86%	4.08	0.57	0
10	**Corporate responsibility**: Enterprises play a key role in making the transition: supporting infrastructure, proper budgeting, allocation of responsibilities, and proper management.	81%	4.2	0.58	1
11	**Encourage participation**: A highly democratic working environment that encourages open discussion on issues and in decision making.	89%	4.12	0.67	1
12	**A culture of achievement**: An organization's reward and recognition system that recognizes achievements created for innovation and transformational achievement.	82%	4.08	0.7	1
13	**Building strong relationships based on trust**: Members of the organization establish mutual trust, especially the trust of employees in leadership, between functional departments and each other, between the organization and its stakeholders.	79%	4	0.71	1
14	**Cooperation and empathy**: The organization values cooperation and provides training on how to cooperate. Encourage individuals to express opinions, listen and give opinions, and persuade others.	82%	3.72	0.74	1
15	**Tolerance to failure**: Every member of the business has a tolerant attitude towards mistakes and failures during digital transformation and supports learning from failure to keep working.	85%	3.72	0.68	1
	ICC		**0.76**		

With the results of data processing above, it is shown that among the experts, a consensus has been reached on determining the organizational culture values that is essential for the transformation. The implementation of the Delphi method is considered finished.

4.2. Discussion

Digital transformation is a revolutionary change process in businesses, the change takes place in a comprehensive way, not only in products and technology but also include the change in management thinking, organizational structure, culture, perception and behavior of all members from leaders to employees. In this process, organizational culture is both a content that needs to be changed and a fundamental factor that creates motivation and resources for the change itself.

Study's findings show that, for a successful digital transformation, businesses need to build their organizational culture with both distinctive values and existing values but have a modification in each's content. With the cultural values that support digital transformation as identified above, in comparison with the organizational culture model according to the competing values framework (CVF) of Quinn and Cameroon (2005), the researchers found that the appropriate cultural model for a digital transformation business emphasizes three important characteristics: flexibility and adaptability, introversion and extroversion; whereas, stability and control are not focused;

Flexibility and adaptability: This is the most emphasized cultural characteristic, including cultural values that are highly appreciated by experts, with average scores, selection rate as well as concentration achieved are fairly high values such as sensitivity and flexibility; diversity and inclusion; Openness to innovation; Taking risks by creating and improving, Drives learning and encourages experimentation at all levels…

For successful digital transformation, the study's results highlight specific values such as sensitivity and flexibility, tolerance for failure, willingness to innovate and learning-oriented organization... Digital transformation is a continuous process that spans in a volatile environment and constantly poses challenges. This requires the **organization** to constantly respond effectively to this constant volatility in order to remain in the pursuit of its goals. In that context, acumen and flexibility are the necessary and important elements for success. Transformations are supported by the organization's agile culture, which will facilitate the restructuring or the adoption of new management concepts.

Study's findings also suggest that "openness to change" is a necessary cultural value for the digital transformation process. Once a culture of openness to change is disseminated, it will foster a willingness to accept, promote, and form a change-oriented mindset, which then support the success of the digital transformation.

Encourage experimentation at all levels: Digital transformation is a completely new and challenging process for every organization, with many different and unpredictable drivers and trends in digital content development. The essence of this process is the application of new knowledge and digital technology into practice at all levels and working positions in the enterprise. Digital technology has to creep into every function and process; however, an innitial design of application cannot be suitable for everyone. Thus, this requires businesses to regularly test at all levels and positions to find the right results before officially applying. The cultural value of "encouraging experimentation at all levels" will help members of the business see experimentation as a necessary activity, they confidently and proactively experiment on each of their positions; therefore, this effectively supports the digital conversion process.

Extroversion: Includes cultural values that are oriented to customers and stakeholders; emphasizing the goal of innovating for development. Typical cultural values for this characteristic include: customer orientation; the business inspiration; characteristics of leadership behavior, towards community responsibility…

Customer orientation: taking customer satisfaction to guide business operations is the source and driving force of digital transformation. Digital transformation is not a goal in itself, but rather a manner for businesses to act in order to satisfy customer requirements. More and more customers are demanding additional requirements about speed, quality, dedication and transparency in products and services. In businesses that places a customer-oriented culture as a core value, organizational members are always driven by change to better satisfy customers, in which digital transformation is a core of competency that allowing business to understand how customers will be served, what customers want and what technology that businesses can apply to serve them better, faster and cheaper…The customer orientation will provide a greater willingness to change, facilitating the realization of needs, motivation and determination for digital transformation. In this study, customer orientation is the value that receives the highest votes, the highest average score and the highest consensus among experts.

Leadership with strategic vision and systematic thinking: In major of studies and seminars on digital transformation, the role of business leadership is widely acknowledged one of the most critical factors. Leaders with a strategic vision and the ability to understand and anticipate their needs and desire to conquer the market will have a stronger motivation for investing and implementing digital transformation. In all business transitions, leadership is always the one who initiates and inspires, drives and focuses resources to make it happen. Leading the implementation of digital transformation that requires special qualities of systematic thinking, which is a comprehensive and deep understanding of business processes, the ability to arrange processes to achieve successful connection, support and complement each other in the whole business operation process. Thus, leaders whose are strategic visionaries and systematic thinkers is a great advantage for business digital transformation.

People who mainly perform digital transformation in businesses are young people. They are often more concerned with work-life balance, as well as prefer working in an environment that creates a positive impact on society and the community. Enhancing the feelings and sharing of each individual and encouraging each individual to constantly be aware of their responsibility to society and the community helps them arouse pride in the organizational operations. This is one of the most important sources of value for the organization in creating a respectable customer experience. Cultural values aimed at creating a working environment that promote sharing, sympathy and gratitude will help businesses have an advantage when attracting and retaining talented human resources for the digital transformation.

Digital transformation requires an organization to be open and proactive in its implementation. Enterprises regularly and continuously explore and develop business ideas, seek and to be willing to innovate, actively compete and dare to take risks to develop their businesses. The results of this study also indicate that an organizational culture that promotes entrepreneurship and encourages risk-taking are more effective in developing the foundation for the success of digital transformation.

Introversion: This cultural philosophy aims to create a favorable internal environment for digital transformation, including cultural values such as: Building strong relationships based on trust; Cooperation and empathy; Tolerance to failure; Corporate Responsibility, Learning Orientation, and Encouragement of Experimentation…

The process of digital transformation is often new to business, failure or miscarriage at a short-term goal and a specific project is a very common thing. Before each failure or miscarriage, the quality of tolerance will help businesses to overcome the fear of failure, make reasonable failures to become more acceptable by members of the organization, and encourage bravery and strength in the innovation journey. A culture of failure tolerance gives employees the confidence to understand that failure is a natural part of innovation, giving them the confidence to make creative decisions which is an important part of digital transformation success.

Digital transformation will change the working environment of the organization, where the process of automation, working in a virtual environment and an online environment concepts will become normal. Traditional employee control systems might gradually decrease in usefulness. Directly contact and meeting become less necessary. This requires employees to work with self-discipline, initiative and with a high level of commitment. Cooperative trust between leaders and employees and among employees about their self-discipline and commitment will facilitate the transition. The organization aims to build strong relationships based on trust that will facilitate the digital transformation process.

Mutual collaboration and empathy: Business digital transformation can be considered as a master project, in which each stage and each workflow is the sub-projects. For sub-projects to be implemented synchronously, rhythmically and always have close links with each other, it requires cooperation and mutual sympathy between departments. Employees should acknowledge opposing points of view, meet work expectations, and develop positive relationships with colleagues. Each member needs to appreciate the contributions of others and puts the goals of the organization above personal satisfaction and opinions. A culture of cooperation and mutual empathy will efficiently support the digital transformation process.

5. Conclusion

In the current context, digital transformation is an expected choice of many businesses and is widely acknowledged as the most important way for businesses to improve their competitiveness and to satisfy customers' expectations and expectations. However, the implementation of digital transformation is still relatively new, posing many difficulties and barriers for businesses, and many issues that need further research and clarification.

The results of this study focus on the following points: First, clarify the role of organizational culture in the digital transformation process, in which organizational culture is both a content to be transformed and a source of information that facilitate the digital transformation process to success. If businesses focus only on the technical and technological aspects but forget about cultural factors, the transformation process will become more difficult, prolonged and easy to fail. The most important finding of this study is the identification of a set of organizational cultural values that are suitable with the success in digital transformation process. Based on newly established cultural values, this study also proposes a cultural model suitable for digital transformation. This model is characterized by adaptability and flexibility, extroversion and introversion, with cultural values representing those characteristics being made up of 15 newly discovered cultural values.

In practical terms, the results of this study will help businesses navigate the changes that need to be directed in transforming their cultural model to facilitate a successful digital transformation. This can be seen as a target and generalized culture to help businesses better define their own cultural values. Based on the results of this study, businesses can re-evaluate their current cultural values, identify gaps with the target model, and then determine a plan to transform organizational culture accordingly.

Despite the above-mentioned successes, these studies have only been conducted under the conditions of Vietnam, with Vietnamese experts, it is not possible to generalize the organizational culture in digital transformation in the countries with different cultures. Besides, the results of the study are established by the Delphi method, so there are limitations of this method itself. Research results are greatly influenced by the invitation of reputable experts, methods and techniques of interviewing through rounds, data processing to reach a high consensus of experts, etc. This is regularly difficult to control. In addition, the experts were invited to participate in this study are those who have a deep understanding of organizational culture and digital transformation from many different industries. Thus, the research results contain general charactertistic; however, may lacks specific characteristics of each profession. These limitations are also suggestions for further studies.

However, our research results in addition to affirming the role of organizational culture in digital transformation and identifying a cultural model with targeted values in order to create favorable conditions for the success of digital transformation in businesses. These results are fairly new in Vietnam both in theory and in practice. Digital transformation is a natural and inevitable journey. An enterprise that is aware of it early and has prepared mentally, strategically and culturally will have an advantage in its survival and development in a constantly and unpredictably changing business environment in recent days. We hope that the results of this initial study will open the way for more follow-up research while actively supporting businesses for the transition.

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DIGITAL TRANSFORMATION IN ENHANCING CUSTOMER RELATIONSHIP IN THE BANKING SECTOR: THE CASE OF CHATBOT IN VIETNAMESE COMMERCIAL BANKS.

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ABSTRACT

Digital transformation in the context of 4.0 industrialisation has yielded several benefits and is being implemented in a wide variety of industries, most notably banking. The objective of this study is to investigate the features of bank-adopted chatbots. The ALARA model was used to to offer knowledge about chatbots and how they are performed. The empirical findings suggest that the number of chatbot banks implemented chatbots on their websites and Facebook is quite small. Additionally, these chatbots are predominantly in the Vietnamese language. A few chatbots provide customizable chatbots, consumer personalisation, and response. However, because the chatbot is simply used to provide information, there is no verification. Additionally, this study offers important management implications for managers, digital technology developers, and other stakeholders.

Keywords: Chatbot, digital transformation, Banking, Vietnam, ALARA model.

1. Introduction

The advancement of technology has impacted every element of human existence, including business, education, health, and financial services for the general public. More and more banks are using artificial intelligence (AI)-based apps with the goal of enhancing client connections, offering more tailored offers, detecting and preventing fraud, improving anti-money laundering operations, and cost savings (Business Insider, 2021). According to Richad et al. (2019), the adoption of artificial intelligence-based chatbot technology is a very popular and significant kind of technological advancement in the banking industry (Alt et al., 2021). Furthermore, the COVID-19 epidemic has prompted a quick change to digital technology, with banks transitioning to remote sales and provision at a rapid rate (Adarkar et al., 2020). Indeed, it can be stated that the banking and financial services business was one of the first industries to embrace technological advancements and innovations (Doherty & Curran, 2019; Hwang & Kim, 2021). Technological advancements in the financial services industry include the advent of chatbot apps, which are a subset of artificial intelligence and are accessible for a variety of platforms, including Facebook Messenger and Google Assistant, among others.

The term “chatbot” is the combination of “chatting” and “robot”, which are mainly used for automatically communicating, providing correct answers through conversation with customers (Serban et al., 2017). Implementing this chatbot system would provide a list of potential advantages for the banking sector and financial services, such as increased customer convenience and efficiency, reduced customer service times, increased information, increased productivity, and increased customer satisfaction, among other things (Toader et al. 2020). Therefore, banking is one of the usual sectors that significantly benefits from the use of chatbot services.

Because industry 4.0 is an inevitable development trend for organizations, customers, and society, Vietnamese banks are going towards AI technology and chatbot services. This phenomenon has subsequently become a leader in the digital transformation of Vietnam. There are four state-owned commercial banks and thirty-one joint-stock commercial banks in Vietnam. Interestingly, according to the Austrade report, over 60% of Vietnamese commercial banks would have adopted digital transformation by 2019 (Nguyen et al., 2021). One method of digital banking transformation in Vietnam is to digitize an existing bank like front-end channel innovations include mobile banking and virtual assistants/chatbots. As a result, several theoretical frameworks and models have been used to investigate the adoption and continued usage of chatbots in both developed and developing countries. However, it was mainly conducted to investigate technology adoption from the views of organizations. Hence, this research is carried out to examine chatbots from the views of users to investigate the level of digital transformation through examining characteristics of the chatbots, especially in the context of Vietnamese commercial banks, by using the novel framework – ALARA model of Information Search. This model enables case study research, stakeholder roleplay and content analysis of characteristics of chatbots in the banking field, giving better understandings and practical recommendations for stakeholders.

The structure of the article is as follows. Section 2 summarizes previously published studies in four categories. To begin, we examine digital transformation, artificial intelligence technologies, and their impact on financial settings using cutting-edge research on financial chatbot systems. Section 3 focuses on the methodology employed in this research. Finally, results are presented, and the study's implications and future research directions are further discussed.

2. Literature Review

2.1. Digital Transformation & Artificial Intelligence (AI)

At the end of the 20th century, the world has moved to a digital society instead of an analog information one (Yudina, 2019). Digitalization is increasingly changing society, integrating digital technology into all areas of organizations and people's lives. Furthermore, digital information has brought some more innovative and time-saving ways by using digital devices such as smartphones, tablets, laptops, and other platforms and devices (Kar, 2020). Hence, it turns the traditional working model into the paperless working one (Peter et al., 2020). Additionally, digital transformation makes the company equipped with virtual reality and wireless connectivity and a plant environment in which the company and sensors are connected, enabling the company to visualize the whole operation process and make automated decisions (Liu and Murphy, 2020). As a result, digital transformation leads to the trends of automation, modified processes taking advantage of cyber-physical systems, the internet of things (IoT) and specifically Artificial Intelligence (AI) (Agostinelli et al., 2021).

Nowadays, "Artificial Intelligence (AI)" can be found almost everywhere, from a general-purpose application such as photo processing to a highly complex application such as self-driving vehicles (Liu & Murphy, 2020). It has significant impacts on both organizations and people's everyday lives. Simons (1957) was one of the first researchers who defined AI already in the 50s as a machine that could think, learn and create simultaneously faster in comparison with the human brain (Whisler & Leavitt, 1958). However, until the last decades this technology has had some breakthroughs. In the research of Farisco et al. (2020), AI is defined as systems displaying intelligent behaviour by scanning their environment and taking necessary actions to achieve specific goals. Liu and Murphy (2020) also give a similar definition that AI enables computers and other systems to do some human abilities. In some cases, a human can not tackle a task as good as AI (Farisco et al., 2020; Liu & Murphy, 2020).

Furthermore, AI is a brand of science conducted in many different subcategories such as language comprehension, learning and problem solving (Pannus, 2015). But, Teccui (2012) stated that knowing how AI is divided is not as crucial as knowing AI's abilities and purposes of using AI. One of the subcategories is CB technology, enabling machines to emulate human conversation (Dole et al., 2015; Dahiya, 2017). Additionally, it is also known as a virtual assistant (Dahiya, 2017), digital assistant or chatbot (Shawar & Atwell, 2007; Dale, 2016)

2.2. Chatbot services

A chatbot concept has atttracted a lot of intention from organizations, researchers, developers and other related stakeholders in recent years. In artificial intelligence, chatbots are natural language processing systems that serve as virtual conversational agents, simulating human interactions in a virtual environment (Nadarzynski et al., 2019). However, scholarly chatbots are defined in a variety of ways in the literature. According to Desaulniers (2016), chatbots are interactive messaging driven by artificial intelligence. On the other hand, Schlicht (2016) analyzes chatbots as services which are driven by rules and occasionally artificial intelligence enabling you to communicate through a chat interface.

Combining these perspectives, in this research, the term "chatbot" refers to artificial intelligence (AI) software that is meant to communicate with humans autonomously through text messages or chats (Ashfaq et al., 2020). Specifically, a chatbot is a communication software that creates a self-learning model through mathematical calculations and computer science programs to store and provide accurate answers or related information to specific questions in real-time (Eren, 2021). ChatbotsK or conversation agents are usually operated in the areas of technical support, customer services or digital assistant (Schuetzler et al., 2020). In the research of Tintarev et al., (2016), a chatbot is conceptualized as an artificial advice-giver enabling users' decision-making.

2.3. Chatbot services in the financial sector

The first chatbot service in this sector, which was introduced in May 2017, was Bank of America's Erica (Hwang & Kim, 2021). Fujutsu Financial Services Solution Finplex Robot Agent Platform (known as chatbot service) was then released (Okuda, & Shoda, 2018). This chatbot was introduced to increase the number of users, shorten the responses time, and improve the service quality given to the users (Okuda, & Shoda, 2018). Later, this chatbot was developed and equipped with many functions assisting customers to conduct various financial transactions and other related activities in the financial and banking sector (Quah & Chua, 2019). This development of chatbot was based on the information of customers, their past purchase history and customers' location. Then, by applying machine learning and deep learning technologies to personalize services and provide them to users (Lee & Park, 2019). For example, information of transactions, limit amount, the account balance was provided quickly by simple text chatbot responses. Additionally, some advanced services such as bank loan application, utility bill payment, credit rating upgrade application and other consulting services are provided immediately by contacting chatbot (Hwang & Kim, 2021).

According to Quah & Chua's (2019) research in Singapore, 46% of interviewees use chatbots for IT or finance industries. Chatbots are capable of handling over 82 per cent of queries without human interaction at a prominent big bank in Singapore. Additionally, the bank intends to expand its services, which will enable the chatbot to advise customers on the acquisition of bank goods such as investments or insurance (Quah & Chua, 2019). Additionally, Rapp and colleagues (2021) identify two uses for chatbot applications. The majority of chatbots are designed to assist users in completing a task or resolving a problem (as it typically happens in customer service), while the remaining are chatbots meant primarily to maintain a high level of discussion with people or to build some relationship with them (Rapp et al., 2021).

In Nigeria, thirteen (59%) of the twenty-two banks used some type of chatbot to engage with customers and conduct financial transactions. A similar trend can be observed in Vietnamese banks, which are increasingly adopting artificial intelligence-enabled technologies and chatbot services. According to Austrade's research, approximately 60% of commercial banks in Vietnam already had a digital transformation program in place by the end of 2019, and more than half of them had adopted chatbots like Tienphong Bank (TPBank) and National Citizen Bank (NCB), followed by VPbank, Vietcombank, Techcombank, NamAbank, and Eximbank (Nguyen et al., 2021)

3. Research methodology

3.1. Theoretical framework

In order to examine chatbot in Vietnamese commercial banks, the ALARA model of Information search was adopted (Mogaji, 2019). The ALARA model stands for Availability, Location, Accessibility, Relatability and Actionability. Table 1 presents the description of these elements in the ALARA model.

Table 1: The ALARA model of information search from (Mogaji, 2019)

No.	Elements	Meaning
1	***Availability***	The availability aspect evaluates the availability of information. Where is the information? Is it available on any platforms?
2	***Location***	If information is available, the location aspect is used to emphasize the position of a chatbot, the size of the button to access information. How do researchers find the information? Where is the button located? What is the size of the button?
3	***Accessibility***	Once the location of information is determined, the accessibility aspect becomes essential. How accessible is the information being located? After clicking on the buttons, where does the button lead to? How many clicks should be made to find the information?
4	***Relatability***	The relatability aspect relates to how relevant information is. How relatable is it? Does it satisfy what researchers want to look for?
5	***Actionability***	If the information is incorrect or if the information is actionable, prominent call-to-action (CTA) should be taken into consideration. After accessing the information, what should the researcher do? Any prominent call-to-action (CTA)?

3.2. Research process.

The research process is built based on the research of Mogaji et al. (2020), giving an understanding of digitally occurring interactions and experiences on chatbots (Mogaji, 2019). This model blends netnography with user experience design ideas (Mogaji et al., 2020). In order to obtain ALARA analysis, the research had to follow the following six key steps. These steps are presented as below with the aims of exploring chatbots in Vietnamese banks:

Stage 1: The Role

The research acted as a prospective client seeking personal financial information and banking services via mobile conversation with one of Vietnam's commercial banks.

Stage 2: The information of chatbots.

This stage is related to a better understanding of how a chatbot is developed to facilitate financial transactions and enhance customers' engagement. Hence, several criteria related to the characteristics of chatbots employed from the research of Abdulquadri et al. (2021) were assessed in each commercial bank. They are chatbot availability, chatbot accessibility, chatbot language chatbot customization (unique identity/ name/ Gender of chatbot), customer personalization (customer types; personalized customer services/ products); chatbot verification (security; terms and conditions); chatbot responsiveness.

Stage 3: The Website & Facebook

The initial stage was to compile a list of operating commercial banks in Vietnam and search for bank-developed chatbots. According to the Central Bank of Vietnam, Vietnam has 35 commercial banks. Between 15th and 25th August 2021, the researcher used a mobile phone to access chatbots of 35 commercial banks.

Then, table 2 presents a list of 35 commercial banks in Vietnam, which are the samples for the research.

Table 2: List of commercial banks in Vietnam (Samples for the study)

No.	Banks	Abbreviations
1	An Binh Commercial Joint Stock Bank	ABBANK
2	Asia Commercial Joint Stock Bank	A Chau Bank
3	Bac A Commercial Joint Stock Bank	BacABank
4	Bao Viet Joint Stock Commercial Bank	BaoVietBank
5	Construction Bank	CB
6	Dong A Commercial Joint Stock Bank	Dong A Bank
7	Global Petro Commercial Joint Stock Bank	GPBank
8	Ho Chi Minh City Housing Development Bank	HDBank
9	Joint Stock Commercial Lien Viet Post Bank	LienVietPostBank
10	Joint Stock Commercial Petrolimex Bank	Petrolimex Group Bank
11	JSC Bank for Foreign Trade of Vietnam	Vietcombank
12	JSC Bank for Investment and Development of Vietnam	BIDV
13	Kien Long Commercial Joint Stock Bank	KienLongBank
14	Military Commercial Joint Stock Bank	Military Bank
15	Nam A Commercial Joint Stock Bank	NamA bank
16	National Citizen Commercial Joint Stock Bank	National Citizen Bank
17	Ocean Commercial One Member Limited Liability Bank	Oceanbank
18	Orient Commercial Joint Stock	Bank Orient Commercial Bank
19	Sai Gon Joint Stock Commercial Bank	SCB
20	Sai Gon Thuong Tin Commercial Joint Stock Bank	Sacombank
21	Saigon – Hanoi Commercial Joint Stock Bank	SHBank
22	Saigon Bank for Industry and Trade	Saigonbank

23	Southeast Asia Commercial Joint Stock Bank	SeABank
24	Tien Phong Commercial Joint Stock Bank	TP Bank
25	Viet Capital Commercial Joint Stock Bank	VietCapitalBank
26	Vietnam Asia Commercial Joint Stock Bank	VietABank
27	Vietnam Bank for Agriculture and Rural Development	Agribank
28	Vietnam International and Commercial Joint Stock Bank	VIBBank
29	Vietnam Joint Stock Commercial Bank for Industry and Trade	VietinBank
30	Vietnam Joint Stock Commercial Vietnam Export Import Bank	Eximbank
31	Vietnam Maritime Commercial Joint Stock Bank	MSB
32	Vietnam Maritime Joint – Stock Commercial Bank	Maritime Bank
33	Vietnam Prosperity Joint Stock Commercial Bank	VPBank
34	Vietnam Public Joint Stock Commercial Bank	PVcombank
35	Vietnam Technological and Commercial Joint Stock Bank	Techcombank

Stage 4,5: The Search & The Location

This stage made the researcher collect the information required in table 2 above. In this research, the researcher had to visit websites and Facebook of 35 commercial banks in Vietnam to collect data about chatbots. These websites and Facebook were accessed from 26th August to 10th September. When accessing these platforms, information about the availability of chatbots and how to locate chatbots was emphasized and written down. This information would be presented in the Location aspect of the ALARA model.

Stage 6 : The Extraction

After conducting 5 steps, quantitative and qualitative data information regarding chatbots in commercial banks in Vietnam was collected. Then, this analysis stage involves the use of content analysis for these kinds of data. For quantitative data, the researcher had to use the coding sheet to code the websites and the amount of information available for quantitative information. The chatbot in each bank was analyzed based on the criteria listed in table 3. Then, descriptive analysis was employed to describe and summarize about the samples. In terms of qualitative information, whilst taking these steps above, researchers could write down some interesting insights about the information research process in each visit to the website or other relevant information.

Table 3: Coding of the criteria used in the stage 2

No.	Criteria	Coding
1.	Availability of chatbot on mobile device	1 = Yes; 0 = No
2.	Accessibility on chatbot - Platform	 1= Facebook; 2= Website
3.	Chatbot Customization -Unique identity/ name/ Gender of chatbot	 1= Customized; 0= Not customized
4.	Customer Personalization - Customers types - Personalized customer services/ products	 1= Categorized; 0= Uncategorized 1= Personalized; 0= Impersonalized
5.	Chatbot Verification - Security - Terms and condition	 1= Verified; 0= Not verified. 1=Yes; 0= No
6.	Chatbot Responsiveness	1= Immediately; 0=Not immediately
7.	Chatbot Language	1= Only local language 2= Multi-language

Stage 7: Reporting

This stage summarizes and presents the research findings. The results are given based on the ALARA model of information search.

4. Results & Discussion

4.1. Results

After collecting and analyzing stage, results were analyzed based on ALARA model, giving better understandings about the level of digital transformation in Vietnamese commercial banks.

AVAILABILITY

Following the model of ALARA, this research only evaluated banks which have an operational chatbot system. On Facebook, 7 banks have chatbot systems to enhance customer engagement, such as Tien Phong Commercial Joint Stock Bank (TP Bank), National Citizen Commercial Joint Stock Bank (NCB), Vietnam International and Commercial Joint Stock Bank (VIBBank), Sai Gon Thuong Tin Commercial Joint Stock Bank (Sacombank), Vietnam Joint Stock Commercial Bank for Industry and Trade (VietinBank), Nam A commercial Joint Stock Bank (NamA bank), Vietnam prosperity joint stock commercial bank (VP Bank). Some of the country's most prominent institutions, such as Vietcombank (Vo & Nguyen, 2018), Agribank, and BIDV, did not have a chatbot on both Facebook and website platforms. For the seven banks with chatbots, NCB bank and VP bank referred the researchers to a customer care agent by phone number, trumped by the less responsive and not always-present chatbot answer.

Regarding the website, there are five banks using chatbots namely NamA bank, NCB, Sacombank, TP Bank and VietinBank. Neither VIBBank nor VP Bank has an operational chatbot system on their respective websites. Therefore, the percentage of commercial banks using chatbot systems in Vietnam is relatively low. Commercial banks utilizing a chatbot for operation in Vietnam on Facebook and website accounts for nearly 14,28% and 5,7%, respectively.

Hence, the 7 banks owning chatbot systems were further researched in the other elements of ALARA model including Location, Accessibility, Relatability, Actionability aspects.

LOCATION

On the website, a chatbot is mainly located on the bottom right corner of the screen with a chat icon. The chat icon enables customers to minimize the screen space it takes. Furthermore, in recent years, with the rise of social media or Gmail users are familiar with a chat box placed in these positions. It has increasingly become a standard in chatbot placement. In Facebook, Chatbot is usually integrated with Facebook Messenger. The Facebook Message button is always on the big blue bar at the centre of the page. When a chatbot is adopted in the organization, it is essential to be easily located and relevant to its functions. Typically, a chatbot is viewed as a conversation agent. Then it should appear to be easier for users to find and contact.

ACCESSIBILITY

On Facebook, once the chatbot is located, customers can communicate with this tool via SMS text-style messaging or chatbot buttons. However, on websites, some differences appear regarding chatbot access. There are three over these seven banks' websites that have chatbots that are connected to Facebook Messenger. This is particularly prevalent in Vietnam, where Facebook has the highest user base of any social networking platform (Statista, 2021). Instead of linking to the social networking site Facebook, Sacombank and NamA bank provide direct consultations for clients using chatbots on their websites instead. VIBBank and VPBank do not have a functional chatbot on their respective websites at this time.

RELATABILITY

Language:

In Vietnam, Vietnamese is the singular official and national language of the country and is widely spoken by most people. As a result, chatbot systems in all seven commercial banks used the Vietnamese language as the chatbot language in both Facebook and the website. However, conducting a conversation only in one specific language also discourages foreigners from using chatbots because of a language barrier.

Chatbot Customization

Whilst 3 out of 7 chatbots in commercial banks greet customers by their short name such as:

"Hello customers, welcome to VietinBank. For the best support, please let us know if you have used any VietinBank products/services before".

The other owning chatbot had a name they used during interactions. T'Aio (TP bank), Sari (Sacombank), OPBA (NamAbank), Nira (NCB bank) are the customized identities. For example, T'Aio from TPbank responds to client inquiries in less than 5 seconds. Furthermore, Tpbank and NamA bank may greet clients as illustrated below:

"Hi XXX, I am a virtual assistant T'aio available 24/7. So that I can best support you, let me know if you are using any TPBbank products?

Or " Hi XXX, I'm OPBA, virtual assistant Nam A Bank, how can I help you?".

These chatbot icons and identities are designed to make a bot more engaging and pleasant to interact with. Without them, a bot will be easily forgotten and ignored. However, these four banks use Vietnamese as their primary language of a chatbot, and their chatbots' name is English-specific, which are unsuitable for banking users. Their names are expected to be aligned with their regions, language and target customers. Hence, chatbots' names should be changed to be catchier and meet customers' demands, especially in the Vietnamese context.

Chatbot customers personalization:

Three banks use chatbots to categorize their clients to get further access to the security and data privacy protections built into these digital transformation technologies, while the rest of the banks engage with their clients in a general manner, with no distinction between different types of consumers.

TP bank and Vietinbank split their clients into two categories based on their usage: those who do not have accounts and those who do. Meanwhile, Sacombank categorizes clients as either individuals or businesses. According to the bank's client classification, the chatbot will initiate appropriate services for the existing customer. Customers may use chatbots to create an account, which contributes to the goal of financial inclusion. Users can also send money, pay bills, and maintain their profiles. In some instances, the chatbot can also provide security for specific personal finance inquiries.

Verification

The majority of chatbots employed by Vietnamese banks are limited to giving information to the inquirer. They fail to show verification function when customers request more in-depth services like checking bank balance.

Responsiveness:

In terms of the Facebook platform, the chatbot sent messages beginning with 'start' or 'hello,' and 72% (n=5) answered quickly, 28% per cent (n=2) did not respond, such as NCB and VPbank. They remained indifferent and did not respond to the message. This lack of reaction further undermines the chatbot's acceptability since consumers frequently want a quick response from their chatbot. VPBank chatbot that took a while to react may have been operated by humans. For example, after seven minutes, VPBank replied, " Hi, How can I help you?.". In terms of NCB, they request users to install NCB iziMobile app or contact their staff directly via phone number before using the chatbot.

In terms of the website platform, because VIBBank and VPBank fail to show readily accessible chatbot systems on their respective websites, they did not demonstrate effective response times.

ACTIONABILITY

The chatbot service of NCB on Facebook platform provides two compulsory options for potential customers, such as downloading the NCB iziMobile app or contacting the bank's consultant staff. In line with that phenomenon, VPbank also experiences a similar picture when requesting that customers call the bank's hotline via mobile phone. Therefore, the actionable element of NCB and VPbank shows an ineffective performance. It can be concluded that while NCB, VIBBank and VPBank do not demonstrate actionable chatbot systems, actionable functions were carried out successfully at the remaining seven Vietnamese commercial banks on both platforms investigated.

Additionally, actionable perspective was also evaluated in terms of the questions asked. For example, the chatbot of Vietinbank will have pre-programmed responses to queries such as check balance, open account, card service, loan, or pay a bill, and if these questions are selected, the chatbot will reply appropriately. When using requests from chatbots, there are still certain restrictions that must be considered. When the chatbot presents customers with a menu of services to pick from and selects only one, the chatbot begins responding to queries from that service. Customers are not given the option of learning more about another sort of service.

4.2. Discussion

Chatbot apps powered by artificial intelligence have grown in popularity to automate customer service operations in the financial industry, changing communication between banks and clients (Alt et al., 2021). This study mainly focuses on ALARA models to shed light on usage status regarding banks' chatbot services. Several key findings from the analysis results are discussed as follows. Although a chatbot nowadays is a popular marketing tool that may increase consumer experiences and expectations through real-time conversations in a wide variety of sectors and product kinds, including the banking sector (Hagberg et al., 2016), there is a dearth of chatbot applications in banking services in Vietnam. The Deputy CEO of VietinBank said that Businesses are still searching for answers on how to use the service (Vietnamnet, 2019). Empirical evidence shows that only seven out of thirty-five Vietnamese banks have implemented a chatbot system.

Chatbots are used to automate customer support and eliminate time-consuming manual activities, allowing workers to focus on higher-priority duties. Almost all Vietnamese banks perform their chatbot services on Facebook messenger. It can be a strategic plan because, in the Vietnam context, Facebook and Facebook Messenger are highly visible social networking services, with client numbers accounting for 95 per cent and 79% of internet users, respectively, in Vietnam (Hootsuite, 2019). The chatbot is available via the bank's Facebook Messenger and enables customers to conduct e-commerce and financial transactions directly through the chatbot (Doherty & Curran, 2019). Therefore, banks can use Messenger Bots that Facebook has officially introduced, allowing businesses to create their Chatbots to offer services via Messenger. Facebook is also exploring AI ways to gather detailed user data across themes.

Regarding chatbot language, chatbot systems only use one language, the Vietnamese language. However, it should have the ability to converse in multiple languages or be modified to be a multilingual chatbot. Based on the research, customers prefer to contact banks in a language they are most comfortable with or in their native language. Hence, a multilingual chatbot is of great importance in meeting this customer demand. Moreover, the chatbot's name should be catchy, neutral and suitable for their religions, language and target customers. Gender identity should be taken into consideration when building the chatbot. According to the research of Feine et al. (2019), although there is gender bias, customers preferred female chatbots more than male ones, which makes them feel comfortable to communicate. In terms of customisation, banks'chatbots in Vietnam lack this capability. Chatbots are primarily intended to disseminate a single type of information to all customers because some chatbots do not categorise their users. According to Dospinescu et al. (2021), banking service providers provide customised and relevant information to chatbot users to increase customer satisfaction. As a result, the chatbot system's functioning should classify consumers before consulting or selling associated services. If categorisation performance is not aggregated within the chatbot system, engagement with chatbots can be challenging. Both human and conversational agent errors and biases appear to be highly prevalent in human-chatbot encounters, which might result in misunderstandings or irreparable breakdowns (Rapp et al., 2021). In the research of Trivedi (2019), customers will get the right experience when being provided with the relevant information, personalised solutions and answers to their queries. For verification, most Vietnamese banks' chatbots can only provide information to customers who ask for it. When consumers seek more in-depth services, they can not display the verification function. Additionally, they do not review any personal information in order to maintain an individual's privacy. The Norton cybersecurity insight survey demonstrates that millennials are unconcerned about internet security and fail to develop safe cyber behaviours. As a result, banks must implement robust security measures to ensure that information included within chatbot services remains private and confidential. A breach in the security of chatbot services may result in clients adopting chatbots with more confidence (Quah & Chua, 2019). About the chatbot's responsiveness, because particular chatbots did not respond immediately, it also imposed some limitations and should also be enhanced. Additionally, they use succinct and straightforward responses such as "Hello." Similarly, Michaud (2018) asserts that a chatbot used for customer service in hospitality must be capable of effectively responding to 'purely conversation' exchanges such as "Hi" or "Thanks.". The bank should allocate financial resources to enhance chatbot's responsiveness with responsiveness speed and create a professional and warm conversation with customers.

5. Conlusion

The study emphasizes digital transformation, especially investigating chatbots as a digital transformation tool in Vietnamese commercial banks. Several banks have used chatbots to cut expenses and improve the quality of their services. Therefore, this is pivotal to highlight 's capabilities and prospects to boost customer experience.

Despite this rising trend and potential, critical difficulties and roadblocks to this digital transition have been highlighted. Although chatbots can assist customers with a variety of financial transactions including examining an account, reporting missing cards or payments, renewing insurance, or processing a refund, chatbots in Vietnamese commercial banks are limited to providing services and financial information. Customers could not create bank accounts, request loans, or conduct financial operations without visiting the bank. Additionally, the empirical findings from this study have significant management implications for managers, developers of digital technologies, and other stakeholders. Some weaknesses of a chatbot should be improved with regards to chatbot languages, chatbot customization, chatbot verification, customization, and the chatbot's responsiveness. Further research can investigate chatbots adopted in other fields or other countries to make a comparison to obtain an overarching understanding of this digital transformation tool.

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FACTORS AFFECT TOURISM DEVELOPMENT IN ASSOCIATED WITH ENVIRONMENT AT THE CUU LONG RIVER DELTA

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ABSTRACT

An important economic-cultural area of the South, the Mekong River Delta (Mekong Delta) is a placed with many resources and cultural treasures containing identity and lifestyle on the river. However, the Mekong Delta's tourism activities still have not fully developed their potential. This paper aims to study the factors affecting tourism development associated with environmental protection in the Mekong Delta River in 2020-2030. Based on the research methods selected to analyze and perform qualitative and quantitative research, the author conducted to test of the scale through Cronbach's alpha coefficients that evaluate the building scale's reliability; reflect the correlation level between the variables in each group of factors. Using Cronbach's Alpha's confidence coefficient method before EFA analysis eliminates unsuitable variables because these variables can create dummy factors. Moreover, the author will analyze correlation and perform multiple linear regression. It can be seen that this session builds on factors affecting tourism development in the Mekong Delta in association with the environment. The author will make appropriate policy implications to develop tourism in the Mekong Delta in association with the environment. The research has examined the following significant factors: management policy, human tourism resources, tourism environment, accessibility, and infrastructure, tourism resources of the region. Hence, the author will propose the implications of solutions for tourism development associated with environmental protection in the Mekong Delta River in the period 2020-2030.

Keywords: Mekong Delta, tourism development, environment.

1. Introduction

An important economic-cultural area of the South, the Mekong River Delta (Mekong Delta) is a place with many resources, favored by nature with a system of rivers and canals longer than 28,000 km with diversified ecosystems from freshwater, brackish water, and saltwater. In particular, the Mekong Delta is also a cultural treasure containing identity and lifestyle on the river.

With the typical tourism products of the region, the Mekong Delta is becoming a key tourist area. Therefore, Mekong Delta tourism's development orientation is cultural tourism, festivals, including 04 tourist resorts and 07 tourist sites scattered throughout the provinces and cities of the Mekong. Mekong Delta always has the attention and direction of the Party, State and Party Committee, local authorities and has many conditions for tourism to develop into a spearhead economic sector. In 2018, the Mekong River Delta (Mekong Delta) welcomed more than 40 million visitors, increasing 16.8% compared to 2017. In which, there were more than 3 million international visitors. In 2019, this area welcomed 47 million visitors, especially the staying guests were estimated at 13.5 million. So, the total revenue from tourism was estimated at 30 trillion VND (General Statistics Office, 2019)

However, the Mekong Delta's tourism activities still have not fully developed their potential. Likewise, it also has not been exploited effectively and adequately. Because tourism products are not diversified, tourism advertisement is not effective, human resources are not well-training, and transport infrastructure for tourism is not adequate still limited. Therefore, tourism in the Mekong Delta region is also underestimated among the 7 tourism regions of the country.

In fact, tourism activities have not focused on building specific products, and most localities organize the exploitation of similar products, tourism is still not developed. Therefore, the tourism products in the Mekong Delta are not attractive and competitive compared to other regions. In addition, the trained tourism human resources only reach about 30%, the short stay time is not attractive enough to make tourists spend a lot, nor retain tourists for long, leading to tourism. The number of customers is significant, but the turnover is not high. Hence, the construction of specific tourism products of the region becomes a problem that many localities are interested in and want to find common solutions to improve the region's tourism activities. So, how to get a new product, unique, attractive identity?. From the above problems, the author researched "Factors that affect tourism development are associated with the Mekong Delta River environment” as a research topic.

This paper aims to study the factors affecting tourism development associated with environmental protection in the Mekong Delta River in 2020-2030. Hence, the author will propose the implications of solutions for tourism development related to environmental protection in the Mekong Delta River in the period 2020-2030.

2. Literature review and empirical studies

2.1. Literature review

Tourism is a "smokeless industry" defined as a key Vietnam industry (Mai Ngoc Khuong & Huynh Thi Thu Ha, 2014). Over the past years, the tourism industry has contributed significantly to the country's GDP growth in general and localities. Along with Vietnamese tourism development, Mekong River Delta tourism has developed significantly and become a key economic sector of the province; domestic and foreign tourists have known its tourism.

A tourism product can be defined as psychological satisfaction because it provides tourists during their trip to tourism attractions. Tourism products focus on facilities and services designed to meet the needs of tourists. It can be viewed as a composite product of the total number of destinations, the transportation and accommodation, and the country's entertainment that result in customer satisfaction. Each component of a tourism product is provided by individual service providers such as hotel companies, airlines, and tourism agents. With society's rapid development, tourism has become a widespread phenomenon in social life and developed at an accelerating pace.

According to the World Tourism Organization (UNWTO, 2011), from 2010 to 2030, the number of international tourists is expected to increase by an average of 3.3% per year compared with 3.9% per year in 1995-2010. The number of international tourists has surpassed 1 billion in 2012 and is expected to reach 1.4 billion by 2020, 1.5 billion in 2023, and 1.8 billion in 2030. Tourism is an employment-generating industry and currently attracts about 227 million direct laborers, accounting for 10.9% of the world's workforce - one out of every nine workers work in tourism. International tourism has reached 1.23 billion tourists, accounting for more than 30% of the world's trading service export volume (UNWTO, 2017). By 2020, tourism is expected to become the "industry," accounting for the largest share of goods and service export industries.

(Shaw, G. & Williams, A., 1994)claim many aspects have supported tourism development. In detail, they include a development strategy to increase foreign exchange, the balance of payments, GDP, investment attraction and development capital, technology transfer, local jobs, and promoting modern values in life as in Western countries (Mathieson and Wall, 1982).

Van Doorn (1982) argues that tourism development processes depend on the context of a country's development stage. Besides, tourists have contributed to improving travel products, infrastructure, environment, quality services, local resources, and other elements (Wang, 2000) for fulfilling their own ego needs (Maslow, 1987). Butler (1980) continues to provide tourism development through the cycle of tourism destination product development (in Figure 1). For this improvement, Butler proposes six stages of development: participation, exploration, growth, consolidation, stagnation, and decline or rejuvenation.

Tourism is an economic industry with an increasingly high growth rate for developed and developing countries, especially tourism potentials. Tourism has contributed a significant part to economic growth and the gross domestic product (GDP). Tourism is an integrated industry that is influenced by political, economic, cultural, and social factors. The development of the tourism industry is associated with the process of economic restructuring of each country. Tourism exports account for 30% of the world's exports in the trade and services sector. Tourism development also contributes positively to creating jobs for a social workforce and improving the lives of people in general.

According to the United Nations World Tourism Organization Network (UNWTO), the exploitation of tourism in environmental protection should ensure environmental; social and cultural issues; and economic aspects. First, minimizing the human impact on the environment surroundings because it plays a crucial role in tourism development, maintaining ecological development, keeping heritages natural, and natural biodiversity. Second, concerning social and cultural issues show preserving cultural heritage, respecting the social and cultural honesty of local communities, preserving traditional values, contributing to understanding and cultural diversity. Third, in the economic aspect, it provides socio-economic interests to all beneficiaries, creates equally fair, and opportunities for stable profits for local communities.

Tourism development is not only relating to environmental protection but also preserving local culture, ensuring economic growth, and providing fair benefits to participants. In association with environmental protection, tourism is an integral part of the United Nations' sustainable development and strategy in Vietnam.

Ceballos-Lascurain, H. (1993) gave the first ecotourism definition with cultural element interaction that expresses tourism to natural areas with a research and discovery accompany in preserving the existing wild world and local cultural values. Truong Quang Hai (2020) mentions that tourism is associated with environmental protection research

Tourism development is inevitably related to environmental impacts (Cooper et al., 1998). Some scholars have tourism leads to adverse environmental consequences that reduce the quality of life for locals and tourists. So, a negative impact on the environment, there can ultimately threaten the survival of the tourism industry (Shaw & Williams, 1994). Typically, depletion of natural resources can lead to water shortages; creates significant pressure on other local resources such as energy, food, etc., that can lack or destroy natural landscapes.

Besides, tourism development is a platform of sustainable development of tourism. Based on the definition of WTO, sustainable tourism meets the current needs of tourists and indigenous peoples but still maintaining cultural integrity, essential ecological processes, biodiversity, etc. In sustainable tourism, the WTO (2005) emphasizes environmental resources that constitute a key element in tourism development. In addition, developing tourism depends on particularly thrives on assets such as natural environment, warm climate, rich cultural heritage, and plentiful human resources, where developing countries have a comparative advantage (European Commission in Communication, 2013). Preparing for sustainable tourism, it is necessary to focus on tourism development to obtain environmental protection that is a conditional priority.

2.2. Empirical studies

Anh Vu Mai, Kim Chi Nguyen Thi, Thanh Nga Nguyen Thi và Truong Le (2020) considers factors influencing sustainable tourism development. Research shows that seven factors influence sustainable tourism development in Vietnam. Specifically, social participation has the most substantial impact on sustainable tourism development, followed by state management capacity, quality of tourism services, quality of human tourism resources, development of tourism infrastructure, facilities, and resources.

Vuong Khanh Tuan & Premkumar Rajagopal (2019) studied the influencing factors such as the environment, society, and economy affecting Vietnam's sustainable tourism development in the new era qualitative method. The author collects the opinions of experts to discuss and present the scale to measure the above factors. Based on this study, future researchers can apply this method to research by quantitative methods to verify the scale's reliability and check whether the above three factors and the variables.

Vu Dong Van; Tran Ghi Nha; Nguyen Thi Thu Hien; Nguyen Cong Van (2020) examines the factors and trends in sustainable tourism development in Ba Ria-Vung Tau province, Vietnam. The used methods include descriptive statistical analysis, exploratory factor analysis, and regression analysis. Data is collected from a survey of 550 domestic and foreign tourists visiting Ba Ria-Vung Tau. The study has identified 12 groups of factors affecting sustainable development, including economy, society, environment, humanistic tourism resources, natural tourism resources, human tourism resources, products. tourism services, tourism quality, infrastructure, technical facilities, government management, and a set of criteria for the assessment of sustainable tourism development. The research results show four groups of factors that significantly affect sustainable tourism development in Ba Ria-Vung Tau. These are groups of factors: Society, Environment, Tourism products and services and Technical facilities.

Duong Hoang Huong (2016) research "Sustainable tourism development in Phu Tho province". The study has identified 5 groups of fundamental factors and other factors that affect and effect sustainable tourism development in Phu Tho province: 1) capacity and efficiency of state management in tourism; 2) a sense of responsibility of tourists, tourism businesses, and local communities; 3) tourism resources; 4) socio-economic development level, policies for tourism development and stability of national and local legal, political - social, security - defense environment; 5) links and cooperation between local and international; link and coordination between tourism and related industries and fields; 6) Other influencing factors: The deterioration and resilience of the world economy, the risk of environmental degradation and global climate change, political relations between countries, religious issues and ethnicity, terrorism, unusual natural factors such as natural disasters, epidemics. Since then, research has proposed solutions to develop sustainable tourism in Phu Tho province.

Nguyen Anh Dung (2018) researched "Sustainable development of tourism in Ninh Binh province in current conditions". The thesis assesses factors affecting sustainable development, including political economy, tourism resources, tourism infrastructure and facilities, tourism human resources, tourism development needs. So, Ninh Binh's economic development, Ninh Binh tourism development needs orientation policy, planning of local tourism development. On that basis, analyzing the causes, advantages, and disadvantages of the pros and cons, then propose some solutions for tourism management in Ninh Binh.

Asadzadeh and Mousavi (2017) research “The Role of Tourism on the Environment and Its Governing Law”. The tourism industry is the largest and most complex globally, and this complexity is due to its close ties to social, cultural, political, and environmental issues. Therefore, in this regard attention, and understanding of tourism's impact on the environment and its regulatory laws are needed to meet the challenges and achieve sustainable tourism goals.

Ha Nam Khanh Giao & Le Thai Son (2018) research “M.I.C.E tourism development examination from the supply side in Dalat city, Vietnam- M.I.C.E tourism development evaluation from the palace in Da Lat, Vietnam”. The study attempted to consider the resource factors influencing the development of MICE tourism in Da Lat. The results show that MICE tourism development is influenced by MICE tourism destination resources, MICE tourism destination resources are affected by 3 main factors, sorted by decreasing importance: (1) Organizational resources; (2) MICE tourism resources; (3) Supplier resources. Since then, the study offers several solutions for managers and policymakers to develop MICE tourism better.

Ghobadi & Verdian (2016) have explored the environmental impacts of tourism developments in Noushahr. Collected data were analyzed using descriptive and statistical inference methods, including t-tests. The results of the study show that there is a significant relationship between the environment and tourism. Besides, the level of negative influence caused by tourists in all cases exceeds the acceptable level from the local community's point of view. Therefore, tourism must be developed in a way that both meets the leisure needs of tourists while improving the quality of the experience and contributing to the improvement of the quality of the environment.

Nguyễn Xuân Trường, Nguyễn Thị Phương Nga (2019) researched the possibility of developing ecotourism in Ben En national park applying the point matrix method combined with the expert method to analyze and evaluate the. With the same criteria of previous research, the author gives eight primary criteria and dependent criteria to evaluate the possibility of developing ecotourism in Ben En National Park. The assessment results show that Ben En National Park is a tourist destination capable of developing ecotourism if invested in infrastructure, building a typical tourism product system, and can be segmented tourist market.

Nguyen Phu Thang (2018) research "analysis of factors affecting tourism development in An Giang province". The research results show that the group of factors that significantly influence tourism development in An Giang province are humanitarian tourism resources and natural tourism resources. Other factors such as policies, trends, infrastructure, and technology impact tourism development, but less than two factors of humanistic and natural tourism resources.

3. Research method

3.1. Methodology

In the qualitative research method, the paper uses synthetic methods to build a research model of factors affecting tourism development associated with environmental protection in the Mekong Delta from 2020 to 2030. Using Descriptive statistical method aims to analyze the current situation of influencing factors and the degree of influence of factors on tourism development associated with environmental protection in the Mekong Delta, in the period 2020-2030. This method is used to synthesize information from primary and secondary data from reliable sources and analyze and evaluate the current tourism development situation associated with environmental protection in the Mekong Delta. The topic also uses the expert interviewing method to evaluate the accuracy of the research questions' content and the variables in the proposed research model. The purpose of the expert interviewing method is to exploit experts' opinions on the research problem to find the optimal solution to that problem.

In the quantitative research method, the author made from the construction of concepts, the scales of the concept, building and testing the scale by analyzing the reliability of the Cronbach's Alpha, exploratory factor analysis (EFA), multiple linear regression analysis and testing the reliability and truthfulness of the research model.

3.2. Research model

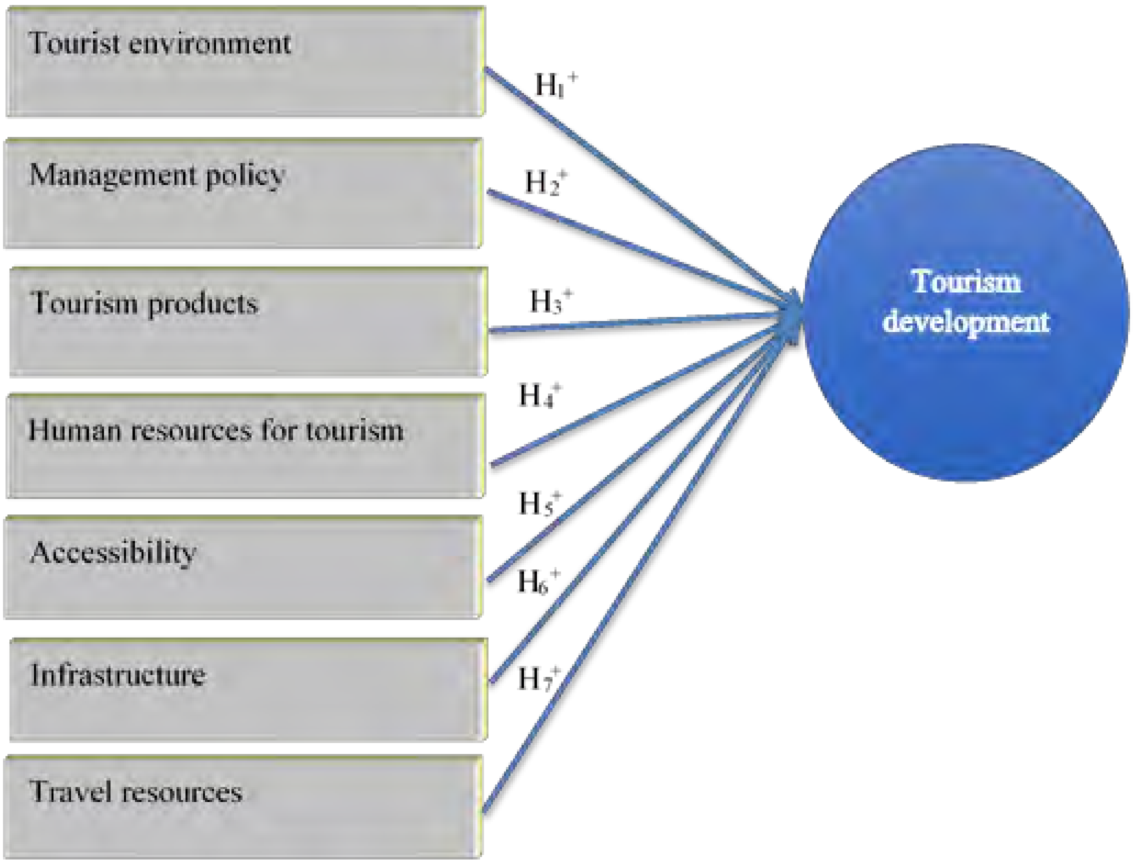

Figure 1. Proposed model

Source: author's suggestion

Table 1. The criteria for assessing the ability to develop tourism in associated with the environment

Factors	Code	Explanation	Sources
Travel resources	TNDL1	1. High biodiversity	Nguyễn Xuân Trường, Nguyễn Thị Phương Nga (2019)
	TNDL2	2. Natural landscape has special value	
	TNDL3	3. Indigenous culture	
Accessibility	KNTC1	1. Close to major tourist center	Nguyễn Xuân Trường, Nguyễn Thị Phương Nga (2019)
	KNTC2	2. Easy access to other tourist destinations in the region	
	KNTC3	3. Convenient road and river system	
	KNTC4	4. Inappropriate aviation system	
Travel products	SPDL1	1. Garden tourism products	Nguyễn Hoàng Phương (2017)
	SPDL2	2. Ecotourism products	
	SPDL3	3. Cultural tourism products	
	SPDL4	4. Sightseeing tourism products	
	SPDL5	5. Green tourism products	
Human resources for tourism	NNLDL1	1. Staff are trained in environmental knowledge	Nguyễn Xuân Trường, Nguyễn Thị Phương Nga (2019)
	NNLDL2	2. Community education on environment	Vũ Văn Đông và cộng sự., (2020)
	NNLDL3	3. Staff and community friendliness	
	NNLDL4	4. Education in the sense of protecting the tourism environment	
Management policy	CSQL1	1. State support in tourism associated with the environment	Nguyễn Xuân Trường, Nguyễn Thị Phương Nga (2019)
	CSQL2	2. Organizing and managing tourism activities associated with the environment	
	CSQL3	3. Environmental tourism policy is widely communicated	
	CSQL4	4. Policies to attract investment in green tourism development	
Infrastructure	CSHT1	1. Accommodation service establishments	Nguyễn Xuân Trường, Nguyễn Thị Phương Nga (2019)
	CSHT2	2. Food and drink service establishment	
	CSHT3	3. Tourist service establishment	
Environment	MT1	1. Focusing on conservation and sustainable use of tourism resources	Vuong Khanh Tuan, & Premkumar Rajagopal (2019).
	MT2	2. Research on environmental impact assessment	Nguyễn Xuân Trường, Nguyễn Thị Phương Nga (2019)
	MT3	3. Building a clean and smooth tourism environment	

	MT4	4. Consistent with climate change	
	MT5	5. Minimize overuse of resources and waste	
Tourism development	PTDL1	1. Tourism development must focus on environmental benefits	Vuong Khanh Tuan, & Premkumar Rajagopal (2019).
	PTDL2	2. Develop tourism in line with the national policy	
	PTDL3	3. Tourism development associated with climate change	
	PTDL4	4. Developing tourism towards environmental sustainability	

Source: author collection, 2021

3.3. Sample size

According to Nguyen Dinh Tho (2011); Hair et al. (1995), the sample size is suggested that for the use of exploratory factor analysis (EFA) should be at least 50, or preferable 100, and the measurement ratio is 5:1, it means that 1 variable needs a minimum of 5 observations.

In this paper, 450 survey forms were distributed from 05/01/2021 to 30/03/2021, the author collected 371 valid responses with the ratio equals 82.4%. In fact, the sample size for the study was collected at 371 observations that met the minimum sample size required for the study method.

Furthermore, Nguyen Dinh Tho (2011) demonstrated that to perform linear regression analysis, the minimum sample size needed to perform the regression is n > = 8m + 50 (n: minimum sample size, m: number independent factors). In this paper, the number of independent factors is seven, so n sample size must be greater than 106.

4. Results and discussion

4.1. Results

The first section will display the table of Descriptive Statistics as follows.

Table 2. Variable description information

Code	n	Min	Max	Mean	Std. dev
CSHT1	371	1	5	3.57	.773
CSHT2	371	1	5	3.58	.762
CSHT3	371	1	5	3.59	.767
CSQL1	371	1	5	3.70	.747
CSQL2	371	1	5	3.72	.744
CSQL3	371	1	5	3.68	.734
CSQL4	371	1	5	3.70	.734
KNTC1	371	1	5	3.74	.822
KNTC2	371	1	5	3.73	.816
KNTC3	371	1	5	3.72	.817
KNTC4	371	1	5	3.72	.826

MT1	371	1	5	3.70	.863
MT2	371	1	5	3.68	.870
MT3	371	1	5	3.71	.844
MT4	371	1	5	3.76	.819
MT5	371	1	5	3.70	.789
NNLDL1	371	1	5	3.93	.782
NNLDL2	371	1	5	3.94	.807
NNLDL3	371	1	5	3.94	.777
NNLDL4	371	1	5	3.93	.800
SPDL1	371	1	5	3.77	.684
SPDL2	371	1	5	3.77	.686
SPDL3	371	1	5	3.77	.680
SPDL4	371	1	5	3.77	.687
SPDL5	371	2	5	3.78	.675
TNDL1	371	1	5	3.70	.615
TNDL2	371	1	5	3.72	.605
TNDL3	371	1	5	3.70	.611
PTDL1	371	1	5	3.74	.656
PTDL2	371	2	5	3.77	.465
PTDL3	371	2	5	3.77	.464
PTDL4	371	1	5	3.76	.669
Valid N (listwise)	371				

Source: result from SPSS, 2021

Step 1: Evaluate the reliability of the scale.

Table 3. Cronbach 'Alpha

Factors	**Average scale if factor is eliminated**	**Scale deviation if factor is eliminated**	**Coefficient of correlation of total variables**	**Cronbach's Alpha if the variable is eliminated**
CSHT; Cronbach's Alpha = 0.848				
CSHT1	7.16	2.024	.655	.845
CSHT2	7.16	1.900	.753	.751
CSHT3	7.15	1.903	.741	.763
CSQL; Cronbach's Alpha = 0.898				
CSQL1	11.10	3.831	.790	.861
CSQL2	11.08	3.964	.735	.882

CSQL3	11.12	3.869	.793	.860
CSQL4	11.09	3.918	.771	.869
KNTC; Cronbach's Alpha = 0.804				
KNTC1	11.18	3.939	.664	.732
KNTC2	11.18	4.244	.557	.784
KNTC3	11.19	3.977	.657	.736
KNTC4	11.19	4.099	.599	.765
MT; Cronbach's Alpha = 0.875				
MT1	14.85	7.370	.763	.833
MT2	14.87	7.650	.682	.854
MT3	14.84	7.644	.714	.846
MT4	14.80	7.569	.766	.833
MT5	14.86	8.350	.596	.873
NNLDL; Cronbach's Alpha = 0.871				
NNLDL1	11.81	4.243	.738	.830
NNLDL2	11.80	4.217	.714	.840
NNLDL3	11.80	4.291	.726	.835
NNLDL4	11.81	4.220	.721	.837
SPDL; Cronbach's Alpha = 0.841				
SPDL1	15.08	4.471	.750	.779
SPDL2	15.09	4.849	.592	.823
SPDL3	15.08	4.796	.621	.815
SPDL4	15.09	4.959	.548	.835
SPDL5	15.08	4.572	.721	.787
TNDL; Cronbach's Alpha = 0.871				
TNDL1	7.42	1.265	.739	.832
TNDL2	7.40	1.267	.758	.814
TNDL3	7.42	1.249	.763	.810
PTDL; Cronbach's Alpha = 0.877				
PTDL1	11.30	1.962	.782	.828
PTDL2	11.27	2.534	.728	.853
PTDL3	11.27	2.516	.746	.848
PTDL4	11.28	1.954	.763	.839

Source: result from SPSS, 2021

Results of calculating Cronbach's Alpha coefficients according to each research concept show that Cronbach's Alpha coefficients of all research concepts are greater than 0.8. According to many studies, the scale with Cronbach's Alpha coefficient from 0.8 or more is a good scale, from 0.7 to nearly 0.8 is usable. In addition, Cronbach's Alpha coefficients of variables have values> 0.6. Therefore, the scale used in the study is appropriate and reliable. In summary, the scale test results for the variables used in this study are reliable and can be used to conduct factor analysis and next research steps.

The purpose of evaluating the scale with Cronbach's Alpha coefficients is to find out which observational variables need to be retained and which observed variables need to be omitted among the many observed variables that have been included in testing.

Step 2: EFA:

Exploration Factors Analysis is used to determine the relationships of many identified variables and find the representative factors for observed variables. Bartlett's test is used to test the H0 hypothesis that the variables are not correlated with each other in the population and KMO is used to check whether the sample size is consistent with factor analysis or not.

Table 4. EFA for independent factors

Code	Component						
	Environment	**Management policy**	**Travel products**	**Human resources for tourism**	**Accessibility**	**Infrastructure**	**Travel resources**
MT4	.864						
MT1	.852						
MT3	.831						
MT2	.798						
MT5	.722						
CSQL3		.863					
CSQL1		.854					
CSQL4		.843					
CSQL2		.825					
SPDL1			.834				
SPDL5			.834				
SPDL3			.745				
SPDL2			.719				
SPDL4			.646				
NNLDL1				.855			
NNLDL3				.842			
NNLDL4				.836			
NNLDL2				.826			
KNTC3					.788		
KNTC4					.768		
KNTC1					.746		
KNTC2					.718		

CSHT2						.896	
CSHT3						.873	
CSHT1						.829	
TNDL3							.893
TNDL2							.883
TNDL1							.872
Eigenvalues	1.527	Total Variance Explained	71.067	KMO		0.796	

Source: results from SPSS

The results of the rotation matrix of the scale showed that 28 observed variables were grouped into 7 factors, all observed variables had Factor Loading factor greater than 0.3, with KMO coefficients valid. equal to 0.796 (0.5 ≤ KMO = 0.796 ≤ 1), factor analysis is acceptable with the study data set, and the stop when extracting the factors at Eigenvalues = 1.527> 1 shows the convergence of factor. Total variance extracted is 71.067% > 50%, showing that the EFA model is suitable. Thus, the 7 factors explain 71,067% of the variability of the data.

The seven factors are described as follows:

+ Factor 1: Including 5 observed variables, named "Environment".

+ Factor 2: Consists of 4 observed variables, named "Management policy".

+ Factor 3: Includes 5 observed variables, named "Tourism Product".

+ Factor 4: Includes 4 observed variables, named "Tourism human resources".

+ Factor 5: Includes 4 observed variables, named "Accessibility".

+ Factor 6: Includes 3 observed variables, named "Infrastructure."

+ Factor 7: Includes 3 observed variables, named "Tourism Resources."

Table 5. EFA for dependent factor

Code				**Component** **Tourism development**	
PTDL3				.878	
PTDL2				.867	
PTDL1				.866	
PTDL4				.853	
Eigenvalues	3.001	**Total Variance Explained**	75.037	**KMO**	0.670

Source: results from SPSS

The results of the rotation matrix of the tourism development scale show that four observed variables are grouped into 1 factor while all observed variables have Factor Loading factors greater than 0.3, with coefficients KMO has a value of 0.670 (0.5 ≤ KMO = 0.670 ≤ 1), factor analysis is acceptable with the study data set, and the value of Eigenvalues = 3.001 > 1 shows the convergence of the factor. The total extracted variance is 75.037%> 50%, which shows that the EFA model is suitable.

Includes 4 observed variables, named "Tourism Development". The theoretical model remains the same including 7 independent variables affecting tourism.

Table 6. Correlation coefficient matrix

	CSHT	CSQL	KNTC	MT	NNLDL	SPDL	TNDL	PTDL
CSHT	1	-.077	.004	.029	-.092	.017	-.069	.119*
CSQL	-.077	1	.363**	.080	.067	.348**	.144**	.431**
KNTC	.004	.363**	1	.017	.235**	.399**	.089	.414**
MT	.029	.080	.017	1	.078	-.006	.108*	.309**
NNLDL	-.092	.067	.235**	.078	1	.135**	.091	.341**
SPDL	.017	.348**	.399**	-.006	.135**	1	.137**	.357**
TNDL	-.069	.144**	.089	.108*	.091	.137**	1	.291**
PTDL	.119*	.431**	.414**	.309**	.341**	.357**	.291**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Source: results from SPSS

Analysis results show that there is a correlation between the dependent and independent variables in the model in which the correlation between the variable "accessibility" and "tourism development" is the highest 0.414, "infrastructure "And the variable" tourism development "is the lowest.

The adjusted R2 value of the overall model is 45.8%, showing that the independent variables in the model explain about 45.8% of the influence of factors considering the general perception of tourism development associated with the Mekong Delta environment.

Table 7. Coefficient of Determination

Model	R	R2	Adjusted R2	Std. Error of the Estimate	Durbin- Watson
1	.685[a]	.469	.458	.35998	1.765

a. Predictors: (Constant), CSHT, CSQL, KNTC, MT, NNLDL, SPDL, TNDL

b. Dependent Variable: PTDL

Source: results from SPSS

The quantity Durbin - Watson is used to testing the correlation of adjacent errors. Based on the above regression model summary table, we see the value of Durbin - Watson = 1.765, so there is no autocorrelation phenomenon in the model.

Step 3: multiple regression model

Table 8. Variables of the model

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	Collinearity Statistics	
	B	Beta				Tolerance	VIF
(Constant)	-.329	.245		-1.339	.181		
CSHT	.120	.028	.164	4.238	.000	.976	1.025
CSQL	.203	.032	.269	6.278	.000	.798	1.253
KNTC	.140	.033	.187	4.224	.000	.750	1.333
MT	.173	.028	.242	6.241	.000	.974	1.027
NNLDL	.175	.029	.241	6.045	.000	.923	1.084
SPDL	.119	.040	.130	3.009	.003	.782	1.280
TNDL	.163	.035	.182	4.633	.000	.953	1.049

Source: results from SPSS

4.2. Discussion

In the multivariate regression analysis, we observe that with multicollinearity analysis, the values of the VIF factors are all <2. It can be concluded that there is no multicollinearity phenomenon. This means that there are no distinct effects between the independent variables, and this does not affect the linear regression model of the study.

T-test with 95% significance level shows that there are 7 independent variables statistically significant in the regression model. Test the correlation relationship between the independent variable and the dependent variable, then Sig. of 7 variables are <0.05, we can conclude that between the 7 independent variables and the dependent variable of tourism development there is a statistically significant regression correlation with 95% confidence. Meanwhile, the constant variable has observed significance Sig = 0.181> 0.05, so it is not significant in the regression equation. Thus, we can exclude the constant variable from the regression model. On the other hand, the regression coefficients of the factors all have positive signs, showing that the factors in the above regression model have a proportional influence on tourism development as the research model under the initial hypothesis.

Regression equation with standardized coefficients:

PTDL = 0.269 CSQL + 0.242 MT + 0.241 NNLDL + 0.187 KNTC+ 0.182 TNDL + 0.164 CSHT + 0.130 SPDL

Among the influencing factors, the administrative factor has the strongest impact on tourism development, which shows that the impact from the government policy has a strong influence on tourism development associated with the environment in the region current Mekong Delta.

According to the analysis results, tourism management policy has the strongest impact on tourism development in the Mekong Delta, with the highest coefficient B = 0.203. Tourism management policy is the most important factor in the process of orienting tourism development in the region. Specifically, when the policy of managing tourists and related departments feels that it is in line with the reality and the right development direction is to increase by 1 unit (other factors are unchanged), the development tourism of the region increased by 0.13 units and vice versa. This variable expresses tourist, and stakeholders evaluate the tourism development policy clearly, properly demonstrating the Party and State's policy on tourism development associated with the environment, the region's tourism development will increase.

Besides this, with the coefficient B = 0.175, the local authorities and tourism businesses also coordinate to train the green tourism workforce that helping the local residents develop the economy in a green and environmentally friendly direction. Thus, focusing on developing tourism human resources under tourism development needs in each period, each locality in the Mekong Delta.

Likewise, the tourism environment variable with the coefficient B = 0.173, demonstrates that when there is an interest in building and protecting the tourism environment from the local authorities, tourism businesses and local residents will improve and promote the development of local tourism as sustainable tourism development. According to the analysis results, this variable is arranged in fourth which is quite important in the tourism development associated with the environment in the region.

The Mekong Delta is of the nature of the delta adjacent to the sea, with warm climate conditions. So, many natural resources can be exploited for tourism development. This area has a rich ecosystem with many different characteristics such as sea, island, estuary, wetland, and delta island create many advantages for ecotourism development. So, to invest in the system's development of roads, waterways, and airways in the region, connecting tourist spots in the region to form an inter-regional tour system. Local authorities need to invest adequately in infrastructure for the region's tourism, have policies and mechanisms to promptly support investors in investing in infrastructure in localities in the region. That strengthens the socialization of tourism, attracts all economic sectors to join, exploit, benefit together and protect the tourism environment together. Promote policies to attract investment, create favorable conditions for tourism to develop tourism infrastructure in the region. Besides, tourism in the Mekong Delta needs to develop unique, highly attractive, impressive, diverse, and rich tourism products in each locality. Simultaneously, develop tourism products that do not affect the environment as "green" tourism products. In particular, garden and river sightseeing tourism products become a unique product of Mekong Delta tourism.

5. Conclusion

This paper aims to investigate the factors influencing tourism development and environmental protection in the Mekong Delta River in the years 2020-2030. The author used qualitative and quantitative research to conduct the research. The linear relationships between the factors and the observed variables serve as the foundation for this study. The results show that the following significant factors were investigated in the study: management policy, human tourism resources, tourism environment, accessibility and infrastructure, and regional tourism resources.

As a result, the author will propose the implications of tourism development and the solutions that will enhance the protection of the environment in the Mekong Delta River in the years 2020-2030.

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CORPORATE SOCIAL RESPONSIBILITY AND CUSTOMER LOYALTY: THE MEDIATING ROLE OF CORPORATE IMAGE IN VIETNAMESE AVIATION INDUSTRY

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ABSTRACT

Corporate social responsibility (CSR) towards sustainable development has been identified as a marketing philosophy that businesses in developed countries should pursue in the post-Covid-19 era as these practices deal with urgent social and environmental challenges. These efforts have been proven to enhance corporate image and reinforce strong bonds with customers. In developing countries like Vietnam, the impact of CSR on consumer behavior and the mechanism regulating the relationship between CSR and consumer behavior are the research gaps that have not been widely investigated. This study explores the relationship between CSR and customer loyalty, with the emphasis on the mediating role of corporate image. Focusing on the Vietnamese aviation industry, the author surveyed 514 customers and analyzed using structural equation modeling. The findings show that CSR has a positive impact on corporate image and customer loyalty. In addition, CSR also affects customer loyalty through enhancing corporate image. Study results have provided research implications and management implications for the future.

Keywords: aviation industry, corporate image, corporate social responsibility, customer loyalty

1. Introduction

The COVID-19 pandemic has had a global economic impact on many industries, among which aviation is one of the most severely affected sectors, when the figures for international air passenger traffic in 2020 was 60% lower than 2019 data and revenue loss was 371 billion USD. The full-year 2021 outlook forecasts that total loss in 2021 would be maintained at 314 billion USD (ICAO, 2021). According to He & Harris (2020), the short-term negative effects of the Covid-19 pandemic have been immediately noticeable due to the lockdown and social distancing orders. However, in the long term, the pandemic will have a profound socioeconomic impact. At the international level, the United Nations have called for efforts to build sustainable post-Covid-19 economies that are flexible in dealing with economic, social, and environmental issues (United Nations, 2020). At the corporate level, the pandemic has had a strong effect on corporate social responsibility (CSR) and marketing philosophy as many businesses have realized that their prosperity is closely related to the well-being of stakeholders and sustainable development of the whole society. The pandemic opens up opportunities for ethical businesses to build corporate image and strengthen their relationship with customers since the sustainable CSR practices make customers believe that these businesses are ethical and they are willing to patronize businesses' services (He & Harris, 2020; Liu et al., 2020).

Having encountered the same situation as the global aviation industry, Vietnamese airlines are experiencing the toughest period and trying to get out of the disastrous downturn. As suggested by Lee (2020), in order to restore prosperity when the Covid-19 pandemic is over, airlines should strive to preserve their decent image and win customers' hearts by implementing genuine CSR practices. In the Vietnamese socio-economic context, CSR initiatives are relatively new to Vietnamese consumers, so, certainly, Vietnamese customers' understanding and reactions to CSR policies may significantly differ from those of customers in developed countries. The findings in developed countries should not be generalized to developing countries but should be reviewed by conducting new research in the local country. In the case of Vietnam whether customers are deeply impressed by authentic CSR practices and are willing to make a commitment to a long-term relationship with ethical airlines? The purpose of the current paper is to explore the influence of CSR on corporate image and customer loyalty for the case of the Vietnamese aviation industry and thereby proposing theoretical implications for future research and managerial implications for businesses.

2. Theoretical Framework

2.1. CSR in aviation industry

CSR was first mentioned by Bowen as the basic rules of conduct that a decent business should treat its stakeholders (Bowen, 1953). To date, scholars have not agreed on CSR definition and its measurement components (Dahlsrud, 2008). However, researchers often consider CSR from three popular viewpoints. (1) Carroll's CSR pyramid proposes that CSR includes four components of economic, legal, ethical, and philanthropic responsibilities (Carroll, 1991). (2) The stakeholder perspective suggests that businesses should behave responsibly to internal and external stakeholders and create shared value for the business and all parties (Freeman et al., 2010). (3) The sustainable development viewpoint proposes that CSR should include all the moral practices to ensure sustainable economic growth, environmental protection, and social value enhancement (Van Marrewijk, 2003). Since the aviation industry seriously affects the environment, the sustainable development perspective is considered as the most suitable approach for the current study.

In addition, due to the specific characteristics of the aviation industry, IATA and ICAO have developed action programs for sustainable aviation practices including safety, COVID-19, customer experience, environment, operations, and efficiency. In which, safety is the top priority in IATA's action program (IATA, 2020) and the key to the effective operation and sustainable development of the industry (ICAO, 2018). According to ICAO, safety is closely related to the implementation of 11 out of 17 United Nations' sustainable development goals (ICAO, 2016b). Along with the environment, safety has been placed at the heart of sustainable aviation by IATA and ICAO (Chang et al., 2015; ICAO, 2016a; IATA, 2009). At the corporate level, senior leaders of major airlines have recognized safety as the most important criterion for CSR strategy. From customers' viewpoint, safety is the crucial attribute that they perceive about airlines' CSR (Asatryan, 2012; Liou & Chuang, 2008). Based on the above arguments, the author suggests that when considering CSR dimensions from the perspective of sustainable development in the aviation industry, safety should be incorporated in airlines' CSR programs as an industry-specific responsibility. Thus, in the current article, CSR consists of four constructs including economic responsibility, social responsibility, environmental responsibility, and safety responsibility.

2.2. CSR dimensions in aviation industry

2.2.1. Economic responsibility

For decades, the aviation industry has rapidly developed and become an integral part of tourism and transportation (Yang et al., 2020). Airlines play a vital role in developing a sustainable and integrated transport system so that other means of transport could be used efficiently to create favorable conditions for logistics development. The aviation industry creates jobs for society, promotes local cuisine and tourism, facilitates the development of entertainment service businesses, and stimulates sustainable economic growth ((ICAO, 2012; Vietnam Airlines, 2021).

2.2.2. Social Responsibility

ICAO (2012) affirms that airlines create worldwide connections between urban centers and remote islands, provide educational opportunities for the young generation and contribute to the advancement and empowerment of women. In times of disasters, airlines are responsible for delivering food and medical supplies and providing rescue services (Park, 2019; Park et al, 2015). Repatriation and rescue flights have contributed to minimizing losses and alleviating grief for the community during floods and the Covid pandemic (Vietnam Airlines, 2021).

2.2.3. Environmental Responsibility

To mitigate negative environmental impacts, IATA has set targets to reduce CO2 emission and noise pollution and required all members to comply by effectuating four strategies including new generation aircraft, efficient operation, modern infrastructure, and carbon offsetting scheme. IATA member airlines must also carry out the assessment on emission control, fuel consumption and prioritize the implementation of environmental policy to achieve sustainable environmental goals.

2.2.4. Safety Responsibility

Airlines are responsible for ensuring absolute safety in operation through strict adherence to safety practices prescribed by ICAO, IATA, and the Civil Aviation Authority. All IATA members must register IATA operational safety audit (IOSA) to maintain IATA membership. They must address the issues of cabin safety, runway safety, fatigue, loss of control in-flight, aircraft handling, and manual flying skill reports to improve operational safety.

2.3. Corporate Image

Corporate image is the distinctive overall impression of a company in the mind of customers (Gray & Balmer, 1998). According to Dowling (1986), corporate image is formed based on customers' beliefs and feelings about the company and influenced by media and corporate philosophies. In the context of an economic downturn where the unemployment rate is high and public services are neglected, CSR emerges as an important element in corporate short-term and long-term action plans because the responsible practices would generate a positive impression to the customers (Han et al., 2019; Juntunen et al., 2013; Lee et al., 2015; Rashid et al., 2014; Siahaan & Masdupi, 2019). In addition, Virvilaite & Daubaraite (2011) stated that marketing communication conveying corporate attitudes and behaviors would contribute to image enhancement. Therefore, companies often combine business performance and external communication to build a good corporate image.

2.4. Customer Loyalty

Jacoby & Chestnut (1978) regarded customer loyalty as the psychologically biased behavior of consumers to one or more alternative brands out of a set of available brands in the market. Even though the typically loyal customer can be described as the one who purchases continually, customer loyalty should not be measured only by purchase behavior since the purchase can be swayed by situational factors. Thus, the attitudinal dimension should be included in the loyalty concept (Nguyen & LeBlanc, 2001). Nguyen & LeBlanc (2001) believed that in order to evaluate true loyalty, it is advisable to analyze purchases in the context where customers experience competitive pressure to change purchase habits. From this perspective, true loyalty exists when customers resist pressure to switch to another brand. Therefore, true loyalty should be measured by customer retention likelihood, customer commitment, positive word of mouth, and willingness to pay for the service at a higher price.

2.5. Theoretical foundation

2.5.1. Person-organization fit theory

This theory explains the relationship between perceived CSR and customer engagement with the business. Kristof (1996) defined *person – organization fit as the compatibility between people and organizations that occurs when: (a) at least one entity provides what the other needs, or (b) they share similar fundamental characteristics, or (c) both.* When an individual finds his/her viewpoints and his/her perception of the organization's identity relevant and compatible, he/she will be attracted to the organization because it is an opportunity for him/her to express himself/herself. For example, when employees and the company are compatible in terms of values, this will foster the preference between employees and the company. Likewise, customer commitment to the businesses is based on their perception of the fit between themselves and the corporate identity. The purchase decision is an opportunity for them to express their value or what they want to become (He & Lai, 2014). Thus, when customers realize that their viewpoint and the perceived CSR are compatible, customers will wish to be associated with the business (Fatma et al., 2020; Sen & Bhattacharya, 2001).

2.5.2. Social identity theory

Following the theory of person – organization fit, the social identity theory proposed by Tajfel (1974) is used to further explain the influence of perceived CSR on corporate image and customer loyalty. Social identity theory asserts that when individuals identify themselves with the organization to which they belong, they will have a sense of pride if the organization achieves accomplishment. They will become more satisfied with the organization and increase their commitment to the organization. Therefore, when customers perceive the responsibility of the business through CSR initiatives, they are likely to assume that the ethical business has respectable characteristics that resonate with their ego (Lichtenstein et al., 2004). When customers identify themselves with a socially responsible business, due to the psychology of belonging, corporate image is more likely to be improved (Marin et al., 2009) and customers are willing to support the business and its services (Bhattacharya & Sen, 2003; Du et al., 2007; Fatma et al., 2020; Raza et al., 2020).

3. Hypothesis development

3.1. Relationship between economic responsibility, corporate image, and customer loyalty

CSR has been proven to have a positive impact on the attitude and satisfaction of tourists (Hoang Anh Thu, 2021) and airline passengers (Park, 2019; Park et al., 2015). The efforts to contribute to the national economic development by investing and generating profit, creating jobs for the society have enhanced the airline's reputation and aroused a good impression in the mind of customers. From such positive sentiment, customers feel satisfied when flying with the profitable airline, and they consider using its services as a wise choice. Moreover, they will recommend the airline's service to their relatives and friends (Park, 2019; Park et al., 2015). From previous studies, the author proposes the following hypotheses for the case of Vietnamese airlines:

H1a: Economic responsibility has a positive influence on corporate image

H1b: Economic responsibility has a positive influence on customer loyalty

3.2. Relationship between social responsibility, corporate image, and customer loyalty

Such CSR initiatives supporting the sustainable development of the community as raising funds for social activities, sponsoring cultural and sports events, encouraging employees to participate in volunteer activities (Alvarado-Herrera et al., 2017; Park, 2019; Park et al., 2015), striving to improve community welfare and treating employees fairly (Martínez et al., 2014) have shaped a good and lasting impression about the business and generated both attitudinal and behavioral loyalty. Customers continue using the brand in the future and consider the brand as their first choice (Martínez et al., 2014). From previous studies, the author proposes the following hypotheses for Vietnamese airlines:

H2a: Social responsibility has a positive influence on corporate image

H2b: Social responsibility has a positive influence on customer loyalty

3.3. Relationship between environmental responsibility, corporate image, and customer loyalty

Previous studies have shown that customers are always in favor of businesses that behave responsibly to protect the sustainability of the environment. Pro-environmental programs, recycling, reducing the consumption of natural resources and pollution, conducting annual environmental audits are the activities that businesses in the tourism and aviation industry usually implement to protect the environment (Alvarado-Herrera et al., 2017; Martínez et al., 2014; Park, 2019; Park et al., 2015). These authentic CSR initiatives have evoked positive feelings about a healthy business and increased perceived value and emotional attachment (Hwang & Lyu, 2019). From the previous studies, the author proposes the following hypotheses for the case of Vietnam:

H3a: Environmental responsibility has a positive influence on corporate image

H3b: Environmental responsibility has a positive influence on customer loyalty

3.4. Relationship between safety responsibility, corporate image, and customer loyalty

In the aviation industry, safety is a vital requirement that airlines must guarantee. It is the factor that has the strongest impact on an airline's image (Jeeradist et al., 2016) and is the decisive CSR dimension for customer trust and loyalty (Latif et al., 2019). Thus, airlines have the responsibility to comply with safety regulations and procedures stipulated by authorities. They must prevent, control, and eliminate risks to ensure safe flights for passengers and crew. From the previous studies, the author proposes the following hypotheses for Vietnam:

H4a: Safety responsibility has a positive influence on corporate image

H4b: Safety responsibility has a positive influence on customer loyalty

3.5. Relationship between corporate image and customer loyalty

Corporate image is one of the antecedents of customer loyalty since it induces beliefs and positive emotions (Asatryan & Asamoah, 2014). Corporate image has been proven to be closely related to the willingness to pay higher prices and positive word of mouth in the Korean aviation industry (Cho et al., 2017; Park, 2019), in Nigeria (Geraldine, 2013); and the intention to continue using the service in Taiwan (Wang, 2018). From the previous studies, the author proposes the following hypotheses for Vietnam:

H5: Corporate image has a positive influence on customer loyalty.

3.6. Mediating role of corporate image in the relationship between CSR and customer loyalty

Previous studies have shown that CSR has an indirect influence on customer loyalty in the Indonesian banking industry (Andika et al., 2017), Taiwanese bicycle business (Wang, 2018), Spanish and Turkish hospitality industry (Gürlek et al., 2017; Martínez et al., 2014). Although these studies have confirmed the mediating role of corporate image in the relationship between CSR and customer loyalty, they have not separately considered each responsibility aspect in the research framework. Studies on the mediating role of corporate image in the relationship between the different CSR constructs and customer loyalty have not been widely investigated. So far there has been the research of Irwani et al (2015) for the retail industry evaluating the mediating role of corporate image between customers' perception towards three CSR constructs – customers, community, and environment – and their loyalty to the retail brands. The research of Irwani et al (2015) showed that corporate image has a role of full mediator in the relationship between CSR community and customer loyalty, and a role of partial mediator in the relationship between CSR constructs (customers and environment) and customer loyalty. It can be said that exploring the mediating role of corporate image in the relationship between various CSR constructs and customer loyalty could help identify the influencing strength of each CSR construct and corporate image to customer loyalty. In the aviation industry, the author expects that there is an impact mechanism from CSR to customer loyalty with the mediating role of corporate image. Therefore, the author puts forward the following research hypotheses:

H6a: Corporate image mediates the relationship between economic responsibility and customer loyalty.

H6b: Corporate image mediates the relationship between social responsibility and customer loyalty.

H6c: Corporate image mediates the relationship between environmental responsibility and customer loyalty.

H6d: Corporate image mediates the relationship between safety responsibility and customer loyalty.

4. Research method

In developed countries, CSR has been acknowledged as an important part of corporate competitive strategy. However, it is a relatively new category in developing countries like Vietnam. To assess the influence of CSR on corporate image and customer loyalty, the author must develop and validate the scale of CSR, corporate image, and customer loyalty for the case of the Vietnamese aviation industry before conducting formal quantitative research. Thus, the research procedure follows four steps:

Step 1: construct domain identification

The domains of the constructs in the present paper are CSR, corporate image, and customer loyalty. More precisely, the proposed scale is to measure customer perceptions of CSR initiatives implemented by Vietnamese airlines to enhance airline image and improve customer loyalty.

Step 2: scale generation for CSR, corporate image, and customer loyalty constructs

To generate the rigorous scale items, the authors combined several different methods including literature review, expert survey, and group discussion. Initially, based on the reviewing of existing literature, 32 items were drafted with a focus on CSR initiatives (economic, social, environmental, and safety responsibilities), corporate image, and customer loyalty. Furthermore, the study involved a Delphi survey with academics and professionals specialized in the field of the aviation industry and marketing for item validation to measure corporate image, customer loyalty, and CSR constructs for the case of Vietnamese airlines. The experts were asked to critically analyze the items and suggest new ideas for scale development. The process resulted in several items being modified for better understanding and several items being added to the scale. Delphi survey completed with a total of 37 items being finally included in the scale. Additionally, a group discussion with the participation of customers was held to assess their understanding and perception about airlines' CSR practices, corporate image, and loyalty and to confirm the clarity and conciseness of the items in the questionnaire. Step 2 concluded with the pilot questionnaire for the next step.

Step 3: scale finalization

Preliminary quantitative research was conducted by surveying 150 passengers to finalize the items with respect to the constructs they were supposed to measure. The results of Cronbach's Alpha coefficient for ECO (0.908), SOC (0.898), ENV (0.871), SAF (0.846), IMG (0.885), LOY (0.842), and the item-total correlations (≥ 3) evidenced the internal consistency of items as a construct. EFA analysis performed for the first time excluded 1 ECO item and 2 SOC items since their factor loadings were lower than 0.5. The second EFA analysis showed that all loading factors were greater than 0.5, six components were extracted and the figures for KMO, Bartlett's test, and Eigenvalues were satisfactory. The formal questionnaire was finalized with 34 items for 6 constructs as shown in Table 1.

Table 1. Measurement Summary

Items		**Sources**
Economic responsibility		
ECO1	X is trying to maximize profits to guarantee its continuity.	(Alvarado-Herrera et al., 2017; Maignan, 2001; Martínez et al., 2013; Park, 2019; Pérez & del Rodríguez Bosque, 2013; Tran Nguyen Khanh Hai, 2019) Experts' opinion
ECO2	X is trying to continuously improve the quality of the services that it offers.	
ECO3	X is trying to do its best to be more productive.	
ECO4	X is trying to build a solid relationship with its customers to assure its long-term economic success.	
ECO5	X is trying to create jobs for the economy.	
ECO6	X is trying to contribute to national economic development by promoting regional specialties and tourism.	
ECO7	X is trying to contribute to the development of a sustainable and efficient integrated transportation system.	
Social responsibility		
SOC1	X is trying to play a role in society that goes beyond mere profit generation.	(Alvarado-Herrera et al., 2017; Chen et al.,

SOC2	X is trying to sponsor educational programs.	2012; Maignan, 2001; Martínez et al., 2013; Park, 2019; Pérez & del Rodríguez Bosque, 2013; Tran Nguyen Khanh Hai, 2019)
SOC3	X is trying to sponsor cultural programs.	
SOC4	X is trying to sponsor public health programs.	
SOC5	X is trying to be highly committed to well-defined ethical principles.	
SOC6	X is trying to volunteer the services of rescuing, transportation and supply in times of disaster.	
SOC7	X is trying to contribute to the improvement of life quality in the local community.	
SOC8	X encourages employees to participate in volunteer activities in the community.	
Environmental responsibility		
ENV1	X is trying to sponsor pro-environmental programs.	(Alvarado-Herrera et al., 2017; Martínez et al., 2013; Öberseder et al., 2014; Park, 2019; Tran Nguyen Khanh Hai, 2019), Experts' opinion
ENV2	X is trying to carry out programs to reduce pollution.	
ENV3	X is trying to allocate resources to offer services compatible with the environment.	
ENV4	X is trying to protect the environment.	
ENV5	X is trying to use only the necessary natural resources.	
ENV6	X is trying to conduct its business activities in accordance with the environmental regulations and policies stipulated by the government and international covenants.	
Safety responsibility		
SAF1	X is trying to prevent safety-accident.	(Cho et al., 2017); Experts' opinion
SAF2	X is trying to build and operate a safety management system.	
SAF3	X is committed to airline operation safety.	
SAF4	X is doing well in safety-related guidance.	
SAF5	X always puts safety as the top priority and the basis of all activities.	
Corporate Image		
IMG1	I always have a good impression of X.	Nguyen & LeBlanc, 2001
IMG2	In my opinion, X has a good image in the minds of consumers.	
IMG3	I believe that X has a better image than its competitors.	
Customer Loyalty		
LOY1	If I need to fly now, X would be my first choice.	Nguyen & LeBlanc, 2001; Experts' opinion
LOY2	I will continue to do fly with X.	
LOY3	I would recommend X as the best airline in Vietnam.	
LOY4	I would encourage friends and relatives to fly with X.	
LOY5	I am willing to pay a higher price for the service of X.	

Source: Author's proposal

Step 4: formal quantitative research

The questionnaire used in the current research was comprised of queries on demographic information like gender, age, monthly income, and marital status. After asking questions to screen the respondents, the field interviewers invited them to participate in the survey. The respondents who agreed to take part in the study would receive a questionnaire and answer it in approximately 15 minutes. Of 525 questionnaires distributed, 520 were returned to the field interviewers. After checking, 6 questionnaires were removed due to insufficient information. The usable questionnaires were 514 copies. According to Hair et al. (2009), the minimum number of necessary samples to meet the statistical constraints should be at least 5 times the total items (5x34 = 170). Thus, a sample size of 514 participants in the current study is acceptable.

Table 2. Sample Demographics

Gender		**Marital Status**	
Male	246 (47.9%)	Single	126 (24.5%)
Female	268 (52.1%)	Married	388 (75.5%)
Total	514 (100.0%)	Total	514 (100.0%)
Age		**Monthly Income**	
20-29	105 (20.4%)	Under 5 million dongs	67 (13.0%)
30-39	133 (25.9%)	5 – 10 million dongs	127 (24.7%)
40-49	119 (23.2%)	10 – 15 million dongs	103 (20.0%)
50-59	97 (18.9%)	15 – 20 million dongs	130 (25.3%)
Over 60	60 (11.7%)	Over 20 million dongs	87 (16.9%)
Total	514 (100.0%)	Total	514 (100%)

Source: Research result

5. Results and discussion

5.1. Results

Table 3. Descriptive Statistics, Internal Reliability and Convergent Reliability

Constructs	Items	Factor Loading	Cronbach's Alpha	Composite Reliability	Average Variance Extracted
Economic Responsibility (ECO)	ECO1	.630	0.872	0.8750981	0.5050296
	ECO2	.943			
	ECO3	.600			
	ECO4	.626			
	ECO5	.774			
	ECO6	.677			
	ECO7	.646			
Social Responsibility (SOC)	SOC1	.923	0.894	0.8948980	0.5168109
	SOC2	.697			
	SOC3	.648			
	SOC4	.661			

	SOC5	.687			
	SOC6	.754			
	SOC7	.651			
	SOC8	.676			
Environmental Responsibility (ENV)	ENV1	.678	0.871	0.8741574	0.5386548
	ENV2	.674			
	ENV3	.969			
	ENV4	.626			
	ENV5	.725			
	ENV6	.634			
Safety Responsibility (SAF)	SAF1	.908	0.851	0.8544619	0.5429246
	SAF2	.541			
	SAF3	.673			
	SAF4	.603			
	SAF5	.785			
Corporate Image (IMG)	IMG1	.700	0.845	0.8479212	0.6507430
	IMG2	.910			
	IMG3	.704			
Customer Loyalty (LOY)	LOY1	.610	0.837	0.8391348	0.5116250
	LOY2	.838			
	LOY3	.763			
	LOY4	.731			
	LOY5	.622			

Source: Research results

Table 4. Discriminant Reliability

Constructs	**ECO**	**SOC**	**ENV**	**SAF**	**IMG**	**LOY**
1. Economic Responsibility (ECO)	***0.711***					
2. Social Responsibility (SOC)	0.321	***0.719***				
3.Environmental Responsibility (ENV)	0.373	0.442	***0.734***			
4. Safety Responsibility (SAF)	0.385	0.394	0.469	***0.737***		
5.Corporate Image (IMG)	0.381	0.402	0.451	0.508	***0.807***	
6.Customer Loyalty (LOY)	0.261	0.342	0.387	0.378	0.392	***0.715***

Note: The bold and italic figures are the square root of AVE for the constructs

Source: Research results

Structural equation modeling (SEM) via Analysis of Moment Structure (AMOS) version 20 was performed in the study as it can verify model consistency with the data and estimate impacts among constructs instantaneously. To test the validity and reliability of the constructs and the convergence of their items, Cronbach's Alpha value (satisfactory level >= 0.7), KMO (= 0.918), Barlett's test of sphericity (sig = 0.000 < 0.05), factor loadings (satisfactory level >= 0.5), composite reliability (satisfactory level >=0.7) and average variance extracted (satisfactory level >=0.5) were computed (Hair et al., 2009). In addition, the author also conducted a discriminant test to verify that the square root level of AVE for each construct is greater than its correlations with other constructs, being qualified for discriminant validity (Fornell & Larcker, 1981). The figures in table 3 and table 4 demonstrate that the current study satisfies the requirements of the validity test.

Table 5. Fit Indices

Fit Indices	Measurement model	Research model	Satisfactory level	Sources
Chi-square/df	2.021	2.021	< 3	(Baumgartner & Homburg, 1996; Bentler & Bonett, 1980; Doll et al., 1994; Hair et al., 2009; Steiger, 1990)
GFI	0.896	0.896	> 0.8	
IFI	0.939	0.939	> 0.9	
CFI	0.939	0.939	> 0.9	
TLI	0.933	0.933	> 0.9	
RMSEA	0.045	0.045	< 0.08	
P value	0.000	0.000	< 0.05	

(Source: Research results)

Model fit indices were calculated to verify the model's suitability. Table 5 shows that the goodness of fit indices is satisfied as all the statistics are greater than the satisfactory level.

Hypothesis Test - SEM Model

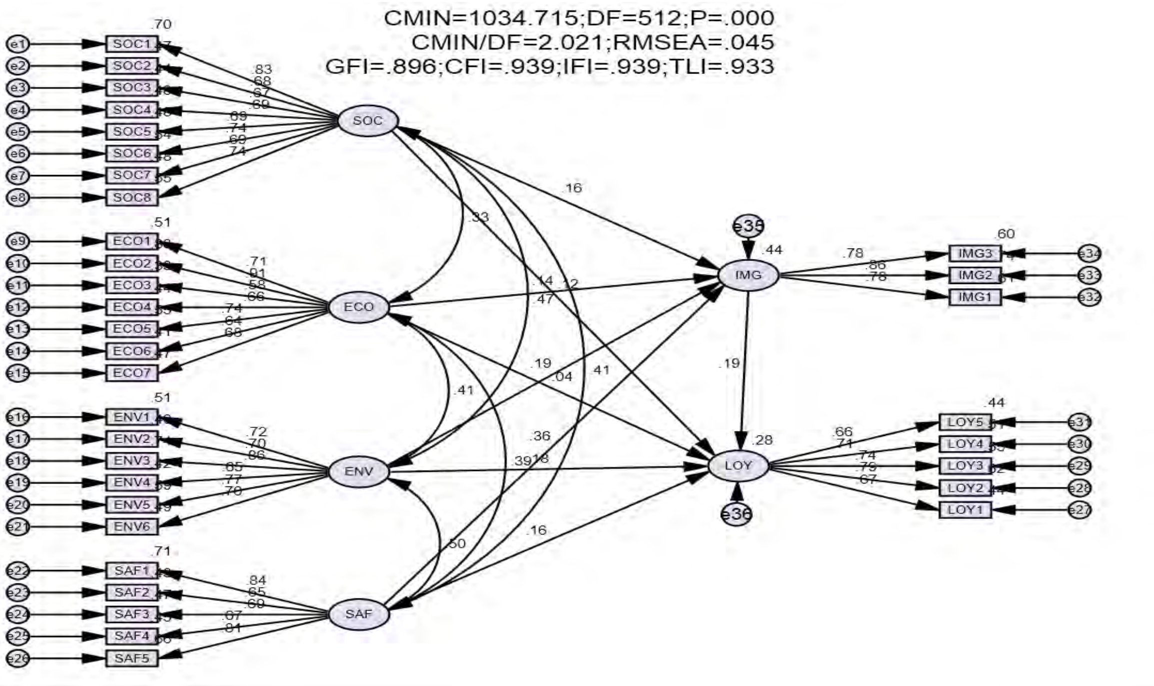

Figure 1. Structural Equation Modeling (Standardized)

(Source: Research result)

Table 6. Results of Structural Equation Modeling Analysis

Path	Hypothesis	Path coefficient	S.E.	C.R.	P	Decision on Hypothesis
ECO → IMG	H1a.	.142	.044	2.982	.003	Supported
ECO→ LOY	H1b.	.039	.042	.752	.452	Not Supported
SOC → IMG	H2a.	.161	.042	3.240	.001	Supported
SOC → LOY	H2b.	.124	.041	2.249	.024	Supported
ENV → IMG	H3a.	.189	.055	3.435	***	Supported
ENV → LOY	H3b.	.177	.054	2.863	.004	Supported
SAF → IMG	H4a.	.364	.048	6.659	***	Supported
SAF → LOY	H4b.	.162	.049	2.548	.011	Supported
IMG → LOY	H5.	.187	.058	2.810	.005	Supported

(Source: Research results)

Table 6 presents the first nine hypotheses, path coefficients, the P-value, and the decision on hypotheses. The P-value indicates whether the relationship between the independent variable and the dependent variable is significant or not. The significant relationship is expected to have a P-value below 0.05. From the results presented in Table 6, economic responsibility (ECO) was statistically significant in predicting corporate image (IMG), thus supporting H1a, but it was not a significant antecedent of customer loyalty (LOY) as P-value = 0.452, thus, H1b was not supported. Furthermore, social responsibility (SOC), environmental responsibility (ENV), and safety responsibility (SAF) were statistically significant for predicting corporate image (IMG) and customer loyalty (LOY), thus, H2a, H2b, H3a, H3b, H4a, H4b were supported. Moreover, corporate image (IMG) was proved to have a significantly positive effect on customer loyalty (β = 0.187, P-value = 0.005), thus, H5 was supported.

Table 7. Summary of Effect Decomposition

Dependent Variable	Type of effect	ECO	SOC	ENV	SAF	IMG
IMG	Direct effect	0.142*	0.161*	0.189*	0.364*	-
	Indirect effect	-	-	-	-	-
	Total effect	0.142*	0.161*	0.189*	0.364*	
LOY	Direct effect	0.039	0.124*	0.177*	0.162*	0.187*
	Indirect effect	0.027*	0.030*	0.035*	0.068*	-
	Total effect	0.066	0.154*	0.212*	0.230*	0.187*

*Note: Significance level: *p<0.05*

(Source: Research results)

H6a, H6b, H6c, and H6d examine the mediating role of corporate image in the relationship between four CSR variables (namely economic responsibility, social responsibility, environmental responsibility, and safety responsibility) and customer loyalty. As recommended by Shrout & Bolger (2002), bootstrap methods and confidence intervals should be applied to analyze mediating effects in structural equation modeling. Table 7 shows that the total effect of economic responsibility (ECO) on customer loyalty was 0.066 ($p>0.05$) while the direct effect was 0.039 ($p>0.05$) suggesting that corporate image (indirect effect = .027, $p<0.05$, 95%

confidence interval = 0,006 – 0,065) fully mediated the effect of economic responsibility on customer loyalty (Shrout & Bolger, 2002). This finding validated H6a. Furthermore, the total effect of social responsibility (SOC) on customer loyalty was 0.154 ($p<0.05$) while the direct effect was 0.124 ($p<0.05$) suggesting that corporate image (indirect effect = 0.030, $p<0.05$, 95% confidence interval = 0,006 – 0,083) partially mediated the effect of social responsibility on customer loyalty. Thus, H6b was validated. Likewise, with the corporate image as the mediator, the total effect of environmental responsibility (ENV) on customer loyalty was 0.212 ($p<0.05$) whereas its direct effect was 0.177 ($p<0.05$) evidencing that corporate image (indirect effect = 0.035, $p<0.05$, 95% confidence interval = 0,008 – 0,079) was the partial mediator in the relationship between environmental responsibility and customer loyalty. Thus, H6c was validated. In addition, the total effect of safety responsibility (SAF) on customer loyalty was 0.230 ($p<0.05$) and direct effect was 0.162 ($p<0.05$) suggesting that corporate image (indirect effect = 0.068, $p<0.05$, 95% confidence interval = 0,025 – 0,150) acted as the partial mediator in the relationship between safety responsibility and customer loyalty (Shrout & Bolger, 2002), thereby validating H6d.

5.2. Discussion

The purpose of the current study was to examine the influence of corporate social responsibility on corporate image and customer loyalty in the aviation industry of Vietnam. The findings could be summarized as follows: First, economic responsibility has no direct impact on customer loyalty but this construct has a direct and positive impact on corporate image. Secondly, social responsibility, environmental responsibility, safety responsibility have a positive and direct influence on both corporate image and customer loyalty. Thirdly, corporate image has a positive impact on customer loyalty. Fourthly, corporate image fully mediated the relationship between economic responsibility and customer loyalty whereas corporate image partially mediated the effect of social responsibility, environmental responsibility, and safety responsibility towards customer loyalty. Based on the findings, theoretical and managerial implications are presented in the following subsections.

5.2.1. Theoretical implication

The current study has several contributions to the theoretical implication. First, the influence of CSR on marketing philosophy can vary depending on the context of countries and economic sectors. Therefore, findings in one study may not apply to other countries or economic sectors (Bondesson, 2012). The current study focuses on the aviation industry in a developing country to affirm the role of CSR as a corporate strategy that businesses across countries should pursue. The results of this study show that CSR practices could strengthen corporate image, encourage customer loyalty and corporate image could enhance customer fidelity. This finding is consistent with the results of the previous studies in the aviation industry of Korea (Han et al., 2020), Germany (Hagmann et al., 2015), in the retail industry (Irwani et al., 2015), and the tourism industry (Gürlek et al., 2017; Martínez et al., 2014). Therefore, a study on CSR by examining different economic sectors in different countries could provide results to confirm the positive influence of CSR on businesses.

Secondly, more CSR-related studies have considered CSR as a multidimensional construct including economic, social, and environmental aspects than studies that have investigated economic construct, social construct, and environmental construct separately. This study filled the research gap by distinctly examining each construct and its impact on corporate image and customer loyalty and found that each construct has a different effect on corporate image and customer loyalty. This finding not only evidences the different influences of each CSR construct but also suggests further approaches when researching CSR domains.

Thirdly, studies on CSR in the aviation industry often focus on environmental responsibility due to the negative impact of the industry on the environment. To date, very few studies have examined safety responsibility even though it is an industry–specific CSR component towards sustainable development in the aviation industry. This study filled the research gap by examining safety responsibility and proved the vital role of safety responsibility in enhancing corporate image and tightening the bond between airlines and customers.

Finally, this study examined the mediating role to clarify how CSR affects customer behavioral intentions. Corporate image as a mediator in the relationship between CSR and customer loyalty has indicated that CSR implementation could enable businesses to form a positive image and purchase commitment. Furthermore, this study shows that all CSR constructs could directly affect the corporate image and the mediating role of the corporate image between each CSR construct and customer loyalty. Accordingly, the implementation of CSR can make a good impression on customers and encourage them to be attached to the business. This explanation arguing the effect of corporate image on customer loyalty agrees with the findings of Irwani et al. (2015).

5.2.2. Managerial implication

From the research results, safety responsibility is noted as the CSR dimension that has the strongest total impact on both corporate image and customer behavioral intentions. The finding is consistent with the psychology of passengers because safety determines the lives of passengers and crew and is the ethical factor that airlines must commit to the passengers. Even though the airlines have received the highest safety rating from the authorities, they are still undervalued by customers due to small incidents which make customers feel insecure about airline safety. This study confirmed the findings in Thailand and Taiwan (Jeeradist et al., 2016; Liou & Chuang, 2010) and implied that Vietnamese airlines must place safety at their core value because public reviews on airlines focus primarily on flight safety information rather than any other news. Therefore, Vietnamese airlines must strictly control pilot qualifications, aircraft maintenance, aircraft operation, and medical isolation procedures to avoid transmission of SARS-CoV-2 from flight attendants to the community.

In addition to safety responsibility, Vietnamese airlines should emphasize implementing environmental responsibility, social responsibility, and economic responsibility practices. In which, priority should be given to environmental responsibilities and social responsibilities due to their significant impacts on both corporate image and customer loyalty. This focus has been the trend that leading airlines in the world have followed and prioritized over the past decade (Cowper-Smith & de Grosbois, 2011). In the context of Vietnam, Vietnamese customers are expecting airlines as large conglomerates to take more actions for the sustainable development of the environment and society.

The study findings also imply that airlines should actively communicate their CSR efforts so that customers and the public could understand and update information about the business. Such communication should not be limited to the corporate annual reports and official website but should be widespread on other popular media. As the driving force of the economy, airlines and their CSR activities will have a spillover effect on businesses in other economic sectors and the public so that all the society can join hands to act for sustainable development in the future.

6. Conclusion

This study explores the influence of CSR on corporate image and customer loyalty. Based on the theory of person–organization fit and social identity theory, the author has studied the mechanism regulating the influence of CSR on corporate impression and consumer behavior. The study reveals that Vietnamese customers support CSR practices towards sustainable development, and CSR initiatives can be a promising and important marketing strategy to enhance customer patronage. They can promote the corporate ethos and strengthen the strong bond with customers. However, this study was only carried out in the aviation industry. In the future, it is necessary to have more studies in other fields for further confirmation of the influence of CSR on customer behavior.

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E-LEADERSHIP AND THE ROLE OF ELECTRONIC COMMUNICATION IN VIETNAMESE COMPANIES

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ABSTRACT

The rapid development of technology has changed methods of engagement among people, especially in organizations. The new context of leadership has occurred as a new type of management job, namely, electronic leadership or virtual leadership. This study contributes to our understanding of e-leadership, especially what challenges they encounter in the new e-context of business management in Vietnam by a survey with 46 respondents from different Vietnam companies. Although face-to-face meetings are more preferred in the context of Vietnamese culture, the research emphasizes the role of electronic communication in the relationship between an e-leader and followers in Vietnam. Both managers and employees agree that digital communication helps them in working and solving problems. Results also reveal challenges for leaders and followers in the virtual environment, resulting from the lack of trust, cultural diversity, nonverbal communication, technology infrastructure, and technology skills. Among those, trust is the biggest challenge affecting the effectiveness of communication between leaders and followers in the virtual environment in Vietnam.

Keywords: electronic leadership, electronic communication, virtual teams

1. Introduction

The past decade has seen the rapid development of using advanced technologies widespread in numerous organizations. Adopting advanced technologies and the development of the internet have brought multiple benefits and competitive advantages for businesses such as cost-saving, increased productivity and access to larger talent human resources. It is believed that advanced information technology is a reason to change how we work, how organizations work and create value (Brown and Duguid, 2000). In the new e-era workplaces develop towards virtual contexts, interaction activities between leaders and employees are conducted through technology intermediaries, including coaching, monitoring, and training (Savolainnen, 2013). In this environment, the primary tools used to keep in touch with each other are electronic channels such as telephone, fax machines, e-mail, chat or video conferences. Consequently, a new form of organization and working environment is being formed to require a new concept of leadership as electronic leadership (e-leadership). In the context of an electronic environment, e-leadership occurs when work is mediated by information technology (IT), especially the internet. This has been seen from the perspective that a leader is not physically present with the members yet interacts with them through IT-mediated means. One of the different features of e-leadership from tradition is that the direct interaction between leaders and followers is replaced by an intermediary of information technology. E-leaders pursue to achieve business goals through digital communication, which alters the traditional leader-follower relationship, although the leadership goals may not have changed.

In the relationship with e-leaders, virtual members who have been influenced by e-leaders rarely do work directly or traveling to meetings, they often use technology to communicate with one another (Weisband, 2008). In a study conducted by Carte et al. (2006) it was shown that leading in virtual groups is more challenging than in face-to-face teams because of the differences in location, cultural diversity, and mode of interaction between e-leaders and virtual members. It requires e-leaders to make more effort to build relationships with the followers. According to Lau et al. (2000), one of the keys to successful virtual teams is effective communication. Communication skill plays an important role in the influence process of leaders to followers in an organization. The quality of leadership in any organization-business is enhanced or limited by the quality of its leadership communication (Savolainen et al., 2014). Leaders should use several communication strategies to communicate effectively (Grosse, 2002). In consequence, one of the key skills that electronic leaders need to be equipped with is the ability to effectively communicate indirectly through the electronic channels commonly used in businesses.

According to the General Statistics Office of Viet Nam (2019), there are more than 700,000 active businesses in Viet Nam. Electronic communication is becoming the main channel in most businesses to increase competitive advantages. A survey conducted by Q&Me company (2019) showed that 87% of employees use email and 95% use messages to contact domestic and foreign colleagues, customers and partners. Viet Nam is seen as high context culture, which means that subtle and complex ways of communicating with people can be used subject to their age, sex, relatives and actual social positions. Moreover, according to the theory of Hofstede, Vietnamese culture seems to be collective that people often have close relationships and are influenced by the surrounding society, a feminine society and a restrained society. It means they still prefer traditional communications such as face-to-face communication besides electronic communication because it could make trust easier while communicating face-to-face. Therefore, in the case of Vietnam companies, one can believe that it may be challenging for e-leaders in Vietnam to find appropriate electronic communication channels and maintain the effectiveness of communication between the leaders and followers.

This study aims to contribute to this growing area of research by exploring the underlying electronic leadership, especially what skills e-leaders need and what challenges they encounter in the new e-context of business management in the context of Vietnam companies. The research also focuses on the role of electronic communication in the relationship between an e-leader and followers in businesses. Throughout the findings, effective communication channels were identified as face-to-face communication, instant messages, and email in the workplace. In addition, the challenges for the e-leader-follower relationship when communicating through electronic channels were found as location, cultural diversity, language, and trust and technology infrastructure in the workplace. The survey conducted at Vietnamese companies showed that trust is the biggest challenge affecting the effectiveness of communication between leaders and followers. With all the above mentioned, e-leaders should use several communication strategies to help them get their message across with virtual teams.

2. Theoretical framework

2.1. Leadership

eadership is a topic has been discussed in numerous academic researches over the years. It has been defined and conceptualized in many ways. Some definitions of leadership can be trait, behavioral, contingency, and contemporary approaches. Despite the multitude of ways leadership has been conceptualized, Northouse (2010) has defined that "leadership is a process whereby an individual influences a group of individuals to achieve a common goal". Lussier & Achua (2001) and Yukl (2010) defined leadership as the interaction process that the leader will use to influence the followers. Through this process the follower will understand and agree about what needs to be done and how to accomplish shared objectives. Together, these studies provide important insights into the phenomenon of leadership. In the leadership phenomenon, one of the factors that determines leadership is the process of influence that occurs during interaction between leaders and followers. It relates to the ability that affects others' beliefs, attitudes, and behaviour in a work or organizational context. Without influence, it is impossible to be a leader. Furthermore, leadership operates in a group of people who are engaged in a common goal or purpose. Leadership also includes the achievement of goals. In this study, leadership will be discussed based on this phenomenon.

2.2. Electronic leadership (E-leadership) or virtual leadership

Due to the rapid development of technology, the advantage of technology has changed the methods of engagement among people as well as the approach and information dissemination. In the context of an electronic environment, e-leadership occurs when work is mediated by information technology (IT), especially the internet (Hani, 2001). This has been seen from the perspective that a leader is not physically present with the members and interacts with them through IT-mediated means. In the leadership research, electronic leadership or virtual leadership is an emerging topic (Dinh et al., 2014). The meaning of this term has come to be used to refer to a new type of management job and a context for leadership implementation and research (Savolainen et al., 2014).

Given the definition of leadership and e-leadership above, it can be seen that e-leadership is one of leadership contexts and a leader in electronic environment has similar responsibilities and goals as the traditional leadership. E-leaders can show exactly the same content and style as traditional leaders, especially when virtual interactions become more intuitive. Mumford et al. (2000) show that e-leaders influence followers by communication with them through electronic channels and requires key competences similar to a traditional leadership such as problem-solving capacity, social skill and professional know-how. However, there are a number of important differences between the e-leadership and the traditional leadership. In the traditional methods, the leaders often interact with followers face-to-face, while the e-leadership mainly takes place in an environment where information technology acts as a go-between. This may lead to critical differences in what is meant by “feeling the leader’s presence”, as well as “the reach, speed, permanence, and perception of a leader’s communication” (Avolio & Kahai, 2003). Numerous researchers agree that there are more and more challenges for e-leaders compared to traditional leaders because leaders need to react faster to their followers (DeSanctis & Poole, 1994; Bell & Kozlowski, 2002; Gibson & Cohen, 2003; Hoch & Kozlowski, 2014). The main challenge for an e-leader is creating the team, and an appropriate environment for members to know each other and build trust relationships (Avolio & Kahai, 2003). The important questions are how to enact presence via technological devices and how leadership behaviours need to change to build the type of high-quality relationships that will optimize follower trust, motivation, and performance. Electronic leaders may need more effort to build relationships with followers because of less frequent presence, missing body language, and gestures (Savolainen et al., 2014). To be a successful e-leader, Maduka et al. (2018) lists the specific virtual leadership competencies as follows: It is ability to build trust; it is ability to build team orientation and integration; effective communication and technology skills; ability to monitor changes in environmental conditions, and reliability. Therein, effective communication plays a vital skill for a successful e-leader.

In the process of influencing between electronic leaders and followers, advantage information technology (AIT) plays an important role in this process. AIT is as “the tools, techniques, and knowledge that enable multipart participation in organizational and inter-organizational activities through the sophisticated collection, processing, management, retrieval, transmission and display of data and knowledge” (DeSanctis & Poole, 1994). These technologies can be defined as the tools to help leaders scan, plan, decide, disseminate and control information.

2.3. Virtual teams

As mentioned in the phenomenon of leadership, leadership happens within the context of a group. In the environment where e-leadership occurs, a group of people who are engaged in a common goal or purpose often use technology to communicate with one another, rather than working directly or travelling to meetings. This is called virtual teams (Weisband, 2008). In virtual teams, colleagues often work together through the use of a combination of information technology and telecommunications to accomplish organizational tasks, thereby achieving organizational success (Malhotra et al., 2007). Gibson & Cohen (2003) argued that there are three features of a virtual team. Firstly, a functioning team collects numerous individuals who work on task and accomplish a common goal. The second is that members in a virtual team are dispersed in certain ways. Finally, virtual group members rely heavily on technology to connect and communicate with team members instead of interacting directly in traditional groups (Liao, 2017).

2.4. The role of electronic communication in e-leadership

Brooks (2018) presented that “communication holds members in a virtual team together and a virtual team relies on communication technology to operate effectively”. Good communication is a two-way process that sends information to everyone who receives it and suggestions, queries, and confirmations flow backward. It is not simply transferring information between peoples but also it is a powerful way of building a sense of team amongst virtual colleagues (Pullan, 2016). In the virtual environment, the members use the electronic channels to interact together that cross time, space and cultural boundaries. Members of virtual teams linked based on the communication technologies. These tools allow team members to communicate and share data and information despite the location and time zone differences. In this way, they become the main channel for interaction in virtual teams (Brooks, 2018). In particular, the activities in an organization such as work instructions, leadership, feedback, follow-up and training often take place in a digital format instead of traditional face-to-face interaction (Savolainen et al., 2014). A major feature and one of the biggest challenges of the communication process in a virtual context is cross-distance communication because of the distributed nature of global virtual groups (Zander et al., 2013). The first reason is that members in virtual teams often stay in different locations and different time zones. It creates constraints for real-time interaction and response delay in electronic interaction. This leads to 19 communication more difficult and requires virtual members have to add investments of time and effort. Another reason is that the lack of the rich interaction context of collocation in the virtual environment. This reason is important because it involves the development of trust, a better ability to evaluate different perspectives and an easier ride in creating mutual understanding. Chhay & Kleiner (2013) argue that four factors most directly influence whether a team can communicate effectively and fulfill its objectives: location, culture, nonverbal communication, and trust. Technological infrastructure also can strongly impact the effectiveness of communication in online context (Boutellier et al., 1998). In an analysis of these factors, Chhay & Kleiner (2013) found that the physical location determines the methods and times of contact between team members. As was mentioned in the previous part, virtual teams have many types. Members in virtual teams can work different shifts but stay in the same physical location, or split across the globe according to different time zones. The greatest communication occurs when team members can communicate directly with each other without a delay due to time zone differences. Time zone becomes a big problem when trying to create an effective team, because leaders must take into account the difference in time zone and work shift when scheduling meetings. When it comes to cultural diversity, Chhay & Kleiner (2013) stated that in the virtual environment, employees are able to work together better if they are culturally sensitive. Cultural sensitivity training is an effective method to enable two-way communication within the group. A survey on virtual team management conducted by the Economist magazine, have shown that two issues that arise most in virtual teams are miscommunications due to language and cultural differences. Language is our most public way of communicating. But in a global environment, not everyone speaks the same language or has the same level of language proficiency. Different levels of English proficiency, or any language selected, can cause communication delays. Leaders should adjust their schedules and may hire translators to compensate. Another factor affected to the communication process in virtual context is nonverbal communication. The lack of visual contact with virtual team members requires the leader to adapt his or her communication style and methods to fill the gap left by the absence of nonverbal communication such as body language and eye contact. Body language tells a person a lot of information not expressed explicitly in the verbal component of the message. But in the virtual environment, virtual members communicate through electronic channels and body language could 20 not be used. Therefore, virtual team members must communicate explicitly, clearly, concisely and quickly to avoid frustration. Clear guidelines about the type and the depth of information required in written communication should be given by leaders. Explicit instructions can help team members reduce mistakes and communicate more effectively. As mentioned in the phenomenon of the leadership, leadership operates in groups that are engaged in a common goal or purpose. It means that leaders work with their followers to achieve objectives that they all share. To have an effective team, members in team need to be reliable and timely communication, a focus on the task rather than on a procedure, and had an involved leader. Trust was built when the team overcame barriers to communication in a mission-oriented, clear and concise manner. The last factor but not least was mentioned is technology infrastructure. The type of technology can influence how team members view each other's messages. The choice of communication channels can be affected by software and hardware compatibility among team members. This can be seen in the case of smaller organizations which have financial limitations or in some developing countries. An underdeveloped national infrastructure or the high cost of broad land internet connections causes communication through electronic channels becoming slow or sometimes interrupts. Successful virtual teams often use different technologies to enhance the breadth and depth of their communication (Boutellier et al., 1998). Considering all of these factors, it seems that the complexity and subtleties of dealing with different personalities, cultures, and languages make communication much more difficult between virtual group members.

As pointed out in above, the effective communication with followers, constituents, partners, and external publics is a very significant function of leaderships. An Electronic leadership in this sense includes IT such as e-mail, messaging, social media, video presentations, video conferencing, internets, intranets and document sharing. As noted by (Liu et al., 2018), “effective e-leaders not only adopt technology, but also they make critical choices about which technologies to adopt for themselves and their organizations, and are responsible for their effective use”. Other researchers, however, hold the view that “quality of communication and the selection of a communication tool are affected also by other issues than technical features of a 21 device” (Savolainen et al., 2014). It can be seen that new technology mediated work arrangements that require a new leadership approach can explain how leadership is best performed in a virtual environment and what kind of leadership makes a virtual team successful. Nunamaker et al. (2009) argued that virtual teams are more difficult to manage than traditional face-to-face team. Because of lack of physical contact in virtual communication settings, e-leaders have to develop new communication skills to create socializing activities and feeling of togetherness that promote inclusion of all team members (Lilian, 2014). In a virtual team, it is not possible to glance over to see what colleagues are doing. Hence, trust is imperative between all members of virtual groups, especially between leaders and those they lead. A virtual leader cannot delegate work to others and give them the autonomy to deliver the work without trust in their team members (Pullan, 2016). Therefore, it is helpful to be honest and transparent, building trust and relationships by sharing with others when communicating. It can take much longer to build trust between virtual colleagues than in face-to-face teams. When people spend time together at work in the same location, they get to know each other as individuals. They probably share the same mother tongue and culture. If they work together, they have lots of time to interact, to get to know each other and to build trust. In a virtual team context, the chances of building social capital and a feeling of community are much reduced, as compared with the people who work in the same location. Thus, building a shared community experience like one-to-one phone conversations or ensuring some face-to-face time in person or via video conferencing technology will develop trust day by day. Communication, reciprocation and open disclosure to other can build a strong feeling of belonging to the virtual group and creates a solid foundation for the other types of trust to grow.

3. Reseach methodology

3.1. Data

The primary data is collected through sets of questions in questionnaire. There are 55 adult subjects participated in this survey, including managers and employees in Vietnamese companies. They origin in various industries consisting of technology and IT; banking and financial services; manufacture and construction; agriculture; and others. However, in the end, because nine samples do not meet the requirements of data, only 46 samples are employable in this study due to missing values. The data is collected in the beginning of January 2020, from January 4 to January 8.

3.2. Instrument

Two separated questionnaires include both closed and opened ended questions. A nineteen items questionnaire is designed for manager and a seventeen items one is designed for non-manager participants. The purpose of survey is to measure the influences of challenges on communication through electronic channels in the leader-follower relationship, and investigate how communication tools affect effective leadership. The questionnaire is built based on the model of Mackenzie (2010). The questions capture data relating to the areas of interest identified in the research framework (e.g., types of electronic communication methods used at work, the effect of choosing communication channels); along with data about demographic issues of interviewees consisting of occupation, genders, size of organization, and industry. The questionnaire also collects respondent’ opinions about e-leadership and e-communication statements. At the end of the questionnaire, there is one open-ended question that plays a partial role in gaining respondents' ideas about management skills from different viewpoints. Particularly, 10 percent of random participants were chosen to do a pre-test. This pre-test aims to estimate how long participants take to finish all questions for both groups and evaluate the quality of measurement items in the questionnaire. This is conducted by professionals, selected managers and employees who possess managerial experiences, and strong writing and communication skills. They provide feedback on the usability, flow, and clarity of the individual and collective questions. Afterward, some of the questions are modified, removed or added.

4. Findings and discussion

4.1. Aggregate data – all respondents

4.1.1. The subject demographics

There are 46 participants including males and females in which, 14 respondents are self-reported as managers and 32 respondents are employees, account for 30.4% and 69.6%, respectively. In addition, there are 69.6% of participants work in the companies with the size of more than 100 employees, 2.2% participants work in companies with the size of 51-100 workers, 23.9% participants are in companies with 11-50 employees, and 4.3% are in companies with less than 10 employees.

Regarding the industry, the questionnaire provides a list of 5 sectors: agriculture, manufacture & construction, technology & IT, banking & financial services, and other services. Most participants work in the banking and financial services sector, with 39.15% of 46 subjects, followed by other sectors (34.76%). 13.04% of respondents are in technology and IT sectors, while 10.87% are in manufactures and construction industry. Only 2.17% of respondents report to work in agriculture segment. In more detail, 14 managers work in 4 sectors, including manufacture & construction (3 managers), technology & IT (3 managers), banking & financial services (4 managers), and other services (4 managers). Based on collected data from employees, it is reported that only 1 respondent is in agriculture sector, 2 employees work in manufacture & construction, 3 employees work in technology & IT services, 14 respondents reply they work in banking & financial services, and 12 employees belong to other services.

4.1.2. Communication channels

Table 1 below presents the ranking of effective communication channels derived from survey of both managers and non-managers where 1 means the least effective channel and 6 means the most effective. Based on the results of the questionnaire, by the mean of 4.71 in manager and 5.16 in non-manager, face-to-face is considered the most effective communication at work. The reason is that Vietnam is a high context culture and collectivist country, hence, traditional method of interacting is the most chosen way of people. In terms of electronic channels, managers who always have huge responsibilities relating to setting goals and getting it done select the instant message to be the second most useful channel, and email is the third one after face-to-face traditional method. Meanwhile, the employees report that email is the second effective way to contact supervisors because they usually have to present the issues transparently with a lot of attached information. Moreover, in a global working environment where everyone does not speak the same language or has the same degree of linguistic proficiency email seems to be a popular method to communicate at work since it reduces misunderstandings caused by language barriers. Social network is the least effective way ranked by both managers and non-managers because they consider its main purpose is to entertain and convey informal things.

Table 1. Ranking of effective communication channels

The effective communication channels	Manager		Non-manager	
	Mean	Ranking	Mean	Ranking
Face-to-face	4.71	1st	5.16	1st
Email	4.07	3rd	4.63	2nd
Text messaging	3.36	5th	3.69	5th
Phone call	3.57	4th	3.97	4th
Instant message	4.21	2nd	4.16	3rd
Social network	2.43	6th	3.28	6th

4.1.3. Challenges

There are 6 challenges relating to electronic communication namely different time, different space, language, different culture, trust, and technology skills.

Table 2. Ranking of challenges

Challenges	Manager		Non-manager	
	Mean	Ranking	Mean	Ranking
Different time	3.86	1st	3.69	3rd
Different space	2.57	4th	3.16	6th
Language	2.50	5th	4.00	2nd
Different culture	2.14	6th	3.41	4th
Trust	3.71	2nd	4.25	1st
Technology skills	3.64	3rd	3.34	5th

Managers report that different time zone causes them most difficulties when contacting via electronic channels. Trust stands at second position with mean equals to 3.71, followed by technological skills. It could be explained that it is impossible to completely control what employees are doing and how the work is processed in a virtual workplace without face-to-face interaction. Additionally, differences in technological skills is also an obstacle in online communication. On the other hand, employees state that trust is the main challenge between leaders and followers with mean is 4.25, followed by language barrier at second position and different time zone at third position.

4.2. Manager viewpoint

Most of the managers work in organizations that have 100 or more employees (71.5%). 21.43% of the managers (3) work in organizations that employed 11-50 employees, and 7.14% (1) of the managers work in organizations with 0-10 employees. When it comes to sectors, the majority of managers are in banking & financial services, and other services (28.57% each). Meanwhile, 21.43% of 14 managers report that they work in technology and IT sector, same portion with manufacture industry.

4.2.1. Frequency of interaction via electronic channels

In response to the question "Please estimate the percentage of time you interact with employees using computer-mediated or technology-mediated means", the managers state, on average, that they spend about 50%-70% of their employee interaction-time by digital communication methods. 21.43% of managers (3) spend more than 70% and 21.43% of managers (3) spend around 20%-50% of time contacting workers via electronic methods. With the advantage of being quick and time-saving, supervisors utilise digital means to keep in touch with employees most of the time. However, in some important situations, it is necessary to remain face-to-face interaction in order to ensure information are transferred transparently and even secretly. That is why not many managers spend more than 70% of time interacting via electronic channels.

To complete this data, the managers is also asked "Do you think the leader should have face-to-face meetings with employees besides electronic communication?" 100% of managers respond "yes". Therefore, it proves that despite of convenience of digital channels, the importance of face-to-face interaction is undeniable, especially when holding big meetings for everyone in companies or assigning important and secret responsibilities. Moreover, digital messages sometimes cause misunderstood between leaders and followers. In some situations, managers assign tasks in a shared online group/chat room of departments/teams, which may lead to missed information and confusion in the group if too many people text at the same time. Additionally, trust is also a problem that affects the face-to-face meeting's decision of managers. Without face-to-face interaction, managers find it difficult to control how their employees handle tasks and monitor employees' productivity and job efficiency. Apparently, a virtual-working environment causes managers to be impossible to know whether employees are working during office hours. Hence, trust is required when managers and employees communicate through digital channels.

4.2.2. Relationship-building communication methods

In response to the question, "How do you maintain your relationships at work?" this is a check box question in which, participants can choose many options that fit them. The answers reveal that 9 of 14 managers state that face-to-face at work and instant message (Viber, Skype) is the top choice, which accounts for 64.28%. The next popular selections is email, using social text message and phone call, respectively.

Furthermore, 50% of 14 managers state that they regularly share with their employee's unrelated work such as hobbies through electronic means. 29% of managers respond that they sometimes share and 21% of managers share daily issues with employees but in rare frequency. Thus, it indicates that in Vietnam, supervisors are highly likely to share normal things with other staffs in companies to build good and closer relationships. Vietnam is a collectivist society in which people belong to "in groups" that care for them in exchange for loyalty. Company is a kind of group that Vietnamese belong to and by taking care of employees, managers expect to gain team unity and loyalty. Moreover, it helps managers build social relationships with employees and create a comfortable workplace. One again, digital channels continue playing a vital role in sharing everything in life, including work-unrelated issues.

4.2.3. Effectiveness and challenges of using electronic channels

To identify effectiveness of using digital communication, the managers respond to the question, "Do your employees often have to inquire about email/message from you for clarity?" The collected data reveals that 50% of 14 respondents state around 20%-50% of employees would inquire. There are 22% of managers answer that around 50%-70% employees need to clarify the tasks. 14% of managers report that only 10% of workers make inquiries and the same number for no inquiries. Due to language barriers, culture, ideas, and provided information, exchanging information via digital communication is not fully understood, thus, some employees need to confirm and make inquiries to completely understand and finish works. Moreover, 64% of 14 managers state that digital communication help them finish tasks faster, while the remaining, most in the manufacturing and construction industry, do not agree. Unlike the technology and economic sector, which tasks can be completed online, the manufacture and construction sector requires people to meet in person to exchange ideas and go to construction sites or production plants to control and track work progress.

A list of questions using Likert scale is applied with 1 is strongly disagree and 5 is strongly agree. These questions aim to clarify the effectiveness of using electronic communication in a leader-follower relationship.

Table 3. Results of scale questions – managers viewpoint

	N	Minimum	Maximum	Mean	Std. Deviation
It is easy to distribute tasks to your employees through electronic communication (email, video call, video conference, etc.)	14	3	5	4.00	0.784
It is easy to work with your employees through electronic channels without face-to-face meetings when a problem happens	14	1	5	3.14	1.167
It is easy to monitor your employees' progress even though you have not met them directly	14	1	4	3.07	1.141
It is easy to motivate your employees to work via electronic communication (email, text message, video call, etc.)	14	2	4	3.21	0.802
Valid N (list wise)	14				

Based on the results of Table 3, most managers state that it is easy to distribute tasks through electronic communication. Obviously, online interaction plays an important role in transferring information quickly and exactly in spite of time and location. On the other hand, digital communication between managers and employees is not very effective if there is any problem at work. In fact, it is impossible to say that there is no need to meet employees once there is problems based on the result, similarly with monitoring and motivating employees. Vietnam is a high context social and collectivism, the interaction between colleagues is necessary to build relationships and solve problems, especially the common issues relating to many stakeholders. Moreover, as indicated above, some special industries such as healthcare, manufacture and construction, etc. are impossible to work online, hence, the digital interaction in Vietnam companies is somewhat effective but not high. Face-to-face meetings is still an optimal choice of managers at work to help them monitor and motivate workers. One more issue is about trust. Without face-to-face interaction, it is difficult for managers to control what employees are doing and how the work progress is. Particularly, when a serious problem happens, people tend to meet directly to solve it because some managers suspect an employee's ability to deal with it.

4.3. Employee viewpoint

There are 32 participants in this study are non-managers. Most of the employee subjects work in organizations with more than 100 employees (68.75%). Banking and financial services is the sector in which majority of employees are working, accounts for 43.75% (14 employees), followed by other services with 37.50% (12 employees). The remains of respondents belong to technology & IT sector (9.38%), and agriculture (3.13%).

4.3.1. Frequency of interaction via electronic channels

In response to the question, "How often do you work with your manager or clients via electronic channels instead of face-to-face?" all of respondents (100%) report that "using daily". Therefore, it is undoubted that digital contacts play a vital role in doing tasks and solving problems. In the modern era, people have to handle many different tasks within a working day; thus, there is insufficient time to solve all problems by fact-to-face interaction. With advanced technology development, it is more convenient for everyone to contact each other via electronic channels to speed up information transferring and problem-solving.

4.3.2. Relationship-building communication methods

Regarding relationship building, 37.5% of 32 employees state that they sometimes share unrelated work issues with leaders, while 28.13% of them answer, "regularly share". 15.63% of employees state "rarely share", and 18.75% state "no". Since Vietnam is a country with high score power distance, one may assume that there is a certain level of distance between leaders and followers in working settings. The followers are expected to do what the leaders tell them and it is not easy for them to express their own opinions. Moreover, people accept a hierarchy order in society and even in companies. Hence, employees find it difficult to share with managers about daily life problems due to invisible distance between leaders and followers.

4.3.3. Effectiveness and challenges of using electronic channels

While asked about obstacles of online interaction, 43.75% of 32 employees response that they regularly make inquiries about divided tasks, 37.50% answered "sometimes", 18.75% of respondents stated "rarely" and there is no employee state "no". These responses indicate that there are certain obstacles including thoughts, quantity and accuracy of information to the complete understandings of employees about tasks.

To clarify the effectiveness of using digital communication, the participants are asked to rate how strongly they agree or disagree with each statement relevant to the manager's influences on employees while contacting via electronic channels. These statements are employed Likert scale from 1 to 5, with 1 means strongly disagree and 5 means strongly agree.

Table 4. Results of scale questions – employees' viewpoint

	N	Minimum	Maximum	Mean	Std. Deviation
The interactions via electronic channels (email, text message, video cal, etc.) with your manager motivate you to work	32	1	5	3.47	1.270

You feel that your manager support you in overcoming your doubts and obstacles while communicating through electronic channels	32	2	5	3.81	0.998
Your manager has changed or developed your way of thinking in general even though you do not interact face-to-face	32	1	5	3.44	1.190
It is easy to work with the leader through electronic channels without face-to-face meetings	32	1	5	3.53	1.107
Valid N (list wise)	32				

In general, employees' responses are somewhat more optimistic than managers' about job effectiveness while contacting via digital channels. Employees indicate that managers do motivate and help them overcome difficulties in works without face-to-face interaction. Although the mean score is not very high (mean score fluctuates from 3.4 to 3.8), it is higher than the results recorded from manager's viewpoint. Furthermore, it is recorded that employees feel comfortable working with their leaders, and managers play a part in shaping and changing subordinates' way of thinking in a virtual environment. In a country with a high index of power distance like Vietnam, sometimes it is good to have virtual interaction with leaders because they usually do what they are told to do with less discussion, thus, it is no need to have many face-to-face meetings. Additionally, the power distance causes fear and relationship distance between leaders and followers, hence, it may be explained why employees feel more effective while working in a virtual workplace than managers do.

4.4. Developing effective communication in leader-follower relationship at work

Trust is one of the factors that affect the efficiency of communication. Therefore, two open-ended questions are posed to the participants, one for the manager and one for the non-manager. In response to the question, "What can you do to increase your own confidence in your team, the trust among members and their belief in you?" The answers are presented below:

- Leaders should have one-on-one meetings with team members quarterly at work, enhance face-to-face interaction between leader and followers
- Spending time with team members, support employees, appreciate their ideas
- Working together with employees and be responsible for tasks
- Sharing personal experiences to employees, building a relationship of friends
- Praise and reward
- Be fair, honesty and integrity with everyone

The question is asked for employees, "As an employee, how does your boss develop a trusting relationship with you?" The answers are listed as below:

- Leader's encouragement, support and knowledge will develop a trusting relationship with employees
- Regular communication and willingness to support
- Integrity, honesty, clear direction, transparent order guidance
- Speaking with employees openly and honestly
- Holding out-of-work activities to get close to each other

5. Conclusion

Both managers and employees somewhat agree that digital communication helps them in working and solving problems. Some advantages of digital communication recorded based on the study including faster speed, convenience in transferring documents, time-savings. It also helps reduce misunderstandings due to different languages and connect people worldwide. Therefore, businesses can employ the most qualified staff around the world without worrying about working venues. In fact, companies working 24/7 hire employees overseas and when one team finishes work at the end of the day, another team will replace them to be on duty. At the moment, many countries throughout the world, including Vietnam, continue to adopt e-business processes, with the support of advanced technology, digital communication is erasing boundaries among countries, increasing new forms of worksites, and changing traditional working environments as well as working hours. The outcome will require the role of the manager to change. Managers have to overcome obstacles relating to relationship building with employees, trust, and technical ability. On the other hand, the employees somewhat agree that their managers have changed their way of thinking even though there are no face-to-face meetings.

The results begin to indicate the perception gap between leaders and followers. The managers show that they actively build at-work relationships with employees. The evidence is that about 64% of 14 managers spend time interacting face-to-face and send instant messages to employees. Additionally, all managers state that they spend time sharing unrelated work topics with employees. On the other hand, 18.75% of 32 employees do not share unrelated-work issues with managers. Employees are also more optimistic than managers' about job effectiveness while contacting via digital channels. The reason is digital communication lead to a decrease in face-to-face interaction, which affects the building of trust at-work relationship. Therefore, the managers should try trusting employees and perform better in building close relationships with employees. Regarding employees, they should be self-conscious about tasks when working in the virtual environment. This is also a way to build trust and a good relationship between leaders and followers.

Participants also agree that there are challenges for leaders and followers in the virtual environment. The challenges come from the lack of trust, cultural diversity, nonverbal communication, technology infrastructure, and technology skills. Digital communication methods lead to a decrease in face-to-face interaction, which influences the trust-building process at work relationships. It prevents managers from controlling employees directly and the tasks they deal with. Obviously, the qualification and capability of each employee are not the same and it affects how they solve problems; thus, it is impossible for supervisors to put all trust in employees, especially in the case of essential and urgent issues. In addition, in Vietnam, people emphasize that building relationships and face-to-face interaction at work is one way to get close with everyone. It helps people widen social relationships and ask for support.

The study also states ideas collected from participants about building trust among the company and receiving helpful answers from both managers and employees. This result is a base for any further research related to e-leadership and e-communication in Vietnam in the era of digital transformation.

Regarding the limitations, due to time limitations, the data sample is small and the questionnaire does not provide a deep insight into e-leadership and e-communication. The study also does not focus on investigating e-leadership and e-communication in a specific company; hence, does not come to a complete multidimensional view. Therefore, further research should focus on conducting a more profound study about this problem with a larger sample of participants, especially participants in the same company, and a comprehensive set of questions to give more exact conclusions about this issue in Vietnam.

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EVALUATION OF STAKEHOLDERS' SATISFACTION WITH EVNNPT'S POWER TRANSMISSION SERVICES

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ABSTRACT

The overall goal of this research is to determine how satisfied stakeholders are with the Vietnam Electricity Transmission Corporation (EVNNPT) and recommend solutions to increase stakeholders' satisfaction in the future. Province or local departments of industry and trade, power generation corporations or corporations, distribution corporations, national and regional dispatching centers, electricity trading companies, and relevant departments are all stakeholders. The quality of the power transmission network, the capacity to access and supply information, the quality of the cooperation between the two parties, and the image of power transmission were all evaluated. According to the findings, all stakeholders gave EVNNPT an 8 out of 10 rating in 2019. Stakeholders, on the other hand, see EVNNPT's weakness in a different way. The group's pleasure is influenced by the quality of power transmission, which is the lowest. The National Dispatch Center and Regional Dispatching Center, the Department of Safety Engineering, and the Industrial Environment have undervalued the quality of the power transmission network, capacity to access and supply information. Several recommendations have been provided to improve stakeholder satisfaction such as the transition to a community-centered strategy when designing power projects; allowing stakeholders to contribute more; information provided to third parties should be clear and transparent; the importance of media coverage of political events in the country. EVNNPT values this study because it provides accurate and objective information on stakeholder assessment for power transmission services, establishes a methodological framework for conducting the assessment for power transmission services, and offers short and long-term solutions to assist EVNNPT in developing specific plans to increase stakeholder satisfaction in the coming years.

Keywords: Stakeholder satisfaction, Power transmission network quality, Accessibility and information provision, Quality of coordination between the two parties, Power transmission image.

1. Introduction

The National Power Transmission Corporation (EVNNPT) under the Vietnam Electricity Group (EVN) has the task of developing and operating the nationwide electricity transmission system continuously, safely, and stably for the operation. economy, politics, society, security, national defense, and the electricity market in Vietnam.

EVNNPT commits its maximum responsibility to the country and each customer, always complying with state regulations, national and international standards, being transparent in all activities, ensuring the highest service quality, towards economic, social, and environmental efficiency, with the service of a united collective that has faith and dedication in work.

EVNNPT is one of ASEAN's top companies in the field of professional power transmission and is developing strong technical and management advancements in Asia-Pacific and throughout the globe.

By 2021 EVNNPT is seeking to become one of four leading power transmission organizations, one of the top ten Asian countries by the year 2025, and one of the world's advanced power transmission organizations by 2030.

For 2021 to 2025, the two stakeholder objectives of EVNNPT are "Improve the satisfaction of stakeholders" and "Enhance the brand image of quality and transparency."

The EVNNPT stakeholders are five power corporations, power trading enterprises, 50 power generation companies connected to the 220-500kV network, and 63 local/province industrial and trade departments.

EVNNPT aims to achieve customer and stakeholder satisfaction in the 2021-2025 strategy, with a 2030 vision. This indicator is carried out by an annual survey.

The survey's goals are to:

- Collect information, and analyze stakeholder satisfaction with EVNNPT's power transmission service
- Analyze satisfaction and dissatisfaction points of stakeholders for power transmission service
- Recommend ideas to improve service quality and boost stakeholder satisfaction with power transmission services in general and with each group in particular.

The survey intends to answer the following questions:

- For electricity transmission services, the groups' satisfaction levels are similar and achieve an 8 or higher (This score is the target according to the plan set out at the beginning of the year and is equivalent to the average level of EVN)
- The quality of power transmission has the lowest rating and is the most critical element determining the satisfaction outcomes of the groups.
- The Department of Industry and Trade undervalues EVNNPT in terms of which characteristics, which factors are important to increase satisfaction from the Department of Industry and Trade.
- What aspects of EVNNPT does each stakeholder find unsatisfactory?

The EVNNPT conducted a stakeholder satisfaction survey for the first time in 2020 and gathered a wealth of information that will be used to improve the 2021 plan. In the context of Covid Pandemic, it is required to boost the collection of information and stakeholder perspectives of EVNNPT's improved service quality, resulting in significant improvements in governance to enable the governance work more effectively.

As a result of this research, EVNNPT will be able to make changes to the model, data gathering method, and strategy to evaluate stakeholder satisfaction in the future.

EVNNPT set up a project team to coordinate the survey with the consulting firm. I am a specialist in the project consulting firm. My task is for planning the project, for drafting the report and for conducting thorough interviews.

2. Theoretical framework

Previous study mostly focused on assessing stakeholder satisfaction in the private sector, followed by research on stakeholder satisfaction in the public sector. The World Bank's Doing Business (2015-2020) report, Latinobarómetro, IDB's Project "Simplifying Lives Quality and Satisfaction in Public Services" (2015), and BCG's 2018 Digital Government Survey are some notable studies.

Only Stakeholder Engagement Strategy Review of EirGrid (2018) has a study on the satisfaction of power transmission services.

2.1. Latinobarómetro study

The Latinobarómetro study is produced by Corporación Latinobarómetro, a non-profit NGO with offices in Santiago, Chile, which has sole responsibility for the data. Latinobarómetro is an annual public opinion survey that involves some 19,000 interviews in 18 Latin American countries, representing more than 400 million inhabitants. Latinobarómetro Corporation researches the development of democracy and economies as well as societies, using indicators of opinion, attitudes, behaviour and values. Its results are used by social and political actors, international organizations, governments and the media.

Latinobarómetro studies generic satisfaction with central and local government services. Using a composite index that includes five central and six municipal services, the study concludes that, on average, Latin Americans are dissatisfied with public services (5.1 points on a scale of 0 to 11).

2.2. The World Bank Doing Business

The World Bank Doing Business report studies the quality of transactional business services. Of the 189 countries surveyed for the 2016 report, only two IDB member countries were among the top 50, 11 were ranked between 51 and 100, while the remaining 13 appear with rankings below 101. 2 This reflects a region with an onerous bureaucracy, numerous requirements, high delivery and regulatory compliance costs, and long processing times.

Doing Business covers 12 areas of business regulation. Ten of these areas—starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, and resolving insolvency—are included in the ease of doing business score and ease of doing business ranking. Doing Business also measures regulation on employing workers and contracting with the government, which are not included in the ease of doing business score and ranking.

In recent years, Doing Business introduced improvements to all of its indicator sets. In Doing Business 2015, getting credit and protecting minority investors broadened their existing measures, while resolving insolvency introduced new measures of quality. In Doing Business 2016, dealing with construction permits, getting electricity, registering property and enforcing contracts also introduced new measures of quality, and trading across borders introduced a new case scenario to increase the economic relevance. In Doing Business 2017-2020, paying taxes introduced new measures of postfiling processes.

2.3. IDB Project

IDB implemented a Project "Simplifying lives quality and satisfaction in public services" in 2015 (IDB, 2015. Simplifying lives quality and satisfaction in public services).

The project was mainly financed from the IDB's ordinary capital. The budget was supplemented with contributions from the Canadian Fund for Universal Legal Identity in Latin America and the Caribbean (CCR) and the IDB's Special Program for Institutional Development (SPID).

The model assumes that all aspects of service management analyzed have some degree of impact on one or more of the drivers of satisfaction. The internal view attempts to characterize the quality of service management. To do this, five dimensions are defined: (i) how the administrative process is defined and managed, (ii) what resources are applied to execute it, (iii) what IT is used in the processing, (iv) how the institution and the regulations are associated with the procedure managed, 30 and (v) how the relationship with citizens is managed.

The study attempts to characterize the experience of each user. Four dimensions are defined: (i) the impact of the main characteristics that define the process on the user's experience, (ii) how users are treated by customer service agents, (iii) the state of the facilities where the procedure took place, and (iv) the quality of the information about the procedure provided by the government.

In general, the results indicate that what citizens value most is processing time, followed by the performance of public employees mainly in attitudinal but also professional aspects. The comfort of the facilities is in third place. In many cases, performance in these attributes is low, which indicates the need to identify improvement projects that contribute above all to reducing processing times and improving the treatment received by citizens.

The Simplifying Lives initiative originated after establishing the existing lack of evidence of the quality of the transactional services that states provide to citizens and, in particular, what aspects users value most and what actions need to be taken to improve each service. This first study presents the analytical framework used to measure the quality of public services and proposes measurement of their quality and citizen satisfaction. To do this, it integrates objective dimensions (such as time, cost, and complexity) and subjective dimensions (such as expectations and satisfaction). The study presents the results of the analysis of the six transactional services that are most important for people (disability benefit, request for medical appointment, theft report, birth registration, enrollment of a child in a public school, and renewal of identity document) in six countries (Chile, Ecuador, Panama, Paraguay, Trinidad and Tobago, and Uruguay)

The report shows that simplification and digitization of public procedures are critical to improving not only the quality of services but, more fundamentally, confidence in the state. The expansion of digital government in most of the countries in the region has focused on improving the efficiency and effectiveness of procedures by increasing access through customer service centers and multiple channels, especially, online. However, further efforts are required to improve quality. This report confirms the fact that citizens are demanding higher quality services, and that the interoperability of public records and information systems is critical to optimize the benefits of online services and to simplify procedures. The Simplifying Lives report analyzes the relationship between citizen satisfaction and adoption of technological innovations by the service provider institutions and proposes a more systematic consideration of the degree of citizen satisfaction as a key indicator for evaluation of the results of public institutions.

2.4. BCG's Report

BCG's 2018 Digital Government Survey collected insights across thirty countries and twenty-six digital government services, based on more than thirteen thousand individual responses. The 2018 Digital Government Survey benchmarks citizen perspectives and develops insights across four areas (i) Digital user access and adoption; (ii) Overall user satisfaction; (iii) User experience problems and satisfaction; (iv) The use of Artificial Intelligence by government.

Twenty-six Government services rated for use and satisfaction. The report says that 76% of respondents believe online government services have improved over the last two years, government digital services are performing better than the private sector. The study focuses on how satisfied services are and not what factors make up satisfaction because 2018 is the fourth time BCG has run the Digital Government Citizen Survey. However, they found User Experience—Specific attribute satisfaction with digital service design. In addition, they looked for the percentage of people who Support for use of AI for certain activities by the government in Sweden by what factors.

2.5. EirGrid Case

EirGrid stated the power transmission services satisfaction rating in the 2018 report (EirGrid, 2018. Stakeholder Engagement Strategy Review).

EirGrid - Ireland's domestic power transmission company is a good case in point worldwide to evaluate stakeholder satisfaction to raise the company's quality and service. Every two years, this organization performs studies to assess results and make specific changes.

In 2015 the Government published its Energy White Paper. It highlighted the fact that consumers are increasingly driving the transformation of the energy sector. The Government acknowledged that the development of new energy infrastructure can give rise to a wide range of local concerns. These include the siting of the infrastructure, the decision-making process, the distribution of costs and benefits, and the impact on individuals, local communities, and the environment.

The Government pointed out that formal processes for community consultation and engagement on new infrastructure are well established. The report also acknowledged the significant practical steps that have been taken by EirGrid in developing meaningful community consultation, public engagement, and a thorough understanding of the concerns of affected communities.

EirGrid recognizes the need for its corporate strategy to encompass consultation and stakeholder engagement. Five strategic objectives were established by the company to ensure that we provide quality, efficient transmission and market services for the benefit of everyone across the island

In the 2018 report, the company assessed with stakeholders including Key stakeholders, stakeholders, and the public. Key stakeholders are stakeholders such as local authorities who we will work with throughout a project, and who we ask to help us plan our engagement work. Stakeholders are representatives of organizations, politicians, and others who have some professional interest in the project, for example, a community group. The public is people who are engaging with us as individuals and not part of an organization.

After completing the project, EirGrid had to build a handbook. The consultation handbook is a resource for both EirGrid staff and those people and organizations involved in and affected by the projects. It sets out (i) What communities and stakeholders can expect from EirGrid, and how we will work with them; (ii) A process by which EirGrid's consultation and engagement activities will comply with national and international obligations such as the Aarhus Convention; (iii) An explanation of the project development process, setting out what decisions are made at each stage and the role stakeholders and the public will play in them; (iv) A guide to the engagement methods EirGrid may use.

3. Research method

3.1. Research context

Because EVNNPT has never done a stakeholder satisfaction survey previously, there is no methodology to follow.

The number of stakeholders is likewise not excessive, with five power corporations, power trading enterprises, 50 power generation companies connected to the 220-500kV network, and 63 local/province industrial and trade departments.

As a result, EVNNPT developed the approach for this study using EVN's research methodology on customer satisfaction evaluation from 2013 to 2018 and EirGrid's methodology.

3.2. Theoretical Model

Based on the creation of the Parasuraman and other models, the Measurement Model of factors affecting stakeholder satisfaction in this study is based upon (1988). A four dimensions of satisfaction of the stakeholders with the electricity transmission: ((1) Quality of power transmission network; (2) The ability to access and provide information; (3) Quality of coordination work between the two parties; (4) Power transmission image.

Stakeholders include (1) Departments of Industry and Trade of provinces or cities; (2) Corporations or Power Generation Corporations; (3) Distribution Corporations; (4) National and regional dispatching center; (5) Electricity trading company; (6) Relevant Agencies (Electricity and Renewable Energy Agency, Electricity Regulatory Authority, Industrial Safety Techniques and Environment Agency).

This model looks at stakeholder satisfaction from an overview in which satisfaction has been generated on both sides: EVNNPT and the stakeholders themselves. Achieving value will shape their expectations from Stakeholders' demands, and their perceptions of prior experience and information. The discrepancy between the expected value received and the true value received will affect stakeholder satisfaction levels under the effect of EVNNPT's transmission services activities.

3.3. Measurement model

To determine stakeholder satisfaction, the author employs a satisfaction evaluation approach as follow:

- The dependent variable is Stakeholder satisfaction

- The quality of the power transmission network, accessibility and information provision, the quality of the cooperation between the two parties, and the image of power transmission are the independent variables.

- Five minor factors are included in the first independent variable, eight minor variables are included in the second independent variable, fourteen minor variables are included in the third independent variable, and six minor variables are included in the fourth independent variable.

- Level of interest and satisfaction has been divided into 10-point scale from 1 (Not at all interested, Very dissatisfied) to 10 (Very interested, Very pleased).

- Satisfaction percentage is the percentage of reviews with 8 points or more.

3.4. Model of NPS (Net Promoter Score)

To evaluate the loyalty of customers to the company products, the calculation of the NPS index has been adopted since 2003 by significant corporations in the world. Studies demonstrate that it represents very clearly the future chances for growth of the value of the company. In this report, the author utilizes it to reflect how far the consumer perceives the actual improvement in factor groups. It shows from there that customers see the group of criteria differently.

NPS =% of "Much improved" reviews — % of "No improvement" reviews

3.5. Model of Exploratory Factor Analysis – EFA

The study employs the EFA Model to identify the most significant aspects that promote customer satisfaction using four categories of components. The outcomes of this research will lead to recommendations on major issues to be examined to increase client satisfaction.

3.6. Model of the relationship between importance and performance for all attributes

It may be useful to illustrate for each service the relationship between importance and performance for all attributes. This is usually done with a representation in quadrants as shown in Figure 3.1. Each attribute is located in one of the four zones. In zone 1, importance is high and performance is low. Ideally, no attributes fall into this zone; so, it would be a priority to invest in improving any attribute listed there. In zone 2, both importance and performance are high. This is the ideal zone where the most important attributes should be placed, and it is necessary to ensure that those already listed remain there. In zone 3, importance is low but performance is high, which could indicate a surplus of resources being used to maintain the quality of an attribute that citizens do not see as significant. Finally, in zone 4 both importance and performance are low. While importance remains low, there is nothing to be concerned about. In short, zone 1 requires urgent changes, zone 3 indicates a possible waste of resources, and zones 2 and 4 reflect correct management.

Performance	High	3	2
	Low	4	1
		High	Low
		Important	

Figure 1. Importance vs. Performance

Source: IDB Report 2015.Simplifying lives quality and satisfaction in public services, p.43.

3.7. Data Collection

Questionnaire: For each driver presented in the theoretical model, a question is defined for the respondents to answer. These questions—along with those relating to the key variables, the initial filter variables, and the demographic variables—make up a questionnaire that has to be answered in a maximum of 15 minutes.

Deep interview: Deep interviews were carried out on topics of the EVNNPT Power Transmission Services unit/stakeholder leaders. In-depth interviews will inform the outstanding problems and the expectations of EVNNPT customers and will serve as the basis for analyzed, concluded, and recommended EVNNPT.

Table 1. Scope of work

N0	Stakeholders	N0 of questionnaires	N0 of in-depth interviews
1	Departments of Industry and Trade of provinces or cities	190	10
2	Corporations or Power Generation Corporations	60	18
3	Distribution Corporations	15	10
4	National and regional dispatching centers	12	4
5	Electricity trading company	4	1
6	Electricity and Renewable Energy Agency	2	2
7	Electricity Regulatory Authority	3	1
8	Industrial Safety Techniques and Environment Agency	2	1

4. Results and discussion

The first question involves a level of satisfaction of groups equal to or higher in the case of power transmission services (This score is the planned target set at the beginning of the year and is equivalent to the level of an average of EVN). The results show this statement to be correct as everyone involved scores 8 or more at 10 points and is presented in Section 4.1. The results show that this statement is correct.

Concerning the second issue, the quality of the power transmission influences the group's satisfaction and is the lowest. The results show that each stakeholder has the lowest rating of power transmission quality criteria for different, but not unique, factors, and these are presented in Section 4.2.

About the third issue, The Department of Industry and Trade underestimates EVNNPT where aspects are important to the Department of Industry and Trade to enhance satisfaction. The result shows that in all four categories of factors, the Department of Industry and Trade has a low rating of fewer than 8 points and is presented in section 4.3.

With the fourth question, which factor each stakeholder is lowest satisfied with EVNNPT. The results show the variety of responses and are shown in section 4.4. In particular, it has underestimated energy quality and the accessibility information and supply capacity levels by the National Dispatch Center and Regional Dispatching Centre, the Department of Safety Engineering, and Industrial Environment.

4.1. Level of satisfaction

All stakeholders are generally very satisfied with EVNNPT (percent satisfaction from 80 percent to 100 percent; average score ranges from 8.5 to nearly 9.0). Departments of Industry and Trade of provinces has more than 8.0 satisfaction rates, which is however the lowest of eight groups. It has just reached more than 55%, and 80% or more for the rest of the groups.

Table 2. Level of satisfaction

Stakeholders	%	Points
Departments of Industry and Trade of provinces or cities	55.26%	8.06
Power Generation Corporations	83.33%	8.91
Power Distribution Corporations	93.33%	8.65
Electricity trading company	100.00%	8.99
National and regional dispatching center	83.33%	8.64
Electricity and Renewable Energy Agency	100.00%	8.83
Electricity Regulatory Authority	100.00%	8.37
Industrial Safety Techniques and Environment Agency	100.00%	8.98

Notes: (i) Satisfaction is calculated on a 10-point scale; (ii) Satisfaction percentage is the percentage of reviews with 8 points or more.

4.2. Level of satisfaction according to each group of factors

The level of satisfaction according to each group of factors is presented in the following table:

Table 3. Level of satisfaction according to each group of factors

Groups	Power transmission network quality		Accessibility and information provision		Quality of coordination between the two parties		Power transmission image	
	%	Level of satisfaction	%	Level of satisfaction	%	Level of satisfaction	%	Level of satisfaction
EVNNPT	83.16%	8.48	78.46%	8.35	82.72%	8.55	87.03%	8.58
Departments of Industry and Trade of provinces or cities	64.74%	8.09	51.05%	7.83	58.95%	8.13	61.58%	8.17
Power Generation Corporations	90.00%	8.96	81.67%	8.71	91.67%	8.97	91.53%	9.02
Power Distribution Corporations	92.86%	8.62	92.86%	8.54	93.33%	8.66	100%	8.69
Electricity trading company	100%	8.83	100%	9.00	100%	8.99	100%	9.13
National and regional dispatching center	66.67%	8.31	91.67%	8.66	100%	8.69	100%	8.92
Electricity and Renewable Energy Agency	100%	8.10	100%	8.40	100%	10.00	100%	8.83
Electricity Regulatory Authority	100%	8.25	66.67%	8.22	100%	8.67	100%	8.33
Industrial Safety Techniques and Environment Agency	50.0%	8.00	100%	9.07	100%	9.50	100%	9.33

HIGH satisfaction was obtained by the group of EVN parties and departments involved "Power transmission image".

HIGH received from the relevant Agencies, National and regional dispatching center, Electricity trading company the satisfaction of "quality of the coordination work between the two parties".

The Department of Industry and Trade, the Electricity Regulatory Authority, the Power Generation Group, have not met with high satisfaction with “Accessibility and information provision”.

The Department of Industry and Trade, the National and regional dispatching center and the Industrial Safety Techniques and Environment Agency have not satisfied "Power transmission network quality".

Some other results that can be drawn from Table 2 are as follows:

The average score for most factor groups is 8 or higher, and for the "Accessibility and information provision" factor groups only The Department of Industry and Trade assesses it to below 8 points. The Department of Industry and Trade is also the least satisfied group with less than 60% of the factors "Accessibility and information provision " and "Quality of coordination between the two parties".

In the factor 'Quality of power transmission system,' the National and regional dispatching center has a low satisfaction rate while the remaining groups have a satisfaction rate of more than 90%.

Even when evaluating the factor group " Accessibility and information provision" the distribution group has a lower satisfaction rate.

In the group of factors “Accessibility and information provision” The power generation group is less satisfied (the percentage of satisfaction is just over 80 percent while this figure in other groups of factors is over 90 percent).

In conclusion, not only in power transmission quality, each stakeholder will have the lowest rating for different groups of factors.

4.3. Level of satisfaction of Departments of Industry and Trade

The survey results for the Department of Industry and Trade Group demonstrate that "The Department of Industry and Trade's capacity to access and provide information" was rated low at 7.83 and the rest of the groups of factors above 8.09. This group's NPS improvement index is only average (20 percent), showing that EVNNPT must make great efforts to improve the exchange of information and the provision of information between the two sides.

While "Power transmission image" rates in 4 groups of factors are the highest (8.17), the level of improvement is the lowest (6.25 percent).

Power transmission network quality

For each element of the quality factor group, evaluation by the Department of Industry and Trade team is as follows:

The Department of Industry and Trade gave the highest rating to the factor "The power transmission system operates stably and reliably" with a satisfaction rate of 82.54% and a satisfaction score of 8.41. Two groups of factors with scores below 8 that need to be noted are “The power transmission system is suitable for the landscape” (64.74% satisfied) and “The power transmission system does not adversely affect the environment and residential areas”. live around” (72.11% satisfied)

The factor "Safety transmission system" is an important factor that should be paid attention to. This is a factor that strongly influences the assessment of the Department of Industry and Trade on the level of improvement of the quality of the power transmission system.

Model of the relationship between importance and performance for all attributes as follow:

"The energy transmission system runs stably and reliably" in zone3 is the most satisfying factor in the Department of Industry and Trade. In any case, this is a must-have factor for EVNNPT to boost the Department of Industry and Trade's level of satisfaction. Moreover, the "safety transmission system" located in Zone 3 is an essential feature that contributes to improving the quality of the power transmission system. This aspect needs to be further enhanced by EVNNPT.

The factor "Electricity transmission system suitable for landscape" has the lowest level of satisfaction in the group of Power transmission system quality, but it is in zone 2, that is, it does not have a great impact on the increase in customer satisfaction. transmission service stakeholders. However, EVNNPT still needs to pay attention to overcome this factor.

In the deep interview, the Department of Industry and Trade also gave good evaluations for the quality of the power transmission system, such as the electricity safety grid system, the high-voltage grid safety corridor to meet with the laws. SAIDI, SAIFI, MAIFI indicators, and the fault frequency are all good, all investment and safety regulations are guaranteed.

Accessibility and information provision

The findings of the poll suggest that with a satisfaction level of 8.15 (70.53 percent satisfaction rate) and with a satisfaction level of 8.14 "Simply clarify if the information is available for verification from the Department of Industry and Trade" (satisfaction rate 74.74 percent). The other categories are all below 8, in particular, 'Deliver clear and complete information on the progress of implementation and transmission network improvement of new investment projects is the lowest (62.11% satisfaction and 7.58% satisfaction rate)

Furthermore, the element "Quickly clarify when the Department of Industry and Trade has information to verify" is a critical issue that must be addressed. This is a significant aspect in the Department of Industry and Trade's assessment of the level of improvement in the ability to obtain and deliver information.

Model of the relationship between importance and performance for all attributes as follow:

In zone 3 the aspect that the The Department of Industry and Trade considers the group "You can contact EVNNPT in various ways" to be the greatest level of satisfaction. To enhance the degree of satisfaction of the Department of Industry and Trade, this is certainly something that EVNNPT must preserve and promote. In addition, "EVNNPT clarify information to be checked fast" is also an area 3 which strongly impacts the assessment of improved accessibility and provision of information. This factor must be further enhanced by EVNNPT as a priority.

The factor EVNNPT is the lowest level of satisfaction in the Accessibility and Information Provision Group but is located in Zone 2 so that the impact on the satisfaction of the stakeholders about transmission services does not increase. However, this factor still has to be addressed by EVNNPT.

The results of this depth interview also expressed bad opinions about accessibility and information, such as:

Information on investment plans for grid transport projects is often transmitted, but not promptly when a new request will be received in writing by the Department of Industry and Trade.

There is no regular information about the operational situation of the local transmission grid; if needed, the Public Works Department often has to contact the heads of the local transmission unit directly for information collection.

The Department of Industry and Trade has not yet published an annual report on task evaluation.

Full information about the yearly plan and project for the transmission power system construction and operation has still not been fulfilled. For example, a project of 500 kV should report once a month regularly. If the problem exists, there will be a paper for the project of 220 kV. The Department of Industry and Trade, therefore, finds it difficult to mobilize and persuade companies and people to support EVNNPT's programs.

Quality of coordination between the two parties

The evaluation of the Department of Industry and Trade team for each element in the group of factors the quality of coordination between the two parties is shown in the table below:

Table 4. Level of satisfaction of "Quality of coordination between the two parties"

Factors	%	Level of satisfaction
Employees solve problems professionally	72.34%	8.06
The attitude of employees is friendly, attentive, polite, reliable	71.66%	8.09
Employees have good knowledge of the coordination process	70.05%	8.05
Employees clearly understand the information requirements of the parties	67.91%	7.99
Employees master professional expertise	75.53%	8.23
Closely coordinate with local authorities in compensation and site clearance for investment and construction of power transmission grid projects.	70.37%	7.97
Coordination in handling complaints about the safety of the power transmission grid	73.54%	8.23
Cooperation in ensuring the safety of the power transmission network	75.26%	8.23
Coordination in inspection and examination activities	68.42%	8.06
Comply with working procedures and regulations	78.95%	8.26
Have a clear plan before carrying out the repair, maintenance, and upgrade activities of the power transmission network	77.01%	8.13
Having an appropriate plan when carrying out repair and maintenance activities, minimizing risks and adversely affecting power transmission activities.	75.53%	8.13
When there is a problem or abnormality, EVNNPT will repair and fix it quickly	72.34%	8.29

The survey results showed that the Department of Industry and Trade rated the factor "When there is a problem or abnormality, EVNNPT will repair and fix it quickly" with a satisfaction level of 8.29. Two factors are still below 8: "Employees and employees fully understand the information requirements of the parties" and "Collaborate closely with local authorities in compensation and site clearance for construction investment. construction of power transmission grid projects" (7.99 and 7.97 respectively).

In addition, the factor "Compliance with working processes and regulations" and "Professional handling of work by employees" are two important factors that need attention. These are the factors that strongly affect the assessment of the Department of Industry and Trade on the level of improvement in the quality of coordination between the two sides.

Model of the relationship between importance and performance for all attributes as follow:

"EVNNPT repair and fix problems swiftly," as determined by the Department of Industry and Trade, has the highest degree of satisfaction in zone 3. To raise the degree of satisfaction of the Department of Trade and Industry, EVNNPT must maintain and promote this aspect. "Compliance with working processes and rules," which is also in zone 3, has a major impact on the evaluation of the quality of coordination between the two parties. To further improve shortcomings, EVNNPT should give attention to that element.

The factor "employees and employees understand clearly about information requirements" and "EVNNPT cooperates closely with local authorities in compensation and site clearance for investment and construction of power transmission grid projects", although there is the lowest level of satisfaction, it is in zone 2, so it does not affect the satisfaction of the parties much. However, EVNNPT still needs to pay attention to overcome this factor.

Depth interviews also give unfavorable evaluations such as the plan announced by EVNNPT for a plan to inspect the safety corridor of high voltage lines, but not routinely or consistently, and EVNNPT has not had a clear construction procedure. EVNNPT has not signed a Coordination Regulation with the Department of Industry and Trade to work together to resolve difficulties relating to site clearing and electrical safety.

Power transmission image

The survey results showed that the Department of Industry and Trade rated the "reliable EVNNPT" factor the most in the construction and operation of the power transmission system with a satisfaction level of 8.38. Two elements remain below eight, and only roughly 65% are satisfied with these two factors: "EVNNPT looks after community problems" and "EVNPT looks after land, safety, and environmental problems".

Table 5. Level of satisfaction of "Power transmission image"

Factors	%	Level of satisfaction
EVNNPT is a reputable unit	81.05%	8.34
EVNNPT is a professional working unit.	80.53%	8.28
EVNNPT is interested in community issues	66.49%	7.95
EVNNPT cares about landscape, safety, and environmental issues.	65.08%	7.96
EVNNPT is reliable in the construction and operation of the power transmission system.	81.48%	8.38
EVNNPT always listens to opinions reflected in society.	69.83%	8.08

Model of the relationship between importance and performance for all attributes as follow:

The factor judged as the greatest level of satisfaction by the Department of Industry and Trade is "trusted EVNNPT in building and operating a power transmission system" in zone 3. To improve the degree of satisfaction of the Department of Industry and Trade, this is certainly an element that must be assessed by EVNNPT. Zone 3 includes "EVNNPT always listens to the views of the community," which substantially impacts the assessment of improving the picture of EVNNPT. This element has to be further improved by EVNNPT as a priority.

The factors "EVNNPT cares about community issues" and "EVNNPT cares about landscape, safety and environment" have the lowest level of satisfaction, but they are in zone 2, so they do not affect satisfaction. However, this factor still has to be addressed by EVNNPT.

4.4. The most underrated factors of stakeholders

Power Generation Corporations

"Accessibility and information provision" is rated at 8.71 by the Power Generation Group, but it has the lowest score compared to other groups of factors.

The Power Generation group underestimated the factor "Provide complete and clear information on the investment plan of power transmission grid projects when agreeing on station location and power transmission line" and "Providing information about power transmission network". full and clear information on the implementation progress of new investment projects and renovation and upgrading of the transmission system" with evaluation scores of 8.29 and 8.28 respectively.

The factor "providing complete and clear information on the implementation progress of new investment projects and upgrading the transmission system" is an important factor that needs attention. This is a factor that strongly influences the assessment of the Power Generation group on the improvement of EVNNPT's ability to access information.

Table 6. Level of satisfaction of "Accessibility and information provision"

Factors	%	Level of satisfaction
Provide complete and clear information on investment plans for power transmission grid projects when agreeing on station locations and power transmission lines	81.36%	8.29
Provide complete and clear information on the implementation progress of new investment projects and the renovation and upgrading of the transmission system.	78.33%	8.28
Regular information on the operation of the relevant regional power transmission grid, timely and complete notification of problems related to power transmission incidents.	78.33%	8.53
EVNNPT quickly clarified when the power generation corporation had information to verify	86.44%	8.83
EVNNPT satisfactorily solves problems when the power generation corporation has problems, problems arise	86.44%	8.85
The notice forms of EVNNPT are suitable.	87.93%	8.91
Can exchange information 24/7 with the right person in charge	87.76%	8.82
EVNNPT can be contacted in many ways (Dispatch, Phone, Email...)	94.92%	9.24
Easily search for information and news about EVNNPT through media such as website, internet, etc.	88.33%	8.80

National and regional dispatching centers

Evaluation of the dispatching team for each element of the power transmission system quality factor group is shown in the table below:

Table 7. Satisfaction of the Dispatch team with the quality of the power transmission system

Factors	%	Level of satisfaction
The power quality (voltage, frequency, stability...) of the power transmission grid meets current standards well.	75.00%	8.25
Transmission system ready to transmit power output to meet power market requirements	83.33%	8.17
Power transmission system meets technical standards (TBA, lines, poles, electrical equipment, etc.)	91.67%	8.64
The power transmission system operates stably and reliably	83.33%	8.25

The Dispatch group rated the lowest factor "The transmission system is ready to transmit power output to meet the requirements of the electricity market" with an evaluation score of 8.17.

The in-depth interviews also gave positive assessments such as the readiness level of the power transmission grid system has increased gradually over the past 3 years, reaching over 98%, the 500kv grid failure rate has decreased; transmission line availability increases

However, there are still comments reflecting that the transmission grid has not met 100% of the requirements of the power system because there are still cases of overload, full load, and congestion occurring in 2019 such as 500KV in Hiep Hoa, Da Nang, Ha Tinh due to the repair plan is a bit too much, not synchronized.

5. Conclusion & Recommendations

5.1. Conclusion

The average score of most factor groups is 8 or above, while for the " Accessibility and information provision " factor group, only The Department of Industry and Trade scores it at less than eight points. The Department of Industry and Trade is also the least satisfied group with a factor of less than 60 percent in both “Accessibility and information provision” and “Quality of coordination between the two parties” categories. In the group of factors "quality of the power transmission system," the Dispatch group has a small satisfaction percentage while the other groups have a satisfaction rate exceeding 90%. Even when assessing the factor group "Accessibility and Information Provision" the distribution group had a lower satisfaction percentage. In the group of factors Access and provision of information the energy generation group is less satisfied (the percentage of satisfaction is just over 80 percent while this figure in other groups of factors is over 90 percent).

"Power transmission image" received HIGH satisfaction from a group of parties under EVN & relevant Departments. “Quality of coordination work between the two parties” received HIGH satisfaction from the relevant Departments, the Dispatch Group, and the Electricity trading company. “Accessibility and information provision” did not receive high satisfaction from the Department of Industry and Trade, the Electricity Regulatory Authority, and Power Generation Companies. “Quality of power transmission system” did not receive satisfaction from the Department of Industry and Trade, the Dispatch centers, Industrial Safety Techniques and Environment Agency.

5.2. Recommendations

EVNNPT must implement both short-term and long-term solutions to enhance stakeholder satisfaction. In the short term, "Accessibility & Information Provision" should be given the most attention by EVNNPT as this is the group of factors with the least satisfaction among the four-factor groups. Furthermore, the " Power transmission image " group of elements should be maintained, since it is an important group of factors that influence stakeholder satisfaction. The Department of Industry and Trade, and then the dispatch team, should pay greater attention to the stakeholders. Long-term efforts to improve the "quality of power transmission" are essential for EVNNPT.

Other options EVNNPT must focus on in increasing the satisfaction of stakeholders include:

Firstly, EVNNPT must move towards a community-orientated strategy to allow stakeholders to contribute more to the development of power projects.

Secondly, EVNNPT should give clear and transparent information to third parties; promote propaganda and awareness of the need to preserve high-voltage grid security corridors; and engage the media connected to the country's political events such as stable power supply to raise the importance of power transmission

Thirdly, EVNNPT needs to seek support from the political system and state agencies to better explain energy issues and clarify the benefits of a better power system to stakeholders.

Fourthly, EVNNPT needs to manage the systems more effectively, the coordination between EVNNPT and other parties is more effective, specifically:

- Supplementing processes with relevant parties other than EVN (processes and regulations on coordination between EVNNPT and the Department of Industry and Trade, well stipulating and controlling regulations on information supply and processing)

- Develop stronger relationships with stakeholders and with the community

- Annually, there should be a “Technical Conference” for units connected to the transmission system to share information about problems and solutions; hold a conference for the station operator team and factory staff to evaluate the performance of employees of both sides, share experiences for better coordination

- If there is a 4.0 application in operation, share experiences, from which the distribution corporation has a plan to apply new technologies for better coordination between the two parties.

6. Appendix

Appendix A- Questionnaire for Department of Industry & Trade

Dear Mr/Ms,

With the desire to constantly improve the quality of power transmission, the National Power Transmission Corporation (EVNNPT) conducts a survey to assess the level of electricity transmission.

By answering the following questionnaire, we would love to receive your unbiased comments on various aspects of our power transmission operations.

Your comments are extremely valuable so that we can make appropriate adjustments to improve the quality of power transmission activities.

Your personal information will only be used for the purpose of assessing the satisfaction of the parties involved in the electricity transmission operation and will be kept confidential, not used for any other purpose.

We would like to thank you for taking the time to participate in this assessment survey.

Best regards.

Please indicate your level of interest and satisfaction according to the following evaluation criteria: (Increasing level from 1- Not at all interested, Very dissatisfied to 10- Very interested, Very pleased)

Level of Performance: Your level of interest in the evaluation criteria of power transmission activities.

Level of Satisfaction: Your perception of the quality of power transmission activities in the past year 2019.

In case the customer does not give an opinion, the investigator leaves the answer blank

N0	Factors	Level of performance	Level of satisfaction
1	THE QUALITY OF THE POWER TRANSMISSION NETWORK		
1.1	Power grid safety corridor in accordance with prescribed standards	……	……
1.2	Power transmission system ensures safety	……	……
1.3	The power transmission system does not adversely affect the environment and surrounding residential areas	……	……
1.4	Power transmission system suitable for the landscape	……	……
1.5	The power transmission system operates stably and reliably	……	……
1.6	Overall satisfaction with power transmission system quality	…………	
1.7	Please state specific issues and events affecting your assessment of the QUALITY OF POWER TRANSMISSION SYSTEM.		
2	ACCESSIBILITY AND INFORMATION PROVISION		
2.1	EVNNPT provides complete and clear information on investment plans for power transmission grid projects when agreeing on station locations and transmission lines.	……	……

N0	Factors	Level of performance	Level of satisfaction
2.2	EVNNPT provides complete and clear information on the implementation progress of new investment projects and the renovation and upgrading of the transmission network.	……	……
2.3	EVNNPT regularly informs about the operation of the local power transmission grid, promptly and fully informs about problems related to power transmission incidents.	……	……
2.4	EVNNPT quickly clarified when the Department of Industry and Trade had information to verify	……	……
2.5	The notice forms of EVNNPT are suitable.	……	……
2.6	Can exchange information 24/7 with the right person in charge	……	……
2.7	EVNNPT can be contacted in many ways (Dispatch, Phone, Email...)	……	……
2.8	Easily search for information and news about EVNNPT through media such as website, internet, etc.	……	……
2.9	Overall satisfaction with the exchange of information between the two parties	……………	
2.10	Could you please tell us how EVNNPT has improved in terms of access to and provision of information? (scoring from 1- No improvement at all to 10- Great improvement)		
3	THE QUALITY OF THE COOPERATION BETWEEN THE TWO PARTIES		
3.1	Officials and employees (employees)		
3.1.1	EVNNPT's employees handle work professionally (quickly, accurately, according to commitments, in accordance with regulations).	……	……
3.1.2	The attitude of employees is friendly, attentive, polite, reliable	……	……
3.1.3	Employees have good knowledge of the coordination process to solve the work between the parties	……	……
3.1.4	Employees clearly understand the information requirements of the parties	……	……
3.1.5	Employees master professional expertise	……	……
3.1.6	Overall satisfaction level for employees	……	
3.2	Coordination between the parties		
3.2.1	EVNNPT closely cooperates with local authorities in compensation and site clearance for investment and construction of power transmission grid projects.	……	……
3.2.2	EVNNPT cooperates well with the Department of Industry and Trade to handle complaints about the safety of the power transmission grid	……	……
3.2.3	EVNNPT cooperates well with the Department of Industry and Trade in ensuring the safety of the power transmission network	……	……
3.2.4	EVNNPT cooperates well with the Department of Industry and Trade in inspection activities	……	……
3.2.5	When coordinating with the Department of Industry and Trade, EVNNPT always strictly adheres to working processes and regulations	……	……
3.2.6	EVNNPT has a clear plan before carrying out repair, maintenance and upgrading activities of the power transmission network	……	……

N0	Factors	Level of performance	Level of satisfaction
3.2.7	EVNNPT has an appropriate plan when performing repair and maintenance activities, minimizing risks and adversely affecting power transmission activities.	……	……
3.2.8	When there is a problem or abnormality, EVNNPT will repair and fix it quickly	……	……
3.2.9	Overall satisfaction with EVNNPT	…………	
3.3	Please tell us about EVNNPT's improvement in the quality of coordination between the two sides in general compared to the previous year. (scoring from 1- No improvement at all to 10- Great improvement)		
4	IMAGE OF POWER TRANSMISSION		
4.1	EVNNPT is a reputable unit (according to commitments, functions and tasks related to power transmission)	……	……
4.2	EVNNPT is a professional working unit.	……	……
4.3	EVNNPT cares about community issues (residential life, influence of the power grid on residents, etc.)	……	……
4.4	EVNNPT cares about landscape, safety and environmental issues.	……	……
4.5	EVNNPT is reliable in the construction and operation of the power transmission system.	……	……
4.6	EVNNPT always listens to opinions reflected in the society.	……	……
4.7	Please tell us about the improvement in EVNNPT's image in general compared to the previous year (scoring from 1- No improvement at all to 10- Great improvement)		

Appendix B- Instructions for In-depth interview with Department of Industry and Trade

Dear Mr/Ms

We invite you, as the leader of the Department of Industry and Trade, to share some personal opinions when working with EVNNPT.

Your comments are extremely valuable for EVNNPT to make appropriate adjustments to bring efficiency to stakeholders as well as EVNNPT.

Your identity and participation will not be disclosed to anyone outside the research team. The information you provide will only be used for the purpose of assessing the satisfaction of stakeholders with EVNNPT. If you wish, upon completion we will send a transcript of the information we obtained from this interview for you to review prior to inclusion in the study.

We would like to thank you for taking the time to participate in this interview.

The content of the interview focused on four issues as follows:

Part 1: Quality of Power Transmission System

Part 2: Access to and provision of information

Part 3: Quality of cooperation between the two sides

Part 4: Image of EVNNPT to the Department of Industry and Trade

Part 5: The influence of EVNNPT (lines, substations...) on local socio-economic development

PART 1. POWER TRANSMISSION SYSTEM QUALITY

This content asks for your opinion on aspects related to the first part of the transmission system such as transmission lines, substations. Some criteria that can be used to consider network quality are general level of safety, suitability to the landscape and environment.

1. Power grid safety

As a leader of a provincial management agency, how would you rate the overall safety of the power transmission system in your province?

- Is the corridor safe?
- Do 220 kV and 500 kV transmission lines and substations ever have problems? If so, are the consequences big?

2. Landscape and environment

Do you think the power transmission system affects the local landscape and environment?

- Is the transmission system suitable for the landscape?
- Does the transmission network have negative impacts on the environment?
- Have there ever been complaints from local people and businesses about the impact of the transmission grid on the landscape and environment?

3. Recommendations and suggestions on the quality of the transmission network

3.1 In the past year, what specific problems or events related to the quality of the Transmission System that you would like to discuss and give further comments on?

3.2 From the perspective of the leaders of the agencies in charge of production and business activities of the province, what suggestions do you have for EVNNPT to improve the safety of the power grid?

3.3 What do you think EVNNPT can do better to ensure landscape and environment?

3.4 Besides the safety and suitability of the landscape and environment, are there any quality problems of the Power Transmission System that you are concerned about and feel unsatisfied with?

PART 2. ACCESSIBILITY TO INFORMATION

This content refers to the exchange, information provision and feedback of EVNNPT with the Department of Industry and Trade. Some suggested criteria for you to evaluate this activity are the completeness and clarity of the notification documents, the timely and accurate response, the smooth and convenient communication channels.

1. Quality of information provided

In general, do you think EVNNPT's information exchange and provision activities with the Department of Industry and Trade meet the requirements well?

- Is the information sufficient and clear on the investment plan for power transmission grid projects when agreeing on station location and transmission line route?
- Does EVNNPT regularly provide information on the operation of the local power transmission grid, timely and fully notify about problems related to power transmission incidents?

2. Speed of response and coordination of two-way exchanges

When the Department of Industry and Trade needs to verify and explain related to the power transmission system, what is the response rate of EVNNPT?

3. Communication channel

Are you satisfied with the communication channels between the Department of Industry and Trade and EVNNPT?

- Is the Department of Industry and Trade easily accessible to the right person in charge?
- Is the method of communication with EVNNPT convenient with the Department of Industry and Trade?

4. Proposals and suggestions on the provision and exchange of information

4.1 What specific problems or events related to access to and provision of information by EVNNPT in the past year that you would like to comment on?

4.2 Based on the experience of leaders of the Department of Industry and Trade when exchanging information and communicating with other agencies in the province, he/she suggested how EVNNPT should change and improve so that the provision of information can respond well. than required by the Department of Industry and Trade?

4.3 The feedback method and communication channel of EVNNPT should be changed, what adjustments should be made for the two sides to cooperate more effectively?

PART 3. QUALITY OF COOPERATION BETWEEN THE BOTH PARTY

1. Process and coordination

As a leader of the Provincial Department of Industry and Trade, how do you evaluate the process and overall coordination of EVNNPT with the Department?

- Does EVNNPT have a clear process for issues that need to be coordinated by both parties such as site clearance, electricity safety protection?
- When there are complaints or problems arise, does EVNNPT take the initiative and cooperate to solve it?
- Is there any problem in the coordination of inspection work between the two sides?

2. Professionalism and professionalism of officials and employees

How do you see EVNNPT's staff and employees handling the job?

- What is the attitude of EVNNPT staff? (professional, polite, reliable)
- Can EVNNPT officials and employees demonstrate solid knowledge and skills?
- Do employees follow the prescribed process?

3. Proposing and commenting on the process and officers and employees of electricity transmission

3.1 In the past year, what specific problems and events related to the process and working methods of EVNNPT's employees that you feel need to be discussed?

3.2 In addition to the two aspects of process and quality of staff, what are you interested in in the coordination activities between the Department of Industry and Trade and EVNNPT?

3.3 Based on the experience of leaders of the Department of Industry and Trade when coordinating with other agencies, he/she suggested how EVNNPT can change and improve the coordination process to better meet the requirements of the Department of Industry and Trade. Love?

PART 4. IMAGE OF EVNNPT FOR INDUSTRY TRADE DEPARTMENT

1. The level of prestige and professionalism at work

As the leader of a leading agency in charge of local economic production activities, how do you evaluate the overall image of EVNNPT?

- Does EVNNPT's overall operation show that this is a reputable unit?
- Does the way of working show professionalism?
- Do you feel confident when coordinating the implementation of the work with this partner?

2. Responsibility and concern for the community

According to observations at the province level, how do you assess the sense of responsibility of EVNNPT?

- Do you think that EVNNPT has the spirit of listening and absorbing feedbacks?
- Do you see EVNNPT showing responsibility for social and environmental issues in the locality?

- Evaluate the influence of transmission lines and substations on local socio-economic development in your opinion?

3. Other comments and suggestions

3.1 In addition to aspects such as prestige, professionalism, and community responsibility, do you have any other opinions about the image of EVNNPT?

3.2 What suggestions do you have for EVNNPT to improve its reputation and image in general in the eyes of relevant partners and units?

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CHALLENGES FOR SMES IN AGRICULTURAL EXPORT: AN EMPIRICAL STUDY IN VIETNAM

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ABSTRACT

Agricultural export plays a crucial role in the economic growth of nations, particularly in income enhancement and job creation. Recently, Vietnam's agricultural export has had a prosperous development due to increased market demand, improved product structure and expanded application of technology. However, Vietnamese SMEs still face numerous challenges when penetrating into agricultural markets, especially into developed countries due to their constraints in responding to technical requirements imposed in such markets. By employing qualitative interview, this study investigates the perceptions of Vietnamese SME managers with regard to their challenges in agricultural export, especially those related to technical requirements. 124 participants were approached by the introduction of provincial agencies and the references of previous interviewees. Vietnamese export SMEs shared their difficulties with regard to technical barriers to trade, difficulties from macro and micro environment as well as difficulties related to their limited export capacity. Based on such investigation, implications for various stakeholders such as the government, localities, researchers and training institutions are provided. The research is expected to be beneficial to SME managers and supporting agencies to provide appropriate assistance to Vietnamese export SMEs. The theoretical contribution may be seen through a study examining the business challenges perceived by managers of SMEs, in the context of developing countries such as Vietnam, and in the difficult business field such as agricultural export.

Keywords: Vietnam, export, agriculture, SMEs, challenges

1. Introduction

The significance of agricultural export has been witnessed in economic development, especially in developing countries. This activity has great impact on stimulating economic growth, creating a large source of income, and being an important component in job creation (Kuzminov, 2017). Both large-scale firms and small and medium-size ones have recognized the potential benefits from agricultural export and thus, place more investment. Especially, the role of SMEs is becoming more essential when developing countries increasingly participate in the global supply chain of agricultural products (WTO, 2016). However, SMEs have been considered vulnerable by trade barriers when joining international trade due to constrains related to finance, human resources and particularly management capacity. Particularly, the limited capacity has hindered SMEs from implementing activities to meet technical requirements (Chemnitz, 2012).

In 2020, the export value of Vietnamese agricultural products was on the increase whereas that of other countries decreased. This reflects the capability of Vietnamese government in taking advantage of opportunities as well as in actively occupying and expanding the export market of agricultural products to the world (Ha, 2021). However, the ability of Vietnamese SMEs' agricultural products to meet demanding standards from international markets is still limited, greatly due to their inconsistent product quality, inefficient manufacturing chain and week ability to respond to technical requirements, labor safety and intellectual property (Tien phong, 2019).

Previous studies have only focused on clarifying the impact of technical standards on trading activities of SMEs in general and there have been few studies examining these impacts on SMEs in developing countries such as Vietnam. In this context, a study investigating the perceptions of SME managers with regard to challenges they may face in export is strongly essential. The research outcomes are expected to be utilized as useful evidence for institutions to develop appropriate supports to Vietnamese agricultural export SMEs.

2. Theoretical framework

2.1. SMEs and SMEs in Export

2.1.1. SMEs

The concept of small and medium-sized enterprises (SMEs) has been widely and historically discussed as an extremely important component of economic development and job creation (Storey, 1994; BER, 2016). Basically, it refers to a type of enterprise with a certain amount of revenue, assets or total number of employees. The criteria to define SMEs is also different from country to country. For example, in European countries, enterprises with less than 250 employees are considered SME, while in the US, SMEs have less than 500 employees.

In Vietnam, the government established the Law on Supporting SMEs (No. 04/2017/QH14). Accordingly, SMEs are defined as micro, small and medium-sized enterprises having no more than 200 employees registered with the state social insurance scheme in a year and meeting either of the following two criteria: total capital shall not exceed 100 billion VND; total revenue of the preceding year shall not exceed 300 billion VND (Government, 2017).

2.1.2. SMEs in Export

Export plays a vital role in the country's economic development, promoting trade in goods, and thus, increasing the country's total production output. A country's export capacity contributes greatly to its economy grow. Therefore, one of the core functions of diplomacy and foreign policies among governments is to promote economic and trade, encouraging import and export for the benefit of all trading parties. Exporting to foreign markets may help enterprises reduce costs per unit of goods by expanding operations, meeting increased demands. Also, companies exporting to foreign markets may acquire valuable knowledge and experience in international business, access to new technologies, learn new marketing methods, as well as gain better understanding of foreign competitors (Troy, 2019).

For developing countries, SMEs are essential in manufacturing, trading and exporting activities, especially in creating jobs (Tambunan, 2008). SMEs are seen as the key in the transition from an agricultural economy to a market-oriented economy. However, SMEs also face a lot of challenges in their development and economic integration. These issues need to be solved to enhance the role of SMEs in the country’s development and internationalization (Arinaitwe, 2006).

Compared with large-scale enterprises, SMEs have advantages of flexibility in making decisions, in responding promptly to changes in customer needs, as well as in connecting with international business partners. However, SMEs also own disadvantages in accessing and expanding foreign markets (Paunović & Prebežac, 2010).

2.2. Agricultural Export and Technical Barriers imposed to SMEs in Agricultural Export

2.2.1. Agricultural Export

Agricultural export has shown its significance in economic development, especially in developing countries. The importance of agricultural export to developing countries is reflected in its impact on stimulating economic growth, creating a large source of income, and being an important component in job creation. However, agricultural export activities in developing countries are largely influenced by their limited conditions of infrastructure, distribution and trading system from these developing countries (Kuzminov, 2017).

Agriculture export activities attract the interest of not only large-scale enterprises, but also a great number of SMEs. Especially, when developing countries increasingly participate in the global supply chain of agricultural products, the role of SMEs is becoming more and more essential. Although the export and production activities of SMEs have been on the rise, the engagement of SMEs in the agricultural import-export sector is still unsustainable. According to Global Trade Report 2016 (WTO, 2016), one of the key reasons leading to such unsustainable development is their limited financial and human resources.

2.2.2. Challenges for SMEs in Export and Agricultural Export

In international business, SMEs may face numerous challenges (Szabo, 2002; Fletcher, 2004; Paunović & Prebežac, 2010). In particular, limited management capacity of SME managers is still considered as a great barrier, especially for those who are new to international markets (Paunović & Prebežac, 2010; Kahiya, 2013; Karabulut, 2013).

Limitations related to production and technology skills, management skills, and particularly research and development skills are typical disadvantages preventing SMEs to participate in export. Agricultural export products normally have more demanding requirements on quality and packaging, requesting agricultural SMEs to continuously innovate production technology. SMEs with limited capital are often hesitant to invest in international business development, especially in developing export products. Some of them even keep the stereotype of solely focusing on domestic markets (McConnell, 1979).

In export, SMEs are often required to adjust their products to meet the requirements of customers and markets, especially of fastidious markets. Product adjustment needs to comply with regulations of the export country's governments, particularly with those related to the health and safety protection of their citizen (Leonidou, 2004).

Requirements related to products' packaging, labeling, trade mark and branding are also noted as great challenges imposed to SMEs in developing countries. In many markets, packaging is required to include information related to product composition, expiration date, weight, and certificate of origin (CO) as mandatory conditions, which often makes SMEs confused to implement (Cateora *et al.*, 2009). Such product-related requirements, on the one hand, can be considered as challenges for SMEs in export process, on the other hand, they are also seen as opportunities for SMEs to improve their product quality and develop their competitiveness (Leonidou, 2004). However, when satisfying these requirements, SMEs have to consider costs, economies of scale, management capacity and marketing activities (Terpstra & Sarathy, 2000).

Research of Fliess & Busquets (2006) emphasized difficulties of SMEs in coping with trade barriers. Accordingly, with its constrains related to finance, human resources and particularly management capacity, SMEs are vulnerable by trade barriers in their international business process. International trade often requires SMEs to have a well-trained and professional workforce to deal with unexpected challenges in unfamiliar business context, especially in understanding and satisfying technical requirements. This fact requires the governments' support provided through electronic portals, seminars or research activities for SMEs. Thanks to these information channels, SME owners may update information, acquire lessons to improve their management capacity, thereby overcoming trade barriers.

Standards related to "Technical Barriers to Trade" (TBT) or "Sanitary and Phytosanitary measures" (SPS) have caused many difficulties for SMEs in agricultural export. There have been a lot of challenges for SMEs in satisfying SPS and TBT standards – great barriers in trading with developed markets.

Disdier et al. (2008) studied the impacts of SPS and TBT measures on tropical fruit products. This study examined the levels of impact SPS and regulatory technical requirements on fruit products for exporting to developed countries such as EU, US, Canada, Australia and Switzerland. The research addressed directional solutions and policies to respond to these barriers.

Chemnitz (2012) reflected that agricultural trading activities are increasingly influenced by food safety and quality standards. These technical requirements monitor exporters, especially SMEs by establishing rules and conditions to participate in the export market, thereby leading to export market shares redistribution. For some manufacturers, the technical standard may create new opportunities as it allows exporters to access to specific market segments where other producers who has less manufacturing capacity and cannot meet the standard requirements are rejected.

For SMEs, due to their limited resources which may hinder them from implementing activities to meet technical requirements, they could be disadvantagous in complying with quality standards. To maintain and increase market share in difficult markets, the manufacturer needs information related to technical requirements of their business partners, which may be limited due to poor relationship between buyers and producers (Chemnitz, 2012).

2.2.3. Technical Barriers Imposed to SMEs in Agricultural Export

In addition to general "trade barriers" or "import restrictions", exporters are required to pay great attention to "technical trade barriers". These could be understood as measures applied to goods trading domestically and across borders (import/ export). Some technical barriers to trade can be addressed as follows:

Technical regulations

Requirements on safety and product quality

Requirements on labeling and information provided

Procedures on importing registration

Inspection procedures and certification

Quarantine, cleaning, disinfection, storage, transportation procedures

Requirements on product quality system and environmental system

Requirements on workshops, technology and equipment for manufacturing and processing

Requirements on traceability and geographical indication

Requirements on social responsibility, environmental protection, energy conservation

The WTO implemented the agreement on TBT and SPS to limit the negative impact of technical barriers on international trade. Many free trade agreements (FTAs) have also adjusted provisions related to TBT and SPS to facilitate trade in the region (Minh Anh, 2019).

Jacob *et al.* (2017) emphasized that in the forms of "Trade barriers", TBT and SPS are the most common forms. TBT refers to technical regulations and standards related to characteristics of goods such as size, shape, design, function, or methods of labeling or packaging, whereas SPS sets the rules and requirements for food.

2.3. Agricultural Export of Vietnamese SMEs

In the coming years, agricultural export of Vietnam in general, of Vietnamese SMEs in particular, are expected to have great development with numerous opportunities. Especially, the CPTPP agreement officially took effect, opening up great opportunities for the export of agricultural, forestry and fishery products to extremely large and potential markets. However, whether agricultural product quality of Vietnamese enterprises, especially that of SMEs, may meet the requirements set in global markets is the issue needed to be addressed. Generally speaking, the ability of Vietnamese SMEs' agricultural products to meet strict requirements from the international market is still considered limited. Major reasons for this fact are that Vietnam's agriculture is still relatively small, the product quality is inconsistent, the manufacturing chain is not efficient, the ability to satisfy standards of quality, labor safety and intellectual property set by the CPTPP is still deficient. In this situation, supports related to the application of science and technology as well as human resources development is extremely necessary for SMEs which are always characterized with limited resources and foreign investment. In particular, solving a series of issues in applying GAP standard or HASAP standard requires government's supporting policies to raise awareness and gradually accumulate adequate resources for SMEs to meet strict standards. With the state support, the selection of the agricultural product/market pair of SMEs is expected to be more appropriate and effective (Tien phong, 2019).

In recent times, Vietnam's agricultural exports have had many prosperous developments due to increased market demand, improved product structure, and expanded application of high technology, promoting the investment in agriculture. Also, there has been more motivation from tax incentives according to the process of implementing international integration commitments, especially those in new free trade agreements (Phong & Tri, 2016).

Noteworthy, a large number of Vietnamese agricultural products, especially fruits, are increasingly entering into fastidious markets, which also requires increasing quality. The penetration into difficult markets is forecasted to bring "double benefits", not only in avoiding the dependence on one market for vegetables and fruits, but also in urging farmers change their production methods from selling what they have to selling what the market needs. This is also an inevitable direction that the agricultural sector should approach in the context of Vietnam's increasingly integration into the world market. Currently, the US government has allowed to import a series of Vietnamese fruits such as white-fleshed dragon fruit, red-fleshed dragon fruit, rambutan, longan, litchi and is continuing to complete procedures to allow importing mango and star apple. Currently, not only in the US market but also in many other fastidious markets such as Australia, Japan, Korea, New Zealand, especially Europe, etc., Vietnam's fruit exports have increased in both volume and value (Quang, 2016).

In 2020, as per the report of FAO, while the whole world was in crisis and the supply chain was broken by the covid-10 pandemic, Vietnam still exported essential agricultural products to the world, especially to Africa, China, the Philippines and other countries. This reflects the capability and achievement of Vietnamese government, not only in poverty reduction, but also in maintaining food security and containing to business risks (Ha, 2021).

In short, previous studies have confirmed the potential growth of agricultural import-export activities in the international market and the increasingly participation of SMEs in the global agricultural supply chain. However, SMEs may face many difficulties when penetrating agricultural markets of developed countries, especially in satisfying requirements related to trade barriers. Main reasons leading to these difficulties may be related to limitations of capital, technology and management capacity. However, previous studies have only focused on clarifying the impact of technical standards on trading activities of SMEs in general and there have been few studies examining the these impacts on SMEs in developing countries such as Vietnam.

In the following sections, the analysis of the challenges that Vietnamese SMEs face in agricultural export is expected to provide an overview and a basis for SMEs themselves and supporting agencies to develop reasonable solutions and consultants for SME in agricultural export.

3. Research Methodology

3.1. Research Objectives

Based on the literatures related to challenges imposed to enterprises in international business, the perceptions of Vietnamese SMEs with regard to their difficulties in agricultural export to meet stricter requirements from oversea markets are explored in this paper. Subsequently, some implications, particularly solutions related to training programs for Vietnamese SMEs are then provided. Research outcomes are expected to be beneficial to SME managers and training/consulting institutions in assisting Vietnamese SMEs to overcome technical barriers in exporting agricultural products to overseas markets.

The following main research question has been investigated and guides this study:

What are the perception of Vietnamese agricultural SME managers with regard to challenges imposed in export, especially in overcoming technical barriers?

3.2. Data Collection

In this study, with the aim of developing support programs to improve management competence for SMEs managers to better export and overcome technical trade barriers in agricultural export, their challenges in such activities are explored. By using in-depth interviews, the researcher has the opportunity to find out plentiful perceptions of SME managers, thereby raising both breadth and depth of the research data.

To investigate the perceptions of SME managers with regard to challenges encountered, the interview method is considered to be the most appropriate one. Primary data was collected in the form of semi-structured interviews which allow the researcher to develop the topic when the interviewees are asked to explain and provide additional opinions based on their responses. In addition, the responses of interviewees can provide new, interesting and useful ideas, allowing the researcher to develop qualitative data.

An interview protocol was developed based on the literature review and used throughout the interview process. However, during the interview process, based on the interaction between the interviewer and the interviewees, many new ideas were generated, recorded, analyzed, and since then, developed the research data.

The interview was carried out with 124 export SME managers. The number of respondents holding the position of director is 49 people (39.52%), deputy director is 11 people (8.87%) and head of sales is 64 people (51.61%). Most of interviews were conducted in the northern provinces, including Hanoi (44 enterprises – 35.48%), Bac Giang (22 enterprises – 17.74%), Ha Nam (16 enterprises –12.90%), Son La (15 enterprises - 12.90%), Hai Duong (13 enterprises –10.48%), and other provinces such as Hoa Binh, Lang Son, Thai Nguyen, Lai Chau, Yen Bai, Ninh Binh, Nam Dinh, Quang Ninh, Ha Tinh and there are 02 enterprises from Ho Chi Minh city.

Based on the list of agricultural SMEs in these localities, the researcher approached the interviewees. The approach was based on the introduction of the local state agencies, such as officials at the Departments of Agriculture and the references of previous participants, reflecting the usefulness of "snowball" technique.

3.3. Data Analysis

The analysis method of Cresswell (2014) was used to analyze primary qualitative data in this study. Accordingly, the researcher organized the data, read through the interview transcripts, coded, developed and organized themes and sub-themes, interpreted and presented the research findings.

The QSR Nvivo qualitative research support software was used in the coding of the qualitative primary data. The research results are presented in a descriptive form, based on main themes, sub-themes, examples, and multi-dimensional views from the interviewees. In addition, the examples and opinions expressed by interviewees are also quoted directly to make the reader get the 'feel' contained in the answers as well as the 'liveliness” of real business situations, adding to the persuasiveness of qualitative research results.

4. Results

4.1. Challenges Related to Technical Barriers

4.1.1. Trade Protection in Global Markets

From the viewpoints of participants, one of the most popular challenges that many Vietnamese agricultural export SMEs face when participating in the international market is the fraud and unfair competition among exporters. This unfair competition may result from not only the strategies of rivals but also the macro policies related to trade protection of nations. In particular, the inspection barrier has become a great difficulty for Vietnamese agricultural export SMEs. From their view, *"the number of Vietnam's export products meeting technical standards is still limited"* (M._115).

4.1.2. Strict and Changeable Technical Standards

Strict requirements related to export product quality and design were emphasized as great barriers for Vietnamese agricultural export SMEs. Technical standard systems require SMEs to *"satisfy high standards consistently from planting to harvesting"* (M_117), as well as *“continuously update information to respond promptly to sudden changes in technical requirements”* (M_117).

4.1.3. Different Regulations of Nations

Inconsistent regulations related to technical standards among export markets were perceived as challenges for SMEs in agricultural manufacturing and exporting. These inconsistent and unstable standards require much more efforts from Vietnamese export SMEs.

Table 1: Challenges related to Technical Barriers perceived by Vietnamese agricultural export SME Managers

Trade protection in global markets
Unfair competition among exporters due to rivals' strategies and nations' trade protection
Strict and changeable technical standards
Different regulations of nations
Inconsistent and unstable standards among nations

Source: Author

4.2. Difficulties from Macro Environment

4.2.1. Difficulties from Legal Environment

Among difficulties from the legal environment, import-export policies related to protectionism for domestic manufacturers were addresses as the big obstacle for Vietnamese exporters. Besides the general international regulations, specific regulations of each market are also a barrier for export SMEs. At the same time, the policies of Vietnam related to technical standards were described not clear, causing confusion for Vietnamese SMEs in agricultural export. Furthermore, limited channels for Vietnamese SMEs to access and update domestic and international laws related to technical requirements were also identified as a difficulty encountered.

4.2.2. Difficulties from Science and Technology Environment

The backward science and technology capacity was described as the challenge for the development and internationalization of Vietnamese SMEs in agricultural export. When technology is not consistently and widely applied, it would be difficult to ensure the stability and uniformity of product quality for export. Also, lack of modern technology makes it harder for SMEs in satisfying technical requirements in international markets.

4.2.3. Difficulties from Economic Environment

The economic environment in general and the markets for Vietnam's agricultural export products in particular were perceived unstable. From SME managers' opinion, a small change from the export markets may cause potential risks for export SMEs. There would be a huge loss when SMEs try to satisfy technical standards and goods are qualified but the market is still precarious and their products cannot be exported. This risk may demotivate Vietnamese agricultural exporters to manufacture products satisfying technical requirements. For that reason, agricultural export markets that are not too strict, with moderate standards, are still the selection of many Vietnamese agricultural SMEs.

Another challenge may come from the relationship of Vietnam with export countries, especially with difficult ones, as shared by one SME manager, *"European countries have not had a favorable view of Vietnamese exporters"* (M_96). When the economic cooperation has not been beneficial for trading, it is understandable that Vietnamese SMEs still face numerous difficulties in terms of technical trade barriers.

4.2.4. Difficulties from Natural Environment

When it comes to challenges from natural environment, disadvantages of the raw material area were identified as great concerns of agricultural product exporters. In many cases, unfavorable weather conditions may affect the quality of products that make them unable to be accepted in export markets. Besides, environment protection was stressed as a task that agricultural exporters need to ensure, as the sharing of one manager, *"Each market has its own standards and the environmental technical indicators are often strictly required"* (M_97).

Table 2: Difficulties from the Macro Environment perceived by Vietnamese agricultural export SME Managers

Difficulties from legal environment
Import-export policies related to protectionism for domestic manufacturers of nations
Specific regulations of each market
Unclear policies of Vietnam on technical standards
Ineffective channels to access and update laws related to technical requirements
Difficulties from science and technology environment
Backward science and technology in Vietnamese agricultural export
Inconsistent technology leading to instability and dissimilarity of export product quality
Lack of modern technology to satisfy technical requirements
Difficulties from economic environment
Unstable markets for Vietnamese agricultural export
Unfavorable view of other nations to Vietnamese agricultural products
Difficulties from natural environment
Disadvantageous raw material areas for agricultural product export
Unfavorable weather conditions harming product quality for export
Environmental technical requirements

Source: Author

4.3. Difficulties from Micro Environment

4.3.1. Difficulties from Suppliers

For agricultural export SMEs, suppliers were identified as one of the most important stakeholders assisting them to meet technical requirements. When suppliers provide low quality goods, it is extremely difficult for enterprises to penetrate or expand the international market. One issue related to supplier emphasized by SME managers in this study was the unstable raw materials for Vietnamese agricultural export.

The inconsistency in ensuring standards from suppliers was reflected as an obstacle for SMEs to manufacture and export agricultural products satisfying technical requirements of foreign markets. This becomes even more difficult for enterprises trading in the agricultural sector when the production capacity of supplying households is normally not efficient. Another issue that SME managers in this study concerned is the lack of synchronization of the suppliers, which leads to difficulties in providing standardized products. In addition, many agricultural products of Vietnamese SME exporters are collected from farmers, the quality becomes harder to control due to farmers' limited technology capacity in satisfying technical requirements.

4.3.2. Difficulties from Customers & Partners

From the perception of SME managers in this study, customers may also create challenges to exporters, especially when their requirements on technical standards, product quality and branding become more and more demanding. Besides, business partners from fastidious markets such as the US and EU are often difficult, especially in terms of technical standards, and they often have their own business practices. Meanwhile, traditional partners such as China are changeable and inconsistent in applying technical standards.

4.3.3. Difficulties from State Agencies

The limited capacity of state officials in managing import-export activities as well as in controlling technical standards is another challenge mentioned by participants in this study. In particular, the lack of state's control may lead to counterfeiting of quarantine certificates, creating unfair competition, and discrediting Vietnamese exporters, which was noted as a great concern of SME managers in this study.

Time to complete the certification procedures was identified as another difficulty for Vietnamese SME managers. It may take a lot of time for SMEs to prepare products to meet the standards, accompanied with the delay in licensing or quarantining may make SMEs lose their business opportunities. Moreover, the inconsistence of inspection and the loose linkage in the supply chain, from production to consumption, are other challenges addressed in this study.

Table 3: Difficulties from microenvironment perceived by Vietnamese agricultural export SME Managers

Difficulties from suppliers
Unstable supply of raw materials for Vietnamese agricultural export
Inconsistency in ensuring standards from suppliers
Lack of synchronization of suppliers, leading to difficulties in providing standardized products
Limited technology capacity of farmers – the key agricultural product supplier - in satisfying technical requirements
Difficulties from customers & partners
Demanding requirements of customers on technical standards, product quality and branding
Difficult technical requirements of business partners from fastidious markets such as US and EU
Changeableness and inconsistence of traditional partners such as China in applying technical standards
Difficulties from state agencies
Limited capacity of state officials in managing import-export activities and controlling technical standards
Delay in licensing, quarantining and other certification procedures may make SMEs lose business opportunities
Inconsistence of inspection and loose linkage in the supply chain from production to consumption

Source: Author

4.4. Difficulties Related to Limited Capacity of Exporters

4.4.1. Limited Strategic Vision

The limitation of management capacity was recognized by Vietnamese SME managers in this study as their great constraint in meeting technical requirements. The lack of initiative in the production and export activities, as well as the limited strategic vision are the notable challenges mentioned in this research.

4.4.2. Limited Market Expansion Capacity

Regarding the difficulties of agricultural export SMEs, the limited capacity to penetrate and expand export markets was emphasized by participants in this study. Accordingly, they find hard to understand, identify and properly meet market needs, ensuring the output for agricultural products. Therefore, meeting the technical standards of market was stressed as one of the most difficulties imposed to SMEs when expanding their markets.

Limited ability to develop branding for export agricultural products is also an issue identified by SME managers in this study. In the context of increasingly fierce competition, when technical standards are constantly changing, SMEs are put under pressure to improve technology for production as well as to maintain and develop their brands. When exporting agricultural products with weak brands, SMEs are forced to export raw products or through intermediaries, resulting in a greatly reduced export value.

4.4.3. Limited Financial Capacity

The limited financial capacity is another problem addressed by many Vietnamese SMEs joined this study. To begin with, the capital sources for investing facilities and technology to manufacture standardized products is a limitation of many Vietnamese SMEs. Besides, mobile capital for export orders is another concern mentioned by SME managers. Accumulating capital for manufacturing and exporting is difficult for SMEs, and it becomes much harder for SMEs in agriculture export which normally requires huge amount of capital invested.

4.4.4. Limited Production and Cultivation Capacity

Limited production capacity, difficulties in product quality controlling and poor processing chain management are other challenges addressed in this study. In particular, with the characteristics of agricultural production, manufacturing stages often require a high level of standardization to meet the requirements from foreign markets.

4.4.5. Limited Technology Capacity

From the viewpoints of many SME managers in this study, the production technology of Vietnamese enterprises is generally outdated and *"mainly for simple preliminary processing".* (M_115). Due to the lack of capital, technology investment is also extremely limited, greatly reducing the export value of Vietnamese agricultural products. In addition, the technology used by agricultural export SMEs was also evaluated unsynchronized. As a consequence, with the limited and outdated technology, *"the quality of the agricultural product decreases, and the technical requirements are not met"* (M_100).

4.4.6. Limited Infrastructure Capacity

Limited infrastructural capacity was considered as a great difficulty of Vietnamese SMEs in manufacturing agricultural products to meet technical requirements. Particularly, the facilities, factories' conditions and equipment for agricultural product processing stages were also identified inadequate.

4.4.7. Limited Logistic Capacity

Manufacturing products satisfying technical standards is one issue, transporting these products and maintaining their quality to export markets is another. Due to limited logistic capacity, the risk arising in the process of transporting goods was noted as a great concern of Vietnamese export SMEs.

4.4.8. Limited Professional Competencies

Limited human resources for agricultural export activities was stressed as a cause leading to difficulties in satisfying technical requirements. From the opinions of Vietnamese SME managers, agricultural export often requires qualified human resources who can work well in an international environment with full of unfamiliar and unexpected factors. However*, "the labors of many SMEs exporting agricultural products are still evaluated as unqualified"* (M_62).

4.4.9. Difficulties in Implementing SPS, TBT & other Environmental Technical Standards

Limited capacity to understand, access, and implement standards of SPS, TBT and other technical ones was also believed as the factor hindering trade activities in global markets. As the technical requirements are not only diverse but also changeable, when *"the technical requirements change too quickly"* (M_86) SMEs often face difficulties related to *"limited capability to catch up with changes in technical barriers"* (M_77).

Among difficulties in satisfying technical requirements, limited capacity to meet standards of product quality and food safety were strongly stressed by Vietnamese SME managers. Global standards related to food safety are often set at high level, meanwhile those regulated in domestic market are still not clear. This makes Vietnamese SMEs confused and struggle, especially in the early stage of exporting agricultural products.

Besides, limited capacity in product preservation and packaging was also mentioned in the research. This becomes more serious for exporters in the agricultural field, when preservation and packaging are often required to follow strict requirements to ensure product quality. Furthermore, using the plant protection preservatives at the permitted levels was also believed difficult for Vietnamese agricultural SMEs. This issue should be extremely taken into account when exporting to fastidious markets such as US and EU.

The ability to control and trace product origin was also a limitation addressed by many Vietnamese agricultural exporters in this study. Due to limited capacity, many Vietnamese SMEs have not had geographical indication for their products.

Table 4: Difficulties related to exporters' limited capacity perceived by Vietnamese agricultural export SME Managers

Limited strategic vision
Lack of initiative in production and export activities as well as limited strategic vision
Limited market expansion capacity
Limited capacity to understand, identify and properly meet market needs
Limited capacity to meet technical requirements set in international markets
Limited capacity to develop branding for agricultural export products
Limited financial capacity
Limited capital sources for investing facilities and technology to manufacture standardized products
Limited capacity to mobile capital for large agricultural export orders
Limited production and cultivation capacity
Difficulties in product quality controlling and processing chain management
Limited technology capacity
Outdated technology, mainly for simple preliminary processing
Lack of capital leading to limited investment in technology
Unsynchronized technology used for agricultural export
Limited infrastructure capacity
Inadequate facilities, factories' conditions and equipment for agricultural processing stages
Limited logistic capacity
Limited capacity in transporting and maintaining product quality for export
Risks arising in the process of transporting goods
Limited professional competencies
Limited capacities to work well in international context with unfamiliar and unexpected factors
Difficulties in implementing SPS, TBT & other environmental technical standards
Limited capacity to catch up with changeable technical requirements
Limited capacity to meet standards of product quality and food safety
Unclear regulations related to food safety in domestic market and demanding requirements in international markets

Limited capacity in product preservation and packaging
Limited capacity in using plant protection preservatives at the permitted levels
Limited capacity in controlling and tracing product origin
Lack of geographical indication of many Vietnamese agricultural exporters

Source: Researcher

5. Implications

To assist Vietnamese agricultural export SMEs overcome challenges, especially those related to technical barriers, there should be the comprehensive efforts from various stakeholders such as government agencies, localities, researchers and training institutions.

5.1. Implications for Government Agencies

To begin with, relevance ministries should regularly update changes and policies on business environment factors from international markets, especially those related to technical requirements. SMEs may approach and seek for supports and consultancy of these organizations to better cope with challenges from international business environments. Some relevance agencies can be listed here as General Department of Standards, Metrology and Quality, Ministry of Science and Technology; Vietnam TBT Office, TBT offices in relevant Ministries (Ministry of Science and Technology; Ministry of Industry and Trade; Ministry of Transport; Ministry of Information and Communications; Ministry of Culture, Sports and Tourism; Ministry of Natural Resources and Environment; Ministry of Agriculture and Rural Development, Ministry of Labor, Invalids and Social Affairs; Ministry of Health); TBT offices at local Sub-Departments of Standards, Metrology and Quality (64 provinces and cities); Competition Administration Department (Ministry of Industry and Trade), Vietnamese trade counselors in foreign countries.

For the Ministry of Agriculture and Rural Development, it is necessary to continue improving the role of the state in inspection and supervision of traceability for agricultural products. At the same time, to solve problems related to output, the Ministry of Agriculture and Rural Development needs to coordinate with relevant ministries and state agencies to connect with foreign corporations to transfer advanced technologies in accordance to the needs of Vietnamese enterprises in processing and manufacturing by-products, especially seed technology. Also, it is necessary to call for the investment of large corporations and companies to cooperate and improve the quality of Vietnamese agricultural export products. By doing so, Vietnamese agricultural export products are expected to satisfy technical requirements more effectively.

The Ministry of Industry and Trade needs to research potential foreign markets, providing information to the Ministry of Agriculture and Rural Development and localities in order to regulate and restructure agricultural production, meeting the global market demand. At the same time, trade promotion measures for the agricultural sector should be strengthen. Even when Vietnamese agricultural products may satisfy requirements related to quality and technical standards, without proper promotion campaign, they would be more difficult to be successfully exported. To do so, the government should pay more attention on developing promotion measures such as organizing agricultural fairs and exhibitions, exposing Vietnamese agricultural products on magazines and media channels domestically and internationally. These events may create learning opportunities, enabling Vietnamese agricultural SMEs to better understand the technical requirements from international markets to develop proper export plans.

5.2. Implications for Localities and Researchers

In order to develop the brand for Vietnamese agricultural export products, localities need to implement effectively strategies and plans with some key contents as follows: (1) Each local level needs to develop its owns plans but should be fit to the overall plans of the regions; (2) Agricultural production planning must be combined with rural agricultural industrialization, modern equipment and machinery investment for the production and processing of agricultural products, as well as advanced scientific and technology; (3)

Agricultural production planning must be carried out simultaneously with specialization in production and logistics

In addition, it is necessary to strengthen the corporation between farmers and researchers. Providing high-quality seeds to farmers may allow them to produce unique and good-quality products for trading in both domestic and international markets. In addition, the state needs to instruct farmers about the cultivation process, farming techniques, methods to use fertilizers, care, harvest, and preserve agricultural products scientifically and effectively. Based on that, labor productivity may be improved, output may be increased, and the quality and uniformity of products may be ensured. Information and guidelines related to technical standards also need to be widely disseminated to farmers.

5.3. Implications for training Institutions

To improve export capacity for Vietnamese agricultural SMEs, training institutions should develop programs as follows:

5.3.1. International business training course

To begin with, the course on international business should equip SMEs with both general and in-depth knowledge of international business, especially issues related to technical requirements from global market. This international business knowledge may help SME managers expand their markets, earn a good understanding of business culture, market requirements, suppliers, partners and customers in the international context. These courses should provide a sufficient amount of knowledge, followed by examples, videos, and case studies, accompanied by sharing of business experience in specific markets.

Courses on international business should aim to enhance skills for SME managers to analyze opportunities and challenges in the international market, as well as to develop appropriate business strategies and plans. For example, knowledge related to trade practices, policies of countries, technical barriers and characteristics of important markets will be essential contents. In other words, SME managers should be equipped with knowledge to take advantage of opportunities and overcome risks when investing in oversea markets, based on fully understanding of environment factors of politics, economic, technology, culture, etc. in order to design effective global business strategies.

5.3.2. Financial Training Course

Training courses on financial management in international business should provide learners with knowledge, ranging from basic knowledge of international finance to in-depth knowledge related to exchange rates, foreign exchange markets, international payments, finance accumulating methods and financial management in import-export enterprises, etc.

5.3.3. Production Training Course

Training courses on production management should equip SME managers with knowledge from foundation to professional levels. For example, learners should be trained basic knowledge on production management of specific product groups, production process, and production chain management in specific industries. At professional levels, learners should be equipped with advanced skills to plan (strategic and short-term), operate and control production activities. These courses are extremely essential for Vietnamese SME managers when technical requirements are becoming stricter and require the synchronization in all production stages. For Vietnamese SMEs, especially for those who are new to international business, these courses are expected to assist them to avoid unnecessary waste.

More specifically, training courses on production operation management may include detailed contents such as factory management and material resource management; Production process planning and controlling; Quality Control and Quality Assurance; Materials management; Machinery operating and maintaining management; Product design and development; Knowledge of the manufacturing industry and sales for sales-oriented production; Production research skills to solve arising problems. Courses should be attended by experienced experts in industries. In particular, the consultants of experts on technical standards will be extremely necessary. Consulting may range from the stages of cultivation and processing to the stages of export and handling problems arising in the process of international business.

5.3.4. Course on Professional and Technical Competence

Courses on Technical Barriers to Trade (TBT) should equip SME managers with knowledge that may assist them know how to identify and differentiate TBT; Know how to evaluate the possible impact of technical barriers on import-export activities; Know how to deal with TBT established by specific countries and markets.

Specific courses which aims at enhancing in-depth knowledge of technical requirements may include the following contents: An overview of technical requirements and TBT; Technical regulations (labelling, packaging); Inspection procedures (accreditation, sampling, inspection, registration, approval procedures; Analysis of Agreements on TBT, etc.

6. Conclusion

The paper has provided the analysis on the perceptions of Vietnamese SMEs managers with regard to challenges they face in agricultural export, particularly in satisfying technical requirements. The participants shared their numerous difficulties with regard to those from macro and micro environment, their limited capacity and challenges imposed by technical standards. Based on the SME managers' perceptions, the solutions for various stakeholders such as the government, localities, researchers and training institutions are then provided. The paper is also expected to make theoretical contribution by reflecting a case investigated in Vietnamese context, in the agricultural field.

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List of participants

124 SME managers participated in this study. The following table include participants whose opinions were quoted in the paper.

Code	Position	Location	Labour (People)	Capital (million)	Age (year)	Main markets
M_62	Sales Head	Ha Nam	<10	<10	3-5	EU
M_77	Sales Head	Son La	10-200	10-20	3-5	Korea
M_86	Sales Head	Son La	10-200	20-100	11-20	China
M_96	Director	Bac Giang	10-200	20-100	11-20	China
M_97	Director	Bac Giang	<10	10-20	6-10	China
M_100	Director	Bac Giang	<10	<10	<3	China
M._115	Sales Head	Hai Duong	10-200	20-100	11-20	EU
M_117	Director	Hai Duong	10-200	20-100	3-5	China

THE RISK OF LEVERAGE BASED GROWTH STRATEGY: A CASE STUDY OF MINH PHU SEAFOOD CORPORATION

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ABSTRACT

This paper offers a detailed case study for the leverage based growth strategy of Minh Phu Seafood Corporation. The background of the growth opportunity is presented. A structured analyzing process is conducted, including macro and micro environment analyses followed by internal operation and financial analyses. Potential risk are identified, namely political and legal risk (risk of anti-dumpling tax), economic risk (market downturn, interest rate, and currency foreign exchange risk), social risk (changes in customer behavior), environmental (shrimp disease and weather) risk, and liquidity risk. Most of these risk did in fact materialize and severely affected the firm liquidity, leading to the need to raise equity in order to reduce leverage. Important lessons related to leverage based growth strategy and risk management are put forth.

Keywords: leverage based growth strategy; risk management; Minh Phu Seafood Corporation; Vietnam.

1. Introduction

When the market is expanding, firms are presented with a number of important options. Being inactive risks ceeding the potential increase in market share to competitors. To fund their operation extension to capture the growth, firms tend to prefer raising debts than equity since equity issuance dilutes the control of the firm and is more sensitive to misvaluation (Dong *et al.*, 2012). The debts can be raised in the form of bank loans or corporate bonds issuance. Without any top up to shareholder equity, doing this will increase the leverage of the firm. This leverage based growth strategy has both its pros and cons (Lang *et al.*, 1996; Hagel, 2002). The strategy offers the tax shield advantage (i.e. interest payment reduces taxable income). However, it is associated with high interest cost and it also put increased pressure on the firm's cash outflows.

Previous studies often focus on the relationship between the level of leverage, debt maturity, and the firm's growth or its investment decisions (i.e. under or over investment) (Lang *et al.*, 1996; Hagel, 2002; Johnson, 2015; Dang, 2011; Vo, 2019). From a risk management perspective, however, any change in the business environment that negative impacts the firm's net cash flows might lead to a liquidity problem, especially for highly leveraged firms (Ogden and Wu, 2013). Thus, the success of the leverage based growth strategy depends not only on the ability of the firm to evaluate the growth opportunity (and pick a proper leverage level) but also on its competence in analyzing and managing the associated risk. The risk management aspect of leverage based growth stategy is, however, underexplored.

Recently, the free-trade agreements such as EVFTA, CPTPP... as well as the US-China trade war have presented Vietnamese firms with tremendous growth opportunities in large foreign markets like the EU, the US, Australia, Korea, and Japan. Vietnam export to the US in the first four months of 2021 increased 50% year-on-year to reach USD 30.3 billion. Many firms have increased their borrowing to prepare to grab such opportunities, partly leading the bank credit/GDP ratio to rise to 134% (Fitch Ratings, 2018). As a result, it is important to study the risk associated with leverage based growth strategy in the context of Vietnam.

Using a number of financial and risk management analysis frameworks, this paper presents a case study of Minh Phu Corporation (MPC) in the period between 2010 to 2013 when it faced with a significant growth opportunity and chose to increase debts to finance the extension of its operation. The case study is an important method in the field of management research because it allows the extrapolation of key themes related to the topic and provides indepth, practical understanding with greater clarity (Patton and Appelbaum, 2003). The aim of this study is to highlight the potential risk associated with the leverage based growth strategy, how these risk might materialize and interact with each other in affecting the firm. These understandings will provide important lessons in risk management.

MPC, a seafood firm, is selected for this case study for several reasons. First, seafood has always been an important industry in the economy of Vietnam that contributes 3.43% of GDP and employs more than 4.5 million people (Research and Markets, 2021). Second, seafood is one of the industries that facing high growth opportunity (expected at 10% in 2021[1]), despite the adverse effect of the COVID-19 pandemic. On the other hand, the unstability of international politics, potential anti-dumpling policies by developed countries (despite the trade agreements), and the wide fluctuation of interest rate and exchange rate[2] present a similar context to what MPC faced in 2011. As a result, this case study offers vivid analogy for seafood firms in risk management related to the leverage based growth strategy. The methodical process and the practical lessons, nevertheless, are not limited to the seafood industry and can be applied to firms in other industries.

The analysis of this case is structure as follows. First, the context of the case, along with important data, is presented. Second, based on the context, we conduct a risk analysis for MPC related to the leverage based strategy using a methodical process that includes macro-environment, micro-environment, and firm's internal environment analysis. Third, based on the real outcome of the case, we analyse and discuss the lessons for effective risk management.

2. The setting: Minh Phu Corporation and the seafood industry

Minh Phu Seafood Joint Stock Company was established in 1992. In December 2006, the company was listed on the Ho Chi Minh Stock Exchange (HOSE). MPC's main product was frozen shrimp. In 2012, MPC was the largest shrimp exporter in Vietnam, exporting to major markets such as the US, Japan, Korea, the EU...with the US making up 60% of MPC's output. The company is the first in Vietnam to achieved the global Good Agricultural Practice (GAP) standard.

In 2011, the Vietnam seafood industry reached a landmark achievement (US$6 billion in exports), with a significant contribution from shrimp products. As of December 2011, Vietnam's shrimp exports had earned nearly $2.4 billion, an anuual increase of 13.7% from 2010 thanks to Vietnam's ability to produce large-sized shrimps which were tight in supply in the world market.

However, in Vietnam, shrimp breeder stock, the raw material for shrimp production, fell into a serious shortage right from the beginning of 2011 due to adverse weather conditions and diseases. Thus, many shrimp exporters were only operating at about 45% capacity at the time due to lack of raw materials. One of the major problems affecting shrimp breeding is the disease outbreak on a large scale, causing serious damage affecting shrimp exports. Many provinces "fought the fire" by increasing breeding to supply factories. However, expanding the breeding area also entailed many risk because the Vietnam's large shrimp breed could carry some dangerous viruses. Thus, localities were recommended to only focus on carefully planned, not mass, breeding with strict control of inputs and outputs.

The situation, fortunately, reversed at the end of the year. Exporting factories were almost fully operational to fulfill orders during Christmas and New Year. According to experts, towards the end of the year, seafood exports in general and shrimp products in specific have gained advantages in terms of market and price. In particular, the raging floods in Asian countries, especially Thailand, severely affected seafood production and pushed prices up. In November 2011, the export price of shrimp was very attractive, ranging from 11 to 12 USD/kg, making businesses both excited and worried because there were not enough raw materials for export.

2012 was forecasted as having many advantages for Vietnam's shrimp exporters. The United Nation's Food and Agriculture Organization (FAO) expected products from shrimp to account for more than 50% of the world's seafood consumption (FAO, 2012). Flooding in Thailand was an opportunity for Vietnamese businesses in early 2012. Some other major shrimp exporting countries were also facing difficulties. China

[1] https://vietnamnews.vn/economy/870247/seafood-industry-expects-to-remain-on-growth-path-in-2021.html
[2] https://www.agribank.com.vn/en/ve-agribank/tin-tuc/dtl?current=true&urile=wcm:path:/agbanken/ve-agribank/news/agricultural-markets/ challenges-and-opportunities-of-the-seafood-industry-in-2021

was having a sudden cold period and Indonesia was facing a shrimp epidemic. Meanwhile, domestic shrimp supply in major markets such as the US and Japan were also forecasted to be low. Thus, 2012 was deemed a year with good growth opportunity for Vietnamese shrimp exporters.

MPC was having a growing streak on sales at the time (Table 1). Would this continue in 2012? Is the firm's leverage based growth strategy appropriate in this situation and what should the firm do?

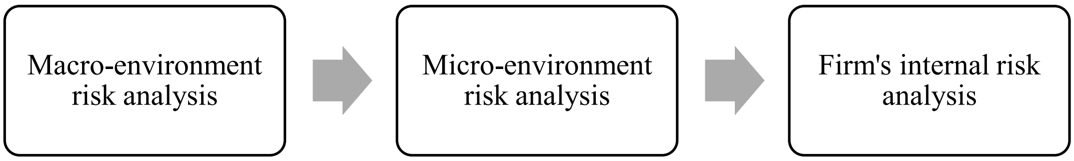
Table 1: Sales and net income growth for MPC and the seafood industry

	MPC		Seafood industry	
	2011	**2010**	**2011**	**2010**
Sales growth	38%	65%	37%	27%
Net income growth	-10%	28%	NA.	NA.

3. The risk analysis

The risk management process generally entails three steps: identification, measuring, and managing (also called solution/treatment) of risk (Culp, 2002). Furthermore, Kaplan & Norton (2008) suggest that both external (macro and micro) risk and internal firm characteristics should be considered. Based on these suggestions, we applied a detailed risk analysis process that entails analyzing the macro-environment risk, followed by a micro environment risk analysis, then an internal risk assessment. In each of the stages of the external environment analysis, risk are identified and their probability/impact on MPC are estimated based on the data that would have been available at the time[3]. Practically, the results of these steps, coupled with the internal analysis should be the input for the risk treament proposal. In this study, we will discuss effective risk treatments after we present how the situation did turn out because the resulting scenario offers valuable insights into the complex interaction of risk and their impact on the firm. These insights are available ex-post rathern than ex-ante.

Figure 1: Risk management process



3.1. External environment analysis

First, a PESTEL (political, economic, social, technology, environmental, and legal) analysis is conducted to identify the high-threat macro risk facing MPC (Table 2).

Table 2: Macro risk facing MPC

Risk	PESTEL factor	Probability	Impact
There is an increasing threat of anti-dumping duties for seafood products in the US and the EU to protect their domestic producers. This would increase exporting cost to these markets.	Political and Legal	High	High
The European debt crisis, started in late 2010 with the collapse of Ireland, Greek, and Portugal, could worsen, leading to severe economic downturn in EU countries and spilling effects on other developed markets. This would significantly reduce demand for seafood in these countries, which are major importers of MPC's shrimp.	Economic	High	High

[3] We tried our best to provide an expert view of the risk probability/impact based on the context of the case. However, there could never be absolute correct/accurate risk measurement (Culp, 2002).

A rise in interest rate would burden MPC with the high cost of interest payment. Interest rate in Vietnam has been rising in the past few years.	Economic	High	High
As an exporter, MPC was sensitive to the foreign exchange rate fluctuation of the USD, EUR, JPY and KRW against the VND.	Economic	Medium	Medium
A change in the taste or attitude of foreign consumers towards shrimp in light of shrimp disease may negatively affect demand. So far, there has been no indication of any shift in foreign customer preferences.	Social	Low	High
Shrimp disease and adverse weather would cripple raw materials supply for MPC. There have been many precedents in previous years.	Environmental	High	High

Next, examination of the micro environment, namely customers, suppliers, competitors, and partners (Johnson *et al.*, 2010), suggests two important risk. The first is the dependence of MPC on suppliers of breed shrimp, and their unreliability due to lack of control over shrimp disease and weather. This could significantly reduce the supply for MPC, leading to it being unable to deliver the contracts to foreign customers which could result in loss sales and heavy fines (High probability – High impact). The second is that while competing exporters from China, Thailand, Indonesia were also struggling with shrimp disease and weather issues, those from other countries remained a competitive threat (Medium probability – Medium impact).

3.2. Internal environment analysis

A thorough examination of the business model, the operation and financial situation, and any stakeholders related issue is carried out in the internal environment analysis (Johnson *et al.*, 2010; Culp, 2002). First, a Dupont analysis (Soliman, 2008) shows that the ROE of the seafood industry came mainly from the high profit margin, while leverage and asset turnover were low due to the industry's characteristics. Thus, any strategy to induce growth would come from increasing the profit margin. For MPC, however, the data show that MPC trailed the industry average for all Dupont indicators in 2011. In fact, MPC's ROE was derived mainly from high leverage (Table 3).

A preliminary look at other financial ratios of MPC (Helfert, 2011) indicate the following issues:

- Cost growth has outpaced revenue growth (negative profit growth in 2011 despite strong revenue growth), but not due to an increase in cost of goods sold (gross margin was unchanged between 2010 and 2011).
- MPC borrowed heavily to finance asset growth (leverage ratios increased in 2011), leading to an increased financial cost burden (interest rate coverage ratio decreased in 2011).
- In 2011, MPC had more difficulty in selling (increased inventory conversion cycle).
- Liquidity deteriorated, possibly due to high short-term debt (current ratio and quick ratio both decreased).
- Cash flows from operating and investing activities were both negative, offset by cash flow from financing activities (i.e. borrowing).

Based on these indications, further in-depth investigation on MPC's operation and financial situation was conducted and raised the following concerns:

- Debts were used to finance investments in new processing factories in Hau Giang and also in vertically integration into shrimp breeding by developing shrimp farms in Loc An and Hoa Dien (cash flow invested in fixed assets was 580 billion in 2010 and 782 billion in 2011). Equity was unchanged (700 billion VND). Total debts increased to 4,066 billion in 2011 from 2,237 billion in 2010.

- Due to increased debts and high interest rates in 2011 (up to 18-20% for bank loans), the bulk of MPC's expenses increment was actually owned to a sharp increase in financial expenses (49% of total expenses and 5.71% of sales in 2011 compared to 35% and 3.41% in 2010). It was expected that debt will continue to increase because MPC had issued 500 billion 3-year bonds that would started circulating in 2012.
- Inventories increased by 98%, higher than sales (38%), accounting for 34% of revenue compared to 24% in 2010. It proved that Minh Phu's inventory management efficiency had deteriorated due to more difficulties in sales. Part of the reason was that the US and European countries had started implementing anti-dumpling policies. In 2011, MPC had to pay 92 billion in anti-dumping duties. High inventory also affected MPC's cash flow. In 2011, cash flow from operating activities of MPC was negative 727 billion, mainly due to inventory growth.
- Liquidity deteriorated quickly due to short-term debt growth. The quick ratio decreased from 0.8 to 0.5, much lower than the industry average. This signals a serious near-term liquidity problem for MPC.

Table 3: Operating and financial indicators for MPC and the seafood industry

	MPC		**Seafood industry**	
	2011	**2010**	**2011**	**2010**
Dupont analysis				
ROE	17.90%	22.89%	21%	17%
Leverage	4.11	2.91	2.63	2.33
Assets turnover	1.11	1.31	1.46	1.34
Profit margin	3.91%	6%	6%	5%
Liquidity ratios				
Current ratio	1.2	1.5	1.28	1.34
Quick ratio	0.51	0.8	0.71	0.78
Efficiency ratios				
Inventory conversion period (day)	127.70	87.99	90.12	83.71
Leverage ratios				
Debt/Equity ratio	3.06	1.86	1.7	1.42
Short-term loans/Total assets	41.52%	38.27%	NA.	NA.
Short-term loans/Sales	37.31%	29.18%	NA.	NA.
Long-term loans/Total assets	22.76%	19.19%	NA.	NA.
Long-term loans/Sales	20.45%	14.63%	NA.	NA.
Interest rate coverage ratio	0.68	1.75	NA.	NA.
Profitability ratios				
Gross margin	14.91%	14.86%	NA.	NA.
Operating margin	4.79%	7.3%	6%	5%
ROA	4.35%	7.86%	8%	7%

Cash flows (VND billion)				
CFO	-727	-279	NA.	NA.
CFI	-726	-396	NA.	NA.
CFF	1,802	1,266	NA.	NA.

4. The outcome

In early 2012, severe disease led to shrimp dying in mass in Vietnam and Indonesia. As a result, the price of shrimp skyrocketed, continuing the trend in from late 2011. Many exporters thought that there was no way the price would decrease and ran to secure input from their suppliers by signing contract for the whole year. However, in June 2012 the European public debt crisis did, unexpectedly, reached it worst with the second bailout of Greek and the collapse of Spain and Cyprus. Europe reduced shrimp imports to almost zero.

Meanwhile, India and Bangladesh were in shrimp season. At the same time, the Indian rupee depreciated 7%, benefiting the country's exporters. They also lowered the prices to increases sales to European countries. From 14.5 USD/pound, the price of Indian shrimp quickly fell to 6.7 USD. A new low level of world shrimp prices was fixed and customers who have signed contracts with MPC and other Vietnamese shrimp exporters requested for reduced prices.

Japan and Korea were the second and third export markets of MPC. From the fourth quarter of 2011, feeling the impact from the EU crisis, Japan pumped money to stimulate the economy, causing the JPY to depreciate 20% against the USD. Japanese importers bought Vietnamese shrimps in USD, sell domestically in JPY, so the weaker the JPY was, the more expensive were the shrimps. Japanese consumers could not stand this increase. Thus, Japanese importers invited MPC to visit and negotiated to lower the prices. In order to keep this market, as the EU market had already bottomed, MPC had to agree to increase the domestic selling price by only 10.15%, and each of the party would bear the 5% exchange loss. Similar situation happened in Korea. Therefore, although MPC's sales in Japan and South Korea in 2012 increased, profits were lower.

MPC also had to bear the increased anti-dumping duties. In 2012, the US Department of Commerce announced that it would raise MPC’s anti-dumping tax from 0.09% to 1.27%, a 1311% increase. This further erode the profit margin of MPC.

In 2012, MPC’s shrimp breeding business posted a loss of 100 billion VND due to shrimp disease. The 4 shrimp processing factories capable of producing 70,000 tons per year only ran at half the capacity. The new facility in Hau Giang was still in the phase of training new workers.

In the end, MPC's profit dropped sharply in 2012 mainly due to large interest expense. The company's short-term debt balance increased sharply. Interest payment cost for a large amount of long-term debts, inluding 700 billion VND bonds issued to finance the Hau Giang facility, at high interest rates of 14-20% eaten up most of the company’s profit. While the exporting business still earned more than 100 billion, the loss in the shrimp breeding business and reserve for financial and inventory losses led MPC to make merely 16 billion in 2012 even though the company tried hard to cut cost. Operation cash flows was only 8 billion. As a result, the company faced a liquidity crisis and might not be able to service its debts if the situation continued in 2013.

To prevent the liquidity collapse, MPC took steps to issue 30 million shares to foreign partners but failed. At first, there were 15 foreign organizations participating in the bidding, MPC chose four and then chose Charoen Pokpand Foods (CP Foods Thailand) with the price of 50,000 VND/share. However, because the price of MPC shares on HOSE in 2012 fluctuated around 25,000 to 30,000 VND/share, much higher than other seafood stocks but only a half of CP Foods' asking price. According to regulation, a listed company cannot issue shares at a price higher than 7% the public market price. In the struggling effort to increase capital, in May 2013, MPC announced a plan to delist itself to be able to issue equity to CP Foods. The fact that the leading shrimp exporter in Vietnam intended to leave the exchange caused a great shock to investors.

5. The lessons

MPC leveraged on debts to finance the investment of fixed assets to expand its business. In this particular case, this strategy turned out to not be an ideal decision. There are several important lessons we can learn from MPC's misstep. First, external environment analyses should be conducted thoroughly and methodically to identify the risk. MPC failed because the growth of business activities, and therefore revenue and profit, did not kept pace with the increase in debts. As a result, net cashflows is severely reduced, leading to the liquidity crisis. The underexpected growth was caused by adverse external factors, such as the EU debt crisis, the US anti-dumpling duties raise, competition from India and Bangladesh, and the exchange rate fluctuation in Japan and Korea. Apart from the fierce competition from India and Bangladesh, the signals for the other factors were already showing in 2010 and 2011, posing these risk as high probability. If MPC had heeded these signals, steps could have been taken to mitigate these risk and the decision to leverage could have been considered more appropriately.

Second, overvaluation of the growth opportunity, in part because of overlooking some of the external risk as mentioned above, leads to overexpansion. This entails inefficient capacity management (in our case, MPC was operating at 50%). It also hurts the cash inflow, thus further negatively impact liquidity. In MPC case, the expansion included the vertical integration into the shrimp breeding business. The loss from this business did not help MPC. While this was a reasonable move to secure the input for the processing business, such decision should be based on whether MPC had the competency to operate this business and also on its financial status. In fact, on October 2012 MPC dissolved the shrimp breeding business.

Third, interest rate and liquidity risk need to be managed carefully. MPC's debt/equity ratio of 3.06 in 2011 was almost two times the industry average of 1.70. While interest rate had been rising and interest rate coverage of MPC was already in bad shape, the company continued to pile up its debt in 2011. This was imprudent liquidity management leading to the liquidity crisis that almost collapsed the company. This takes us to the fourth lesson: funding by equity issuance, while dilutting control, should be preferred over debts when liquidity is a concern. And it should have been done beforehand, not hastily as a remedy as MPC did, which led to the legal obstacle.

Firth, currency exchange rate is a big risk and also needs to be controlled accordingly. It is well known that exchange rates moved widely, so MPC's leaving large exposure to foreign currencies without any hedging measure in place was not advisable.

Finally, legal binding arrangement with customers should be made to reduce output uncertainty. This can help with capacity planning and avoiding inventory accumulation. As shrimp is a perishable commodity, high inventory was also a big risk for MPC.

This case also offers a recommendation to policy makers. Issuing equity at a price much higher than the currently traded one was beneficial to the listed firms, but this was impeded by the exchange's rule. Policy makers should anticipate certain scenarios to constitute appropriate regulations that promote the interest of listed firms.

6. Conclusion

This article offers a detailed case study for the leverage based growth strategy of Minh Phu Seafood Corporation. The background of the case is presented, a structured analysis is conducted, and the outcome is evaluated. From this, important lessons related to decision making and risk management are derived. Our paper is not only relevant to business practitioners but can also be used as a good case study for business management students.

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IMPACT OF CORPORATE SOCIAL RESPONSIBILITY ON BUSINESS REPUTATION: EVIDENCE FROM SMALL AND MEDIUM ENTERPRISES OF THE SEAFOOD PROCESSING INDUSTRY IN KHANH HOA

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ABSTRACT

The paper measures impact of corporate social responsibility (CSR) on business reputation (brand) of small and medium enterprises (SME) of the seafood processing industry in Khanh Hoa. The research is carried out in two phases: preliminary research and main research. Preliminary research aims to indentify attributes of CRS affecting business reputation, develop research hypotheses and build scale measures. The main research was conducted through a survey with 150 managers and customers of SMEs in Khanh Hoa's seafood processing industry. The study uses the multiple linear regression analysis after evaluating the reliability and validity of scales and analyzing exploratory factors. The research findings indicate that eight CSR attributes have a significantly positive impact on the reputation of the SMEs. The study provides some management implications for the SMEs in enhancing their business reputation through improving CRS in their business practice.

Keywords: corporate social responsibility, reputation, small and medium enterprise, Khanh Hoa.

1. Introduction

In Vietnam, small and medium-sized enterprises (SMEs) account for more than 95% of the total number of enterprises in the country, playing a very important role in promoting sustainable economic development, attracting a large number of employees. SMEs over time have been making significant contributions to GDP as well as the state budget the country (Phung The Dong, 2019).

In Khanh Hoa, the number of newly registered enterprises increased rapidly over years. There were 6,073 enterprises with 171,186 employees in 2016, creating total net revenue of 143,790 billion VND. In 2019, the number of registered enterprises reached to nearly 23,000 enterprises, with a total registered capital of nearly 172,000 billion VND. In which, over 90% of these firms are small and medium enterprises, contributing about 45% of the total value of industrial production. These SEMs contribite about 60-65% of export turnover (Khanh Hoa Provincial Association of Small and Medium Enterprises, 2021).

In addition to the profit goal of business operations, firms need to pay attention to issues of environmental protection, protect the interests of employees and actively contribute to the local community. (Ha Thi Thuy, 2019). On the other hand, the Internet has become one of the main tools that allows enterprises to publish more information at a lower cost and faster than ever before. As a result, enterprises are increasingly interested in ethical, responsible disclosure of information to stakeholders via the Internet (Wanderley et al., 2008).

Along with the implementation of CSR actions, Khanh Hoa's Small and Medium-sized Seafood Processing Enterprises (SMEs PS) in Khanh Hoa promote the disclosure of information related to employees, the community, the environment, etc., as a communication channel to increase prestige and brand value as well as make an impression on customers and the community. Especially, since Circular 155/2015/TT-BTC came into effect, marking the process of disclosing CSR information of enterprises has been bound by law. Research topics revolving around CSR disclosure of enterprises can include: (i) Research on the current status of CSR disclosure of listed companies in Vietnam (Ha Thi Thuy, 2019, Luu Luu, 2019). Thi Thai Tam, 2019); (ii) Finding empirical evidence on the impact of CSR disclosure on corporate financial performance (Ta Thi Thuy

Hang, 2019); (iii) Research on the current situation and factors affecting the level of CSR information disclosure of listed companies (Dang Ngoc Hung et al., 2018).

The fact that consumers are willing to show a boycott attitude towards products of businesses that violate social responsibility can be seen as an expression of consumers' awareness of the implementation of social responsibility implementation of businesses on their intention to buy or use these businesses products and services. Therefore, research by Nielsen shows that Vietnamese consumers have the highest social orientation and sustainable development in Southeast Asia with 86% of Vietnamese consumers willing to pay more to buy or use services and products of businesses that care about the community and the environment. This shows that CSR has a strong influence on customers' intention to buy products and use products and services.

The objective of this study is to measure impacts of CSR on business reputation of SME in the seafood processing industry in Khanh Hoa. The implementation of CSR commitments is one of the important ways to help these SMEs build their reputation and trust. The lack of CSR can have serious and long-term consequences for them. The SMEs consider CSR as a long-term strategy to help create value for the business, and at the same time to build the trust and respect of customers, stakeholders and social communities. Therefore, it is necessary to study the relationship between the implementation of CRS and the business reputation for SMEs in Khanh Hoa’s seafood processing industry.

2. Theoretical framework

The CRS is one of the most controversial and significant topics since the 1950s, and it has been growing since then (Carroll, 2016). CSR discipline is one of the rigorous research areas among practitioners and academicians (Carroll and Shabana, 2010). In the history of the corporate world for the first time, CSR was mention by Bowen (1953) in his seminal book Social Responsibility of the Businessmen in 1953. In his book, the central question, he argues that and continues to be asked, was “what is the responsibilities to society may businessmen reasonably be expected to assume.” Bowen (1953) also stresses the importance of knowing business ethics so that it can lead to superior enduring performance. Cruz et al. (2015) confirm that CSR initiatives are significant in the context of business ethics and found a healthy positive attitude toward business ethics and CSR.

Most of studies are related to CRS with a stakeholder theory approach. Stakeholders are those who participate in, influence or benefit from CSR-related activities including shareholders/owners, community, customers, partners, employees. According to Lee (2011), the stakeholder theory evolved from institutional theory. Stakeholder content first appeared in management theory from the 1960s, but until the 1980s it was officially used by scholars. The first stakeholder theory approach was presented by Freeman (1984) on business ethics in an organization. According to this theory, a stakeholder is any group or individual affected, either directly or indirectly, by the activities of an enterprise. Examples include shareholders, business owners, government agencies, political groups, associations, commerce, communities, employees, customers.

According to Deegan and Samkin (2009), enterprises should harmonize the interests of the parties. If the parties have conflicts of interest, the enterprise has the task of the optimal balance of interests. This theory is represented by the following studies: Ullmann (1985), Roberts (1992), Clarkson (1995), Van der Laan Smith et al (2005), McDonald and Rundle-Thiele (2008), Mandhachitara and Poolthong (2005). 2011), Lee et al (2012), Pérez and del Bosque (2014, 2015), Khan et al (2015). Lee (2011) further developed the interaction of CSR strategy on corporate strategy and vice versa. The aim of this is to emphasize the specific socio-economic context for successful implementation of CSR such as the economist's view of competitive advantage of Nobel Prize Winner - Samuelson (1954). Öberseder et al (2013) also used this theory to examine CSR activities and customer perceptions in the context of most stakeholder evaluations.

Besides, the theory of Caroll (1979) is also used and developed in many studies. The first is a model of three concentric circles with economic, social values and social issues, then develops into a pyramid model (Carroll, 1991) that can be applied to all industries. This model consists of four levels: economic responsibility, legal responsibility, ethical responsibility and philanthropic responsibility. Because the factors are ranked in order based on the requirements of CSR for each specific enterprise, they should be related to Maslow's (1954) pyramid of needs. Typical studies using this theory are Lee et al. (2012), Polychronidou et al. (2014), Saeidi et al. (2015).

There are a variety of other theories used in research on CSR over time. Specifically, Becker-Olsen et al. (2006) and McDonald and Rundle-Thiele (2008) use Marketing theory to study CSR activities that bring benefits to businesses thanks to customer buying behavior. Scholtens (2009) uses the socially responsible investment theory of Sparkes and Cowton (2004). Vassieva (2009) uses a Pull and Push approach; Kang et al. (2010) use the theory of positive and negative effects.

Stakeholders can have a high or low interest in business activity, but that interest can also be positive or negative. Actively interested stakeholders are generally satisfied with the business's operations, the potential outcomes of its operations, and its impact on their individuals and/or communities (Table 1).

Table 1. Positive interest

	Positive interest
Very high (+5)	This stakeholder is passionately supportive of the business's operations and its outcomes, and will be devastated/angry if the business's operations fail.
High (+4)	This stakeholder is very supportive of the operation of the business and its benefits, and will be angry if the operation of the business fails.
Moderate (+3)	This stakeholder sees his or her interest in the operation of the business and will be upset if the operation of the business fails.
Low (+2)	This stakeholder sees a benefit to others in the business's operations and will be disappointed if the business's operations fail.
Very low (+1)	If asked, this stakeholder would likely prefer the operation of the business to be successful, but not feel strongly in either way.

Negatively interested stakeholders oppose the business's operations. This negative concern stems from their belief that the potential outcomes and impacts they will have will ultimately harm them and/or their community (Table 2).

Table 2. Negative interest

	Negative interest
Very high (-5)	This stakeholder is openly hostile to the business's operations and its intended results, and will be vindicated if the business's operations are terminated prematurely.
High (-4)	This stakeholder believes that the financial and/or social costs of the business's operations outweigh any potential benefits it may realize.
Moderate (-3)	This stakeholder is anticipating negative outcomes for themselves from the business's performance and would be happy if it didn't continue.
Low (-2)	This stakeholder perceives some harm to others in the operation of the business and would like to see it end
Very low (-1)	If asked, this stakeholder may want the business to continue but does not feel strongly in any way.

Assuming someone is well informed and aware of the operations of the business, if they are genuinely not interested in the operation of the business and/or its results then they are not a stakeholder. Stakeholders are prioritized according to their level of interest in a business operation, regardless of whether that concern is positive or negative.

Some theories are used recently such as social identity theory (He and Li, 2011); organizational theory (Lee, 2011); fair value theory (Carnevale et al., 2012); demand theory (Bauman and Skitka, 2012); cost-benefit theory (Rhouet al., 2016). Adding to that diversity, Habermasian media behavior theory was used by Lock and Seele (2016) to study CSR Reports in Europe. Attribution theory, which presupposes trying to understand other people's behavior by attributing their feelings, beliefs, and intentions, was used by Karaosmanoglu et al. (2016) to study the impact of CSR on brands. In general, the theories included in CSR research are increasingly diverse to better explain the impacts on each enterprise by different industries.

Table 3. Summary of approach theory, measurement methods and data sources

Theory	Measurement method	The source data	The source
Stakeholder theory	Experiment, Hypothesis test, SEM, Qualitative, Expert interview, Factor analysis, Intermediate variable	Data from article primary inspection information through the questionare	McDonald & Hung Lai (2011); Mustafa et al. (2012); Lee et al. (2013); Öberseder et al. (2013); Fatma et al. (2014); Pérez & del Bosque (2015); Fatma & Rahman (2016)
Carroll's theory	Experiment, Hypothesis Test		Lee et al. (2012); Polychronidou et al (2014)
Other theories	Experiment, hypothesis testing, SEM, Intermediate variables, Descriptive statistics, Regression, Factor analysis		Becker-Olsen (2006); Vassileva (2009); He & Li (2011); Yeung (2011); Blombäck & Scandelius (2013); Ferdous & Moniruzzaman (2013); Enock & Basavaraj (2014); Hur et al. (2014); Pérez & del Bosque (2014); Martínez et al. (2014); Khan et al. (2015); Fatma et al (2016); Karaosmanoglu et al (2016)
Stakeholder theory	Descriptive Statistics, Real Experiment, Hypothesis testing, Synthesis	Database EIRIS, KLD, SGP, DJSI, Factiva, Datastream, Bankscope, Newspaper annual report, TB statistics US Bureau, General	De la Cuesta-González et al. (2006); Bhattacharya et al. (2009); Scholtens (2009); Kang et al. (2010); Inoue & Lee (2011); Bauman & Skitka (2012); Carnevale et al. (2012); Lee et al. (2012); Torres et al. (2012); Wu et al. (2013); Saeidi et al. (2015); Lock & Seele (2016); Rhou et al. (2016)
Carroll's theory	Experiment, Hypothesis Test		
Another theory	Experimental, Heckman 2-step regression, Hypothesis testing, Quantitative content analysis, Regression, Intermediate variables, Descriptive statistics, Linear regression		

Source: Author's compilation, 2021

3. Research method

3.1. Research Methods

The research was carried out in two phases: preliminary research and main research. The preliminary study aims to adjust and modify the scales used in previous studies to suit the context of seafood processing enterprises in Khanh Hoa. Preliminary qualitative research was carried out through direct interviews with business managers and customers who have been using products and services in Khanh Hoa province. Preliminary quantitative research is carried out through a structured survey with a sample size n = 70. The purpose of this phase is to evaluate the reliability and monotony of the scale (by using SPSS software. 22.0). The main research was conducted through a survey with 150 managers and customers. Collected data was used to evaluate the reliability and validity of the scale and test the hypotheses of the research model. rescue. This study performed Cronbach's Alpha reliability analysis, exploratory factor analysis (EFA), regression model.

3.2. Research models

Business Reputation

Corporate reputation is an intangible asset to a business. The reputation of a business can affects financial results directly or indirectly. At the same time, the opposite effect can also be true: A company's financial results can affect its reputation. So, is it possible that corporate reputation is affected by non-economic factors, such as making positive contributions to the betterment of society and the environment, which indicates that the full implementation economic and/ or non-economic corporate social responsibilities can be a strategic tool for corporate reputation building? Enterprises implement CSR to improve social welfare and to build and enhance their reputation.

Reputation and set of indicators: This are considered one of the most commonly used methods to evaluate CSR activities of enterprises. The reputation of a business has a great influence on product sales, with a good reputation, the business can build trust with current customers and attract potential customers. There have been many studies using this approach to provide measurement models of CSR activities, including KLD dataset (Kinder, Lydenberg and Domini) and the Canadian social investment dataset (Canadian Social Investment Database - CSID). KLD, introduced in 1989 by Peter Kinder, Steve Lydenberg and Amy Domini, applies to businesses listed on the US stock market and is based on eight attributes of social activities such as: Public Relations, Employee Relations, Environment, Products, Treatment of Women and Indigenous Peoples. With the attributes for measuring CSR, KLD has created the basis for the following studies on the scale for CSR. In addition to KLD, CSID is also a widely used data set because it can measure the sum of the average strength and weakness of the business with 7 aspects: Community, Diversity, Employee Relationship, Environment, International Cooperation, Products and Business Practices, Corporate Governance (Mahoney and Thorne, 2005). Similar to the KLD dataset for US businesses only, CSID also restricts its application to certain territories, specifically here to businesses listed on the Canadian stock exchange. It can be seen that, from two typical data sets in the CSR measurement method based on the index and the reputation, there are empirical research results on the relationship of factors affecting CSR of enterprises, thereby evaluating the effectiveness of CSR activities.

However, in order to build a CSR measurement model, researchers need to have actual surveys from stakeholders on interests, both qualitative and quantitative research (Turker, 2009; Maignan and Ferrell, 2000). It can be seen that the measurement methods have great contributions to the concept of CSR both in theory and in practice. CSR is still a controversial concept, with many different and even conflicting opinions, different theories. And it is inevitable that since there are different CSR measurement methods, the measurement models in separate areas of CSR are also different. Therefore, methods cannot avoid limitations such as space, time, subject, environment, people, and culture. This creates many research gaps on the topic of CSR.

Economic responsibility and corporate reputation

CSR for society refers to activities that contribute to a better society indicating that businesses face increasing pressure to both maintain corporate profitability and behave in responsible ways. responsibility to society. Similarly, Murray et al. (1997) stated that CSR activities of enterprises aim to solve social problems so that customers have a more positive impression than business activities. In the study of Ricks (2005) concluded that corporate philanthropy increases reputation. Similarly, Jaywant Singh et al. (2008) demonstrate that CSR on social responsibility is positively related to reputation in a study of some well-known brands, and there is a positive association between social responsibility and reputation of the enterprise.

H1: There exists a positive relationship of economic responsibility activities on corporate reputation building.

Community responsibility and corporate reputation

Society expects businesses to satisfy their consumers with quality products and generate adequate returns for their investors. The implementation of economic responsibilities enhances the reputation of the business. Brown et al. (1997) showed that the ability to produce and supply products of the enterprise is a decisive factor to the reputation of the enterprise. In other studies, both service quality and product quality have been shown to have a positive impact on corporate reputation.

In related studies, most of the scholars have come up with scales of individual managers' perceptions of CSR, such as the personal CSR value scale of managers according to the four-factor model of Carroll (2000). The scales from this method have given readers a deeper understanding of the multidimensionality of CSR. In turn, following the development of this scale study, scholars continue to have other scales such as measuring managers' attitudes about CSR (Quazi and O'brien, 2000), measuring awareness of the role of ethics and social responsibility in achieving organizational performance (Singhapakdi et al., 1996). Quazi and O'brien (2000) have built a scale based on a two-dimensional model including the scope of corporate responsibility and the results of the company's social commitment (Turker, 2009). This scale has the remarkable advantage of measuring individual cognition in many economic and cultural contexts, but being able to measure awareness at the organizational level is a major weakness because this is very difficult to do.

Social responsibility has many different perspectives. Can be extended to more ethical responsibilities, charitable responsibilities... Ethical responsibilities: are rules and values that are accepted by society but have not been included in the legal document, so compliance with the law is only permitted. considered as meeting the minimum requirements and standards set by society. Enterprises also need to make commitments outside the law. Ethical responsibility is voluntary, but it is at the heart of CRS. Charitable responsibility: is the behavior of the business beyond the expectations of society. The difference between philanthropic and ethical responsibility is that business is entirely voluntary. If businesses do not implement CSR to this extent, they are still considered to meet the standards expected by society.

H2: There exists a positive relationship between CSR activities and corporate reputation building.

Environmental responsibility and reputation

Environmental responsibility is a major focus of many studies; Williamson et al. (2006), Dahlsrud (2006), Marin et al. (2007) have shown that implementing environmental responsibility can enhance the reputation of service providers. The implementation of environmental responsibility of the Enterprise is clearly seen by consumers and the mass media. CSR activities related to the environment include policies on reducing energy consumption such as saving electricity, saving paper, applying electronic technology, releasing environmentally friendly products, credit policies green applications and support business activities to reduce emissions, protect the environment, and provide social security

H3: There exists a positive association between environmentally responsible practices and corporate reputation building.

Responsibility to the State and Reputation

CRS is first expressed through tax payment. Businesses pay taxes not only to feed the State, but also to provide the State with funds to take care of the needs of society. Basically, enterprises create state-created wealth. Justice. But wealth must come first, justice can happen. If we could only enjoy poverty justice, it wouldn't be much of a consolation. The non-tax contributions of businesses are really contributions of conscience. In most cases, these contributions bring greater satisfaction to entrepreneurs. Because they spent money on what they thought was necessary. For tax payments, entrepreneurs do not always get the same satisfaction. To combine solving social needs with the satisfaction of businessmen, many countries around the world have sought tax exemptions for entrepreneurs if they make non-tax contributions to society. This approach also creates conditions for NGOs to form and develop. And that is the foundation of a strong civic society.

Unlike financial investment activities, the impact of CSR on the business is often observed indirectly based on the response of stakeholders to the business (Barnett, 2007, Wang et al., 2007). 2008). Interest groups' reactions can be positive, neutral or negative, which can be influenced back because their views on CSR change over time. In the United States, for example, public opinion on CSR in the 1970s changed from thinking that social problems should be addressed by government and communities through nonprofit organizations rather than by businesses solve (Friedman, 1970), to the prevailing view today that business should play an important role in solving social problems because business is a social entity. It will be an interesting topic for future research to learn about the incentives that the state creates for businesses to participate in CSR and how it changes over time (Flammer, 2013; Ioannou and Serafeim, 2015), when the views and expectations of interest groups also change over time. Turker (2009) developed a CSR scale to assess CSR behavior related to the diversity of stakeholders, of which CSR is related to government. CRS studies have shown that implementing accountability to the state can enhance the reputation of service providers.

H4: There exists a positive association between public accountability activities and corporate reputation building.

Responsibility to employees and reputation

According to the view of the World Business Council for sustainable development, CRS is the commitment of enterprises to contribute to sustainable economic development, through compliance with standards on gender equality, occupational safety, fair pay, training and development of employees, in a way that benefits the business as well as the general development of society. Previous studies on CSR examined the influence of managers' characteristics on individual employees' CSR awareness and commitment such as the work of Sharma, 2000. Subsequent works investigated unethical behaviors. of the business from the point of view of executives, top management, focusing on topics such as manager prioritization (Cullen et al., 2004), goal setting (Schweitzer et al., 2004), part-time board members (Kang, 2008) or gender inequality (Cumming et al., 2015).

Friedman (2006) defines stakeholders as customers. Mathieu & Zajac (1990), Meyer & Allen (1991), Meyer & Allen (1997), Agarwal & Ferratt (1999), Chang (1999), Meyer et al. (2004), Dockel et al. (2006), Jaros (2007). Docker et al. (2006) and Jaros (2007) suggest that there is a relationship between responsibility for employees and reputation. Turker (2009) developed a CSR scale to assess CSR behavior related to the diversity of stakeholders, in which CSR is related to employees, however, the scale of Turker (2009) was developed. based on behavioral aspects; Although it has been tested on employees, it has not been tested on executives. Therefore, at the organizational level, this method still needs to be reviewed to continue to be improved.

Thus, it can be said that the nature of business operations cannot be just for profit, but from the beginning, the enterprise must play the role of a citizen in society with all its appropriate obligations and rights. CRS studies have shown that exercising responsibility for employees can enhance the reputation of service providers.

H5: There exists a positive association between employee responsibility activities and corporate reputation building.

Responsibility to Credit Providers and Reputation

Friedman (2006) defines stakeholders as customers, employees, local communities, suppliers and distributors as well as shareholders. Other groups and individuals also considered stakeholders include, the media, the public, business partners, past and future organizational founders, academia, competitors, NGOs or political and social activists, stakeholder representatives such as trade unions, suppliers and distributors associations, other funders (creditors, bondholders, donors) loans), competitors and governments, policymakers. Turker (2009) developed a CSR scale to assess CSR behavior related to the diversity of stakeholders, which analyzed the CSR scale in relation to other stakeholders such as credit providers, however, the scale of Turker (2009) is built on the aspect of behavior

H6: There exists a positive association between credit provider accountability practices and corporate reputation building.

Responsibility to customers and reputation

Friedman (2006) defines stakeholders as customers. Moorman, Deshpande; & Zaltman., 1993, Suh & Han, 2002, Toh Tsu Wei, Govindan Marthandan, Alain YeeLoong Chong, Keng- Boon Ooi, & Arumugam, 2009, Bomil Suh & Han, 2002 suggest that there is a relationship between responsibility for customers and reputation. Turker (2009) developed a CSR scale to assess CSR behavior related to the diversity of stakeholders, which analyzes the CSR scale related to customers, however, Turker's scale (2009) is built on the behavioral aspect.

H7: There exists a positive association between customer responsibility activities and corporate reputation building.

Responsibility to suppliers and reputation

Friedman (2006) defines stakeholders as suppliers and distributors as well as shareholders. Responsibility to suppliers is reflected in legal compliance, fair business practices, human rights (labor, safety and health), environment (waste, environmental management, water, pollution). pollution, renewable energy…), quality and safety, information management, local communities…Turker (2009) developed a CSR scale to assess CSR behavior related to the diversity of stakeholders, where CSR relates to other stakeholders such as suppliers. However, the scale of Turker (2009) is built on the aspect of behavior

H8: There exists a positive association between supplier accountability practices and corporate reputation building.

Table 4. Summary of definitions of variables in the research model

Economic responsibility	Enterprises have an obligation to generate profits; provide employment; and produce products/services service that the customer needs.	Carroll (1979), Qinghua Zhu, Joseph Sarkis, & Lai, (2013), Park Jongchul, Lee Hanjoon, & Chankon (2009)
Social responsibility (community)	Businesses must meet expectations from society, business should also be like be a good citizen in carrying out self-responsibility Pray for the community, society, cultural education good art	Brown et al. (1997), Carroll (2000), Quazi & O'brien (2000), Singhapakdi et al (1996), Turker (2009*),* Matuszaka (2018), Mravlja, L. (2017, Phuong Thao NT (2017), Tran Thi Hien (2017), Tran Thi Hien (2015), UN-DESA (2015)
Environmental responsibility	Appears with environmental ethics and is basic content of environmental ethics, responsibility Environmental responsibility appears when people catch beginning to be aware that behaviors, activities, their influence on nature increasingly serious, thereby having a destructive impact on the environment schools, threatening their lives like	Choi et al (2013), Qinghua Zhu, Joseph Sarkis, & Lai (2013), Park Jongchul, Lee Hanjoon, & Chankon (2009)

	warming of the earth, waste pollutes the environment, the Climate Change	
Responsibility to the state (legal liability)	Compliance with the law: paying taxes, in addition to taxes	Turker (2009), Friedman (2006), Kolk, A. (2016), Le Phuoc Huong et al (2019b), Le Thao Chi (2008), Low, M. P. (2016). Luu Thai Tam (2019), Matuszaka, et al. (2017).
Responsibility to employees	Gender equality, occupational safety, fair pay, staff training and development…	Mathieu & Zajac (1990), Meyer & Allen (1991), Meyer & Allen (1997), Agarwal & Ferratt (1999), Chang (1999), Meyer et al. (2004), Dockel et al. (2006), Jaros (2007), Agudelo et al. (2019), Almandoz, (2012), VBCSD. (2020), Vu Tuan Anh (2015), WANG, H., TONG (2016), Wartick (1985), Wood (2010), Zhang, et al. (2011)
Liability to the credit provider	Comply with credit contracts, operate fairly, ensure the interests of credit providers...	Turker (2009), Friedman (2006), Freeman, et al. (1990), Global reporting (2020), Gray, et al (1996), Hair, et al. (2010), Harun et al. (2020), Islam, et al (2013).
Responsibility to customers	Compliance with the law, fair business operation Respect customers, ensure the interests of customers, attract investment capital and employees, customers to the business...	Moorman, Deshpande & Zaltman (1993), Suh & Han (2002), Toh Tsu Wei, Govindan Marthandan, Alain YeeLoong Chong, Keng- Boon Ooi, & Arumugam (2009), Bomil Suh & Han (2002)
Responsibilities to suppliers	Legal compliance, fair business practices, human rights (labor, safety and health), environment (waste, environmental management, water, pollution, renewable energy...), quality and safety, information management, local community	Turker (2009), Friedman (2006), Ministry of Planning and Investment (2015), Bui Thi Thu Hang & Huynh Thi My Duyen (2020), Bui Thi Thu Hang (2021), Carroll (2004), Vietnamese Government (2012), Vietnamese Government (2014), Coase (1960), Cuganesan (2007), Cung, Nguyen Dinh et al (2007)
Reputation	The reputation of the Enterprise is the common assessment of the stakeholders about the Enterprise, the extent to which the Enterprise fulfills its commitments. The reputation of the Enterprise is where the Enterprise is highly appreciated in the eyes of consumers. According to the author, the	Galbreath (2009), Gotsi & Wilson (2001), Dao Quang Vinh (2003), Do Phu Hai (2017), Fernando, et al. (2014).

	content of "Reputation" goes beyond the element of "reputation", which may also include the overall evaluation of the business. So, the scale can also cover all aspects of "Reputation".	

Source: Author's compilation, 2021

4. Results and discussion

4.1. Results

4.1.1. The situation of CSR implementation in SMEs in Khanh Hoa

To have a right and sustainable action plan, businesses need to understand the "hot" issues of society, listen to the community's expectations.

In recent years, Khanh Hoa is facing great challenges of climate change and environmental pollution, threatening social security and human health as well as the sustainable development of the ecosystem. Besides, there are many difficulties and barriers in educating and building the future for the young generation. Those are just a few of the many issues that need the resources and cooperation of the whole society to bring about positive changes to the community.

In the process of global economic integration, CSR has become one of the requirements for SME businesses in Khanh Hoa, if an enterprise does not comply with CSR, it will not be able to access the world market.

The assessment of CSR implementation is specified in the rules of the Code of Conduct and standards such as SA8000, WRAP, ISO 14000, GRI. However, these standards are not agreements between governments or regulations of international conventions, so the binding is only between exporters and importers or set by enterprises themselves. In Khanh Hoa SMEs, there are clean production enterprises: clean vegetable production, clean aquaculture, clean coal production, etc. However, these jobs are more compulsory or spontaneous than a job. Voluntary work associated with business activities and corporate image.

The limitations and difficulties in implementing CSR for SMEs in Khanh Hoa are due to the following reasons: 1) Limited awareness of the concept of CSR; 2) Productivity is affected when multiple sets of CoCs have to be implemented concurrently; 3) Lack of financial and technical resources to implement CSR standards (especially for SMEs); 4) Confusion due to the difference between the provisions of CSR and the Labor Code; 5) Domestic regulations affecting the implementation of COCs. However, in such difficult conditions, businesses need to pay attention to CSR. As consumers, investors, policy makers and NGOs globally are increasingly concerned about the impact of globalization on workers' rights, the environment and community welfare. Businesses that do not comply with CSR may no longer have the opportunity to access international markets.

In recent years, mainly due to the request of foreign purchasing partners, some SMEs in Khanh Hoa have implemented CSR programs. In addition to economic efficiency, businesses also benefit from creating an image with customers, employee engagement and satisfaction, and attracting highly qualified workers.

4.1.2. Survey results

Cronbach's Alpha: The scale is evaluated for reliability through Cronbach's Alpha coefficient and total correlation (Item - Total Correlation). Cronbach's Alpha coefficient is used to eliminate unreliable variables. Variables with a total correlation coefficient less than 0.3 will be excluded (Nguyen Dinh Tho, 2011). The scale will be reliable when Cronbach's Alpha coefficient is greater than 0.6.

Table 5. Evaluation of scale reliability

Number order	Factor	Cronbach's Alpha	Variable-total correlation	Question number
1	Responsibility to the economy	0,714	0,711-0,755	5
2	Responsibility to the community	0,735	0,701-0,791	5
3	Responsibility for the environment	0,845	0,814-0,830	4
4	Responsibility to the State	0,825	0,790-0,833	3
5	Responsibility to employees	0,830	0,800-0,842	4
6	Liability to the creditor	0,760	0,747-0,782	4
7	Responsibility to customers	0,827	0,761-0,842	5
8	Responsibilities to suppliers	0,875	0,819-0,890	4

Source: Calculation from survey data, 2021

EFA: Before officially conducting exploratory factor analysis, use KMO (KaiserMeyer-Olkin Measure of sampling adequacy) and Bartlett (Bartlett's Test of Sphericity) test to check the appropriateness of the data. The results from the independent EFA data test show that KMO = 0.743, Sig = 0.000, total explanatory variance = 74.3%, satisfying the conditions for exploratory factor analysis. The dependent EFA shows that, KMO = 0.784, Sig = 0.000, total explanatory variance = 75.4%, satisfying the conditions for exploratory factor analysis.

According to Kaiser (1974; quoted by Nguyen Dinh Tho, 2011) KMO ≥ 0.9: very good; KMO ≥ 0.8: good; KMO ≥ 0.7 gain; KMO ≥ 0.6: temporary; KMO ≥ 0.5: bad and KMO < 0.5: unacceptable. According to Hoang Trong and Chu Nguyen Mong Ngoc (2008), if Bartlett's test has Sig value. > 0.05, the factor analysis should not be applied. After testing, the KMO index of the data = 0.743 with independent EFA and dependent KMO = 0.784. So, the data is suitable for exploratory factor analysis.

In factor analysis, the study uses Principal Components extraction with Promax rotation. In order to ensure the practical significance of the exploratory factor analysis, it is necessary to remove the measurement variables with the factor loading coefficients that do not meet the standards in each factor. According to Hair et al. (1998; quoted by Khanh Duy), factor loading factor is the criterion to ensure the practical significance level of exploratory factor analysis. 0.3 < factor loading factor ≤ 0.4 is considered minimal, 0.4 < factor loading factor ≤ 0.5 is considered important, factor loading factor > 0.5 is considered important. considered to be of practical significance. Also according to Hair et al (1998; quoted by Khanh Duy), if the standard is chosen 0.3 < factor loading factor 0.4, the sample size should be at least 350, if the sample size is about 100, the standard should be selected. factor loading factor > 0.55, if the sample size is about 50, the factor loading factor must be > 0.75. The sample of the study met the requirements.

Correlation: The absolute value of r indicates the degree of linear association between two quantitative variables. The absolute value of r approaches 1 when the two variables are strongly linearly correlated. The value r = 0 indicates that the two variables have no linear relationship, but two situations need to be distinguished: (1) There is no relationship between the two variables; (2) Two variables can have a close relationship with each other, but the correlation coefficient will still be small, close to zero if the form of this relationship is not linear or non-linear (Hoang Trong, Chu Nguyen Mong Ngoc, 2008).

Correlation analysis shows that Reputation is linearly correlated with the independent variable and is significant at the 0.01 level. The correlation coefficient between the independent variables is relatively low, which shows that the possibility of multicollinearity when analyzing multiple regression is relatively low.

Regression: The results of regression analysis will show the level of impact of each factor on the reputation of seafood processing enterprises in Khanh Hoa. The results of the analysis are presented as follows:

Table 6. Results of regression model analysis

Sample	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.785	0.710	0.706	0.638	1.492

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	Constant	0.137	0.245		0.559	0.577		
	Responsibility to the economy	0.160	0.057	0.137	2.795	0.006	0,728	1.373
	Responsibility to the community	0.103	0.049	0.100	2.103	0.037	0.768	1.302
	Responsibility for the environment	0.274	0.057	0.259	4.813	0.000	0.602	1.660
	Responsibility to the State	0.203	0.058	0.193	3,510	0.001	0.576	1.737
	Responsibility to employees	0.116	0.033	0.165	3.508	0.001	0.791	1.265
	Liability to the creditor	0.287	0.040	0.235	4.709	0.000	0.699	1.431
	Responsibility to customers	0.240	0.040	0.215	4.709	0.003	0.699	1.659

Source: Calculation from survey data, 2021

The adjusted R^2 coefficient is a measure of fitness used for the multiple linear regression situation because it does not depend on the magnification bias of the coefficient R^2. The results of the set regression show that the adjusted R^2 is 0.706, which means that there are 8 independent variables involved in explaining 70.6% of the variation of Reputation.

Multicollinearity measurement was performed, the results showed that the variance magnification factor (VIF) had a satisfactory value (VIF < 2.0). Therefore, the multiple linear regression model does not have multicollinearity, the relationship between the independent variables does not affect the explanatory results of the model.

Regression analysis, statistical results show that the normalized regression coefficients of the regression equation are all different from 0 and Sig. <0.05 shows that all 8 independent variables are involved in the impact on Reputation.

4.2. Discussion

On the path of integration, implementing the social responsibility of seafood processing enterprises in Khanh Hoa is an extremely necessary job, bringing benefits to businesses and society, and at the same time improving the quality of life. improve the competitiveness of enterprises and the country and support better implementation of labor laws in Vietnam. To be able to help businesses perform their social responsibilities well, businesses need to focus on 8 factors: Responsibility for the economy, Responsibility for the community, Responsibility for the environment, Responsibility to the state, Responsibility to employees, Responsibility to credit providers, Responsibility to customers

Responsibility to the economy, environment, community, state

Establish long-term strategies in developing and implementing CSR standards appropriate to each period, enhancing the role of enterprises in ensuring environmental and social safety, building a budget for implementing CSR programs, sharing difficulties with customers, resolving complaints, sponsoring culture and sports.

Continuing to improve the legal system on environmental protection, the sanctions must be really strong enough to deter violators. In addition, it is necessary to synchronously build an environmental management system in factories and industrial parks according to international standards, and at the same time organize close supervision towards a nice and friendly environment. than with humans.

Strengthening the work of understanding the situation, inspecting, examining and supervising the environment, closely coordinating with specialized agencies, especially between the environmental inspection force and the environmental police force at all levels, in order to detect, prevent and promptly and thoroughly handle acts causing environmental pollution by organizations and individuals.

To strictly organize the appraisal and assessment of environmental impacts on the activities of the investment enterprise, on that basis, the specialized agency will accurately advise the competent authorities to consider and decide the to grant or not to grant investment licenses. The decision on the activities of the investment enterprise should be carefully weighed between the immediate benefits and its long-term effects on the environment. Publicly and transparently implement the plannings and activities of investment enterprises and create conditions for all organizations and citizens to participate in social criticism about the environmental impact of the plans and activities. of that enterprise.

Enhancing the role of the environmental police force, establishing the supreme audit agency that conducts environmental audits. At the same time, improve the professional and professional capacity for staff in charge of environmental work; equipped with modern technical means to effectively serve the operation of these forces. Implementing social responsibility is a long-term issue. However, this is mainly done in enterprises whose goods are exported to major markets (EU, US, Japan...), but in the future all businesses will need to perform social responsibility. festival. This issue becomes more urgent than ever in the context of international economic integration. Therefore, it is necessary to immediately start researching, building a long-term plan and a roadmap for the implementation of social responsibility of seafood processing enterprises in Khanh Hoa in the new period, in line with the economy development trend.

Strengthen the appropriate inspection and supervision of enterprises in the implementation of the provisions of the law on labor, environment and tax; There should be sanctions for those who intentionally violate the provisions of current law.

Social organizations and local authorities carry out propaganda and mobilization of enterprises located in the area to take measures to protect the environment, and actively participate in community activities.

Responsibility to employees, credit providers, customers

Strengthen the relationship between corporate responsibilities for employees such as gender equality, occupational safety, fair pay, training and employee development… Besides, building commitment of employees' action for businesses

Strengthen communication and promotion of CSR activities to customers and credit providers, in order to increase awareness of CSR activities as well as forms of CSR expression towards the common goal of sustainable development to further strengthen the reputation and trust of customers, thereby gaining customer loyalty. In fact, the number of customers who know about CSR activities is still limited. Most customers only recognize two main activities (supporting the poor, people in difficulty, supporting students, etc. in general, of a charitable nature).

5. Conclusion

CRS is a new issue for Vietnam. But in recent years, in the face of environmental disaster and its negative consequences, the issue of social responsibility has been raised urgently. In Vietnam, the implementation of CRS is completely consistent with the goals of the sustainable development strategy. In order to realize CRS in Vietnam, it is urgent to propagate and educate about social responsibility and perfect the legal framework for its implementation.

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THE IMPACT OF ENTREPRENEURIAL COMPETENCIES ON ENTREPRENEURSHIP INTENTION: THE CASE AMONG BUSINESS STUDENTS IN DANANG

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ABSTRACT

Many previous studies evaluated factors influencing entrepreneurial intention including psychological factors, social economic factors, family circumstance, etc. In contrast, there are very few studies examine the relationship between entrepreneurial competencies and entrepreneurial intention. Thus, this paper aim to identify the list of competencies that impact entrepreneurial intention among Southeast Asian students who influenced by Confucianism. The conceptual model was established based on the list of previous studies in this field with a sample size of 1000 students who study in University of Economics – The University of Danang. The main finding indicated that (i) from eleven independent variables listed from previous studies, only six independent variables remain; (ii) there are no evidences to prove that risk management and tenacity/ perseverance were associated with entrepreneurship intention. These results have important values in developing entrepreneurship training programs to promote students' entrepreneurial intention among Southeast Asian Countries.

Keywords: entrepreneurial competencies, entrepreneurial intention, Confucianism, EFA, SEM.

1. Introduction

Vietnam is facing the fouth Covid-19 wave since the outbreak of the pandemic in the beginning of 2020. The negative impacts caused by this wave to the Vietnamese economy is really dire. Currently, Vietnam's GDP is expected to growth about 4.8 percent in 2021, which is 2.0 percent lower than the prediction made by the World Bank Group in December 2020 (World Bank, 2021). Also, retail sales in July fell by 19.8 percent compared to the same period last year (World Bank, 2021). Especially, economic regions in southern Vietnam recorded heavy losses in industrial production including Ben Tre province, which decreased by 60.1%; Dong Thap decreased by 59.1%; HCMC decreased by 49.2%; Vinh Long decreased by 41.5%; Tay Ninh decreased by 36.9, etc (Nguyen Nga, 2021). The Covid-19 pandemic has had a lot of impacts on the economy and entrepreneurs also absorb the hardships during this epidemic period. However, there are startups that find opportunities in times of upheaval. In the past, big companies had the advantage of scale, so they were very strong but during the pandemic, any company that is able to be lean and thrifty will has a competitive advantage (Pham Huu, 2021). Besides, the Covid-19 epidemic has partly changed consumer habits as they use more online services and pay more without cash (Pham Huu, 2021). These are common opportunities for entrepreneurs to develop creative business ideas. Indeed, entrepreneurship plays an important role in economic development and job creation for the workforce as well as affects many macroeconomic indicators such as gross domestic product (GDP), per capita income (PCI), unemployment rate, etc (Moica et al., 2012). Before the pandemic, the number of Vietnamese enterprises operating across the country has reached 714,755 enterprises and the contribution of new enterprises, especially small and medium enterprises (SMEs) accounts for nearly 50% of GDP and attracts nearly 90% of the new labor force in Vietnam (Le Quang, 2018; GSO, 2019). Thus, promoting entrepreneurial activities is a good solution to create jobs, increase the dynamism of the economy and reduce the unemployment rate.

One of the most important prerequisites for this success is an entrepreneurial spirit. Therefore, developing an entrepreneurial spirit as well as acknowledging the contributions of entrepreneurs is essential. Due to its essential, many previous studies focus on factors influencing entrepreneurial intention. Although entrepreneurial intention is not a completely new topic, it has been continuously a hot topic in social and research communities around the world since the 1990s (Gibb, 1987). Previous studies have done empirical research on factors influencing entrepreneurial intention focusing on different topics such as perceived desirability (Krueger et al., 2000), attitude towards entrepreneurship (Ajzen, 1991; Krueger et al., 2000), family circumstances (Prodan and Drnovsek, 2010); demographic factors (Gibb, 1987; Krueger and Carsrud, 1993; Almeida et al., 2019). However, these studies still address the limited role and degree of the impact of entrepreneurial competencies on entrepreneurial intention, especially Southeast Asian students. Indeed, Vietnam, a Southeast Asia country, is still influenced by Confucian ideology in many aspects of Vietnamese life and activities, especially Vietnam's education system (Nguyen Hien Luong, 2015), so waking the entrepreneurial spirit among Vietnamese students has not really been noticed. In recent years, the Government of Vietnam has been constantly interested in building an entrepreneurial ecosystem in Vietnam and especially interested in the entrepreneurial movement among students, the future generation. Specifically, in October 2017, the Prime Minister issued Decision No. 1665/QĐ-TTg approving the project "approving the Scheme for Supporting Students' Start-ups to 2025". Which entrepreneurial competencies would have an impact on student's entrepreneurial intention? Entrepreneurial competencies are a set of knowledge, abilities, and skills that an individual should have in order to be a successful and competitive entrepreneur (Zahra, 1993). These competencies are similar to entrepreneurship characteristics and can be learned or gained through training and practice (Volery et al., 2015). Previous studies proposed several definitions and classification of entrepreneurial competencies in promoting the entrepreneurial process (Chell, 2013; Tehseen and Ramayah, 2015; Okolie et al., 2021). However, these classifications are inconsistent and not concurrence among researchers in the field. Therefore, this study aims to find list of entrepreneurial competencies affecting entrepreneurial intention among Southeast Asian students who studying in the business programs.

2. Literature review

2.1. Entrepreneurship Intention

Entrepreneurship intention (EI) can be defined as an individual's intention to start a business following by a chain of activities that an individual commits to find, pursue business opportunities, and build a potential business plan from these opportunities, as well as gather the necessary resources and stakeholders to create his/her own business (Miranda et al., 2017). Understanding entrepreneurship intention is the key that help researchers having better understand the business creation process (Krueger and Carsrud, 1993; Krueger et al., 2000; Kolvereid, 2016). In psychological studies, an individual behavior, which is somtime difficult to observe, can be predicted by his or her intention (Krueger et al., 2000). Indeed, EI is a closest predictor in showing an individual's decision to become an entrepreneur or an individual's level of preparation (Bird, 1988). In the case that an individual may have all the resources to start a business, if he or she lacks of EI, that person would not progress toward converting these resources into a business venture (Krueger et al., 2000).

2.2. Entrepreneurial competencies

Entrepreneurial competencies (EC) are a set of knowledge, abilities, and skills that an individual should have in order to be a successful and competitive entrepreneur (Zahra, 1993). These competencies are similar to entrepreneurship characteristics and can be learned or gained through training and practice (Volery et al., 2015). According to previous studies, EC can be divided into eleven difference competencies including opportunity recognition, exploitation of opportunities, opportunity assessment, risk management, tenacity/perseverance, strategic competencies, value creation through innovation, management competencies, previous knowledge and experience, human resources management, and social competencies (Priyanto and Sandjojo, 2005; Man et al., 2008; Morris et al., 2013). These competencies and authors' hypotheses will be described in the following section.

2.2.1. Opportunity recognition and exploitation of opportunities

Opportunity recognition (OR) is an individual ability to recognize new market potential, have a vision for a new venture, and develop effective strategies transforming that vision to real business activities (Shane and Eckhardt, 2003; Santos and Eisenhardt, 2005). While, exploitation of opportunities is an individual ability to generate business ideas and implement business strategies (Silveyra et al., 2021). In addition, OR can be discovered or created through six activities including being alert, searching, gathering information, communicating, problem-solving, and evaluating (Kirzner, 1997; Alvarez and Barney, 2007; Kuckertz et al., 2017; Wei et al., 2019). For most business programs, these abilities are core outcomes that students need to have to analyze and identify market demand (Okolie et al., 2021). Therefore, the authors expect positive correlations between entrepreneurship intention and both opportunity recognition as well as exploitation of opportunities competence.

Hypothesis 1: Opportunity recognition competence has a positive relationship toward entrepreneurship intention;

Hypothesis 2: Exploitation of opportunities competence has a positive relationship toward entrepreneurship intention.

2.2.2. Opportunity assessment and risk management

Opportunity assessment (OA) is a process of decision making where an entrepreneur determines whether or not continuing to pursue a business opportunity (Smith et al., 2010). OA focuses on assessing the opportunity to make an accurate decision of whether accept or forgo the process of business creation (Okolie et al., 2021). In detail, this competence helps entrepreneurs assess the outcome economy from the value of the resource input (Ardichvili et al., 2003). This competence is important for entrepreneurs because it helps them distinguish between business ideas and business opportunities as well as evaluate wherether or not those opportunities are worth developing (Smith et al., 2010). In addition, understanding risk is important to entrepreneurs as it can help in reducing business failures (Okolie et al., 2021). Previous studies refer risk as the probability of loss time the amount of loss to a business (Mitchell, 1995). Indeed, entrepreneurs who have compentence to manage risk can improve the probability of running a successful business (Mamai and Yinghua, 2017). In addition, an individual who can recognize business opportunities are often optimistics about the his or her willingness to take on those business risks (Okolie et al., 2021). Therefore, the authors expect a positive correlation between entrepreneurship intention and both opportunity assessment as well as risk management competence.

Hypothesis 3: Opportunity assessment competence has a positive relationship toward entrepreneurship intention;

Hypothesis 4: Risk management competence has a positive relationship toward entrepreneurship intention.

2.2.3. Tenacity/Perseverance

Tenacity/perseverance (TP) refers to a personal characteristic that involves constant actions even facing with challenges (Baum and Locke, 2004). This competence can help entrepreneurs continuously faced with obstacles when establishing their business (Scotter and Garg, 2019). An individual who has higher tenacity tend to take higher risks than their mates. This competence also can show the level of readiness of an individual who want to challenge himself and get higher reward in the return (Tadajewski and Jones, 2017; Scotter and Garg, 2019; Zeng and Ouyang, 2020). Therefore, the authors expect a positive correlation between entrepreneurship intention and tenacity/perseverance competence.

Hypothesis 5: Tenacity/perseverance competence has a positive relationship toward entrepreneurship intention.

2.2.4. Value creation through innovation

An innovation could be "an implementation of a new product or process (good or service) or its significantly improved version, a new marketing method, or a new organizational method in business practices, workplace organization or external relations" (Santos et al., 2019, p.930). This competence is a key in creating business competitiveness and an individual can perceived business ideas and opportunities through this competence (Trott, 2005; Santos et al., 2019). Along these lines, the authors expect that value creation through innovation competence can impact entrepreneurship intention.

Hypothesis 6: Value creation through innovation competence has a positive relationship toward entrepreneurship intention.

2.2.5. Management and business competencies

Management and business competencies reflect the capacity of an entrepreneur in developing a strategic vision to run a successful company (Ahmad et al., 2010; Bamiatzi et al., 20015). These competencies are individuals' abilities in developing effective management systems that are needed to operate his or her business in the long run (Ahmad et al., 2010; Mitchelmore and Rowley , 2013). Previous studies state that management and business competencies constructed from three main competencies including strategic competencies, management competencies, previous knowledge and experience (Winterton, 2001; Onstenk, 2003; Man and Lau, 2005; Wu, 2009; Ahmad et al., 2010; Mitchelmore and Rowley, 2010). Therefore, the authors expect a positive relationship between entrepreneurship intention and management and business competences.

Hypothesis 7: Strategic competence has a positive relationship toward entrepreneurship intention;

Hypothesis 8: Management competence has a positive relationship toward entrepreneurship intention;

Hypothesis 9: Previous knowledge and experience competence has a positive relationship toward entrepreneurship intention.

2.2.6. Human resources and social competencies

Human resource competencies refer to individual's abilities to work, understand, and motivate his or her colleague (Chandler and Jansen, 1992). These competencies are based on managing the interrelationship between individual or individual-group, and focus on human resourse skills including motivation, recruitment, leadership, etc (Mitchelmore and Rowley, 2010; Silveyra et al., 2021). Beside, social competencies refer to an individual's social experiences and skills associated to the effective communication with other including those that allow an efficient interaction between individual or individual-group (Rathna and Vijaya, 2009). By improving these skills, the authors expect an increasing in entrepreneurship intention.

Hypothesis 10: Human resources management has a positive relationship toward entrepreneurship intention;

Hypothesis 11: Social competencies has a positive relationship toward entrepreneurship intention.

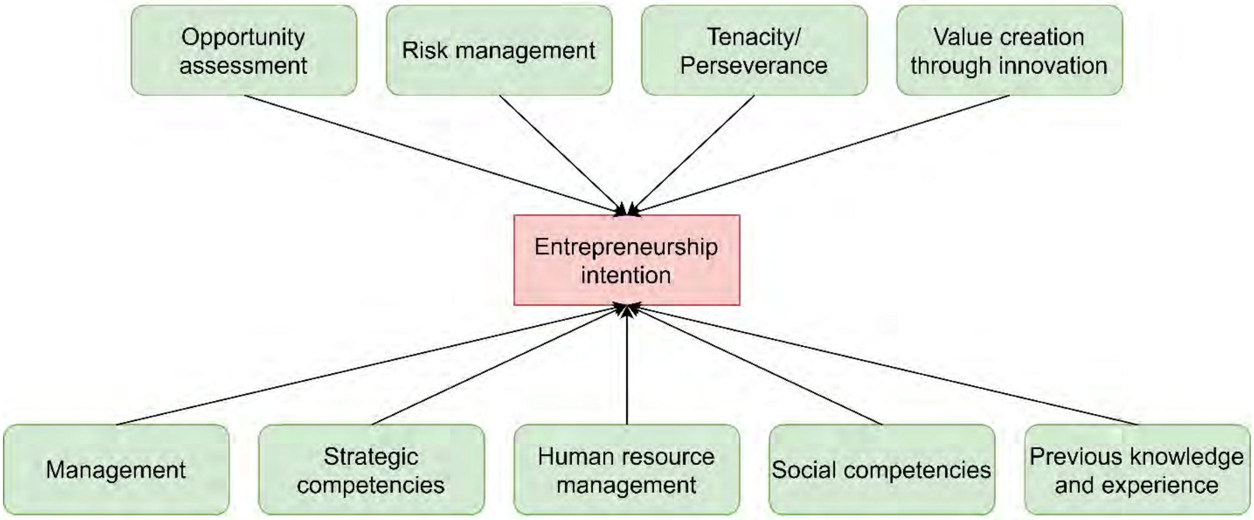

Figure 1. Conceptual model

3. Methodology

The final list of items for latent variable were identified from synthesizing previous studies and shown in Table 1. These items were then used to prepare a survey questionnaire for data collection. The questionnaire consists of an introduction with personal information questions. Next, the respondent was asked to rate 50 statements (Table 1) on a 5-point Likert scale (Likert-1 totally disagree, and Likert-5 totally agree). The survey took place at University of Economics, a member of the University of Danang – one of the top leading business and economics universities in Vietnam. The authors decided to use using the purposive sampling method as students studying in this university meet the requirement of diversity that the students are come from many provinces and cities in Vietnam. This study was conducted among one thousand students, which represent 5%

of total students in University of Economics, in 2nd semester of the academic year 2020-2021. The data would be collected by using Google survey and analyzed using quantitative approaches including exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and structural equation modeling analysis (SEM).

Table 1. Items of entrepreneurial competencies that influencing entrepreneurial intention

Factor	Code	Items	Source
Opportunity Recognition	OR1	I am always alert to business opportunities	Ozgen and Baron, 2007
	OR2	I search systematically for business opportunities	
	OR3	I regularly scan the environment for business opportunities	
	OR4	I accurately perceive unmet consumer needs	Silveyra, 2021
	OR5	One of my greatest strengths is identifying goods and services people want	
Exploitation of opportunities	OE1	I am capable of generating creative business ideas	Bamiatzi et al., 2015
	OE2	I envision taking advantage of opportunities	
	OE3	I am capable of formulating and implementing strategies	
Opportunity Assessment	OS1	I have an extraordinary ability to smell profitable opportunities	Tang et al., 2010
	OS2	I can distinguish between profitable opportunities and not so profitable opportunities	
	OS3	When facing multiple opportunities, I am able to select the good ones	
Risk Management	RM1	I can avoid risks of a business	Okolie, 2021
	RM2	I can identify the possible risks of a business	
	RM3	I can take positive steps to reduce or mitigate risks in a business	
Tenacity/ Perseverance	TE1	Setbacks don't discourage me	Duckworth and Quinn, 2009
	TE2	I am a hard worker	
	TE3	I finish whatever I begin	
Value Creation through Innovation	IN1	New business ideas often come to me when directly observing how people interact with products and services	Dyer et al., 2008
	IN2	By paying attention to everyday experiences, I often get new business ideas	
	IN3	I have a continuous flow of new business ideas that comes through observing the world	
Strategic competencies	STR1	I am able to develop and establish longer term directions for the firm, e.g. on the business scale, objetctives, goals or projects	Silveyra, 2021
	STR2	I am able to determine long-term issues, problems, or opportunities	
	STR3	I am capable of monitoring progress toward strategic goals	
	STR4	I am able to determine strategic actions by weighing costs and benefits	

Management competencies	MA1	Manage marketing and sales	Bamiatzi et al., 2015
	MA2	Manage the financials	
	MA3	Develop operational systems	
	MA4	Ability to use technology	
	MA5	Manage the business	
	MA6	Acquire of appropriate resources	
Previous knowledge and experience	KN1	I have some sort of previous entrepreneurial experiences	Silveyra, 2021
	KN2	I am familiar with a certain industry	
	KN3	I am familiar with the market	
	KN4	I have previous experience managing a business am familiar with the market	
Human resource management	HR1	Employee development	Mitchelmore and Rowley, 2013
	HR2	Managing employee performance	
	HR3	Human relation management skills	
	HR4	Employee relations	
Social competencies	SCO1	I'm really good at negotiating with others	Silveyra, 2021
	SCO2	I'm really good interacting with others	
	SCO3	I'm really good at resolving disputes among others	
	SCO4	I'm really good at understand what others mean by their words and actions	
	SCO5	I'm really good at verbally communicate with others effectively	
	SCO6	I'm really good at developing long-term trusting relationships with others	
Entrepreneurhip intention	EI1	I will make every effort to start and run my own firm	Jena, 2020; Barral et al., 2018
	EI2	My professional goal is to become an entrepreneur	
	EI3	I have the intention to start a firm some day	
	EI4	I am ready to do anything to be an entrepreneur	
	EI5	I am determined to create a firm in the future	
	EI6	I have very seriously thought of starting a firm	

4. Results

The data from 1000 respondents were collected from April 2021 to May 2021. After data cleaning, the authors retained survey data from 877 respondents in the final analysis (Table 2), in which 660 from female students (75.26 percent), followed by 217 male student (24.75 percent). In term of family location, 375 respondents are from urban area (42.76 percent), and 503 respondents are from rual area (57.24 percent). All respondents study in field related to business and finance. Most of respondents have already finished the fundamental business courses such as introduction to business, introduction to marketing, management, etc.

Table 2. Descriptive statistics

Gender		**Family location**		**Major**		**Year**	
Male	217	Urban	374	Business administration	523	Freshman	21
				International business	13	Sophomore	404
Female	660	Rural	503	E Commerce	52	Junior	168
				Finance	246	Senior	256
				Other	43	Graduate	28
Total	**877**	**Total**	**877**	**Total**	**877**	**Total**	**877**

In the beginning of the analysis process, the authors conducted factor and reliability analyses with Cronbach's alpha test to check the internal consistency for both dependent variable (EI) and independent variables (OR, OE, OS, RM, TE, IN, STR, MA, KN, HR, SCO). Then, the authors conducted exploratory factor analysis (EFA) with varimax rotation and the results are shown in Table 3. EFA was used to define the factor structure based on the answers which correspond to attributes. The item list including OR4, OR5, OE1, OE2, OS2, OS3, STR1, MA4 were discarded due to the failure to meet the factor loading value's condition. The Kaiser-Meyer-Olkin (KMO) and Bartlett test results show that all structures are eligible for exploratory factor analysis, with their KMO value more than 80 percent. The total explained variance is ranked at a quite high level of more than 60 percent compared to the proposed threshold of 60 percent (Hinkin, 2005). Therefore, the EFA results met the reliability requirements and demonstrated high internal consistency (Hair et al., 2014). The result shows that from eleven independent variables listed in the literature review, the EFA results showed a final of six independent variables including relationship management (combination of HR and SOC), strategic management (combination of MA and STR), previous knowledge and experience, value creation through Innovation (combination of IN and OR), risk Management (received an extra item from OS and OE), and tenacity/ perseverance. Also, the estimated coefficient for the six factors in all six structures was all over 0.70, which is acceptable (Hair et al., 2014).

Table 3. Analysis of competencies factors to explore entrepreneurship intention scale

Kaiser-Meyer-Olkin Measure: 0.958				**Factor loading**						**Cronbach's alpha**	**Factor average**
Factor	**Item**	**Average**	**Extraction**	**1**	**2**	**3**	**4**	**5**	**6**		
Relationship management	SOC2	3.775	0.668	0.760						0.920	3.586
	HR4	3.698	0.686	0.760							
	SOC3	3.585	0.638	0.715							
	SOC1	3.566	0.633	0.696							
	HR3	3.554	0.617	0.694							
	SOC5	3.526	0.585	0.685							
	SOC6	3.774	0.589	0.681							
	SOC4	3.685	0.504	0.645							

	HR2	3.478	0.581	0.555							
	HR1	3.219	0.543	0.554							
Strategic management	MA2	3.441	0.618		0.693					0.908	3.342
	STR4	3.384	0.663		0.687						
	MA3	3.201	0.675		0.680						
	STR3	3.281	0.628		0.653						
	STR2	3.273	0.637		0.629						
	MA5	3.446	0.680		0.595						
	MA6	3.371	0.572		0.546						
	MA1	3.338	0.583		0.490						
Previous knowledge and experience	KN1	2.794	0.726			0.792				0.858	2.950
	KN3	2.974	0.741			0.766					
	KN4	2.777	0.651			0.757					
	KN2	3.256	0.684			0.756					
Value Creation through Innovation	OR2	4.032	0.590				0.704			0.814	3.714
	OR3	3.787	0.576				0.658				
	IN2	3.645	0.627				0.657				
	OR1	3.975	0.560				0.650				
	IN1	3.533	0.573				0.572				
	IN3	3.311	0.516				0.493				
Risk Management	RM1	2.808	0.621					0.738		0.801	3.031
	RM2	3.111	0.579					0.701			
	OS1	2.686	0.594					0.681			
	RM3	3.229	0.601					0.650			

	OE3	3.318	0.490					0.490			
Tenacity/ Perseverance	TE2	4.064	0.744						0.789	0.788	4.017
	TE3	3.941	0.660						0.728		
	TE1	4.047	0.605						0.681		
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.											

The results from EFA were used in CFA analysis to confirm the relationships between observed variables and latent variables as well as to measure unidimensionality and convergent validity ensuring the fitness of the model with data. The results show that all indicators in all six structures have a significant relationship with the factors. Figure 2 shows the final model constructed for entrepreneurial competencies factors influencing entrepreneurship intention. This figure also illustrates the importance and the priority of observed variables by their weight, which is represented by factor loading values. Thus, the results of the goodness-of-fit tests for the proposed model are suited to market data and all items are satisfactory (Figure 2). Also, the correlation coefficients for each pair of concepts with the standard deviations of the scales are statistically significant at a level of 0.0001 (Table 4). From six variables detected in CFA analysis, the final model from SEM analysis only shows four variables that have positive relationship with entrepreneurship intention including (1) relationship management (combination of HR and SOC), (2) strategic management (combination of MA and STR), (3) previous knowledge and experience, and (4) value creation through innovation (combination of IN and OR). The detail discussion about these independent variables and their relationships with entrepreneurship intention will be presented in the next section.

Table 4. SEM results

			Estimate	**S.E.**	**C.R.**	**P**				**Estimate**	**S.E.**	**C.R.**	**P**
EI	<---	RE	0.195	0.086	2.276	0.023	EI3	<---	EI	1			
EI	<---	SM	0.291	0.134	2.174	0.030	EI4	<---	EI	1.027	0.033	31.518	***
EI	<---	KN	0.199	0.051	3.866	***	EI2	<---	EI	0.846	0.033	25.944	***
EI	<---	RM	-0.046	0.081	-0.565	0.572	EI1	<---	EI	0.924	0.031	29.696	***
EI	<---	OIN	0.373	0.085	4.415	***	EI5	<---	EI	0.815	0.037	21.787	***
EI	<---	TE	0.036	0.063	0.567	0.571	EI6	<---	EI	0.834	0.035	23.929	***
HR4	<---	RE	1				KN1	<---	KN	1			
SOC2	<---	RE	0.921	0.037	25.133	***	KN3	<---	KN	1.197	0.052	22.891	***
SOC3	<---	RE	1.009	0.043	23.425	***	KN2	<---	KN	1.087	0.051	21.494	***
HR3	<---	RE	0.957	0.038	25.125	***	KN4	<---	KN	1.034	0.045	23.017	***
SOC1	<---	RE	1.023	0.043	23.899	***	RM1	<---	RM	1			
SOC6	<---	RE	0.957	0.044	21.727	***	RM2	<---	RM	0.947	0.060	15.690	***
SOC5	<---	RE	0.943	0.043	22.064	***	OS1	<---	RM	1.033	0.061	16.937	***
SOC4	<---	RE	0.863	0.044	19.519	***	RM3	<---	RM	0.994	0.059	16.994	***
HR1	<---	RE	0.941	0.046	20.251	***	OE3	<---	RM	1.003	0.064	15.645	***
HR2	<---	RE	0.941	0.043	21.727	***	IN2	<---	OIN	1			
MA2	<---	SM	1				OR3	<---	OIN	0.839	0.049	17.194	***

STR4	<---	SM	1.053	0.054	19.616	***	IN1	<---	OIN	0.958	0.045	21.331	***
MA3	<---	SM	1.117	0.050	22.467	***	OR2	<---	OIN	0.703	0.047	14.966	***
STR3	<---	SM	1.063	0.055	19.333	***	OR1	<---	OIN	0.672	0.048	14.015	***
STR2	<---	SM	1.088	0.056	19.341	***	IN3	<---	OIN	0.967	0.050	19.340	***
MA5	<---	SM	1.169	0.057	20.592	***	TE2	<---	TE	1			
MA6	<---	SM	1.092	0.057	19.273	***	TE3	<---	TE	0.970	0.049	19.928	***
MA1	<---	SM	1.130	0.057	19.715	***	TE1	<---	TE	0.997	0.052	19.149	***

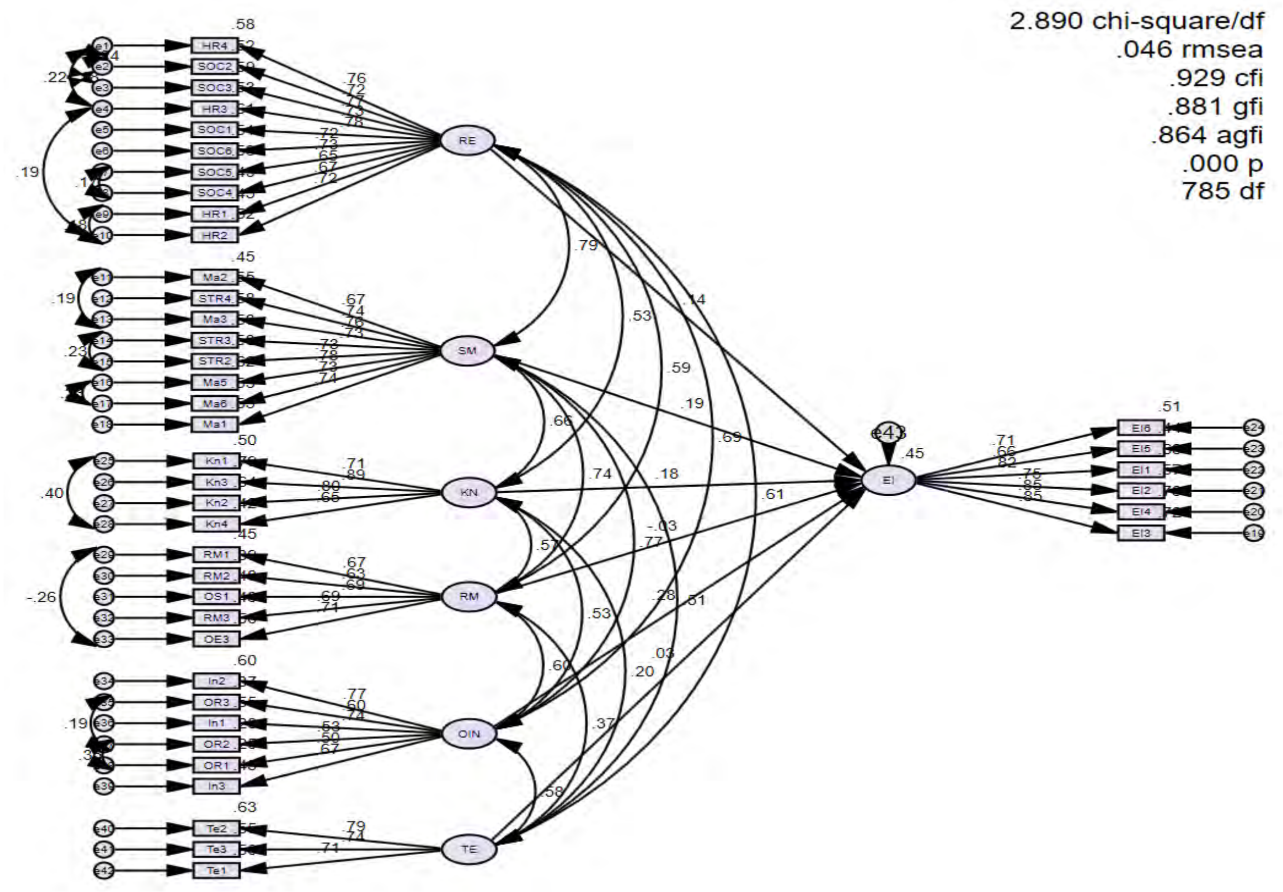

Figure 2. SEM mode

5. Discussion and conclusion

The study's findings show that from eleven independent variables listed in the literature review, the EFA and SEM results showed a final of six independent variables including (1) relationship management (combination of HR and SOC), (2) strategic management (combination of MA and STR), (3) previous knowledge and experience, (4) value creation through innovation (combination of IN and OR), (5) risk management, and (6) tenacity/ perseverance. With these results, the study contributes to scientific results demonstrating the list of entrepreneurial competencies that impacts on EI among Southeast Asian student. The results show that among the final six competencies, the authors found no evidences that risk management and tenacity/ perseverance were associated with entrepreneurship intention. A possible explanation of this results could be a cultural and social boundary. In Vietnam, there was an occupation classification used during a long period under the feudal regime. This occupation classification was influenced by Confucianism and was a kind of social ranking in its order (Vuong and Tran, 2009). This occupation classification including "Sĩ – Nông – Công – Thương" which can be translated in order as "gentry scholars - peasant farmers - artisans and craftsmen - merchants and traders". According to this occupation classification, merchants and traders have been ranked lowest in terms of dignity in Vietnamese society which is regarded as opposite to the western society where entrepreneurs form a high-ranked stratum in the society (Vuong and Tran, 2009). This ideology has been using in raising Vietnamese children by most Vietnamese parents as they want their children to become gentry scholars and especially become government employee. Although, many Vietnamese would deny this social ranking now a day, most of them understand the ‘face-saving’ value of Confucianism which is a permanent part of Vietnamese society. These occupations directly imply the ranking of an individual’s social status. Therefore, an individual is unlikely to embark on a risky road as becoming an entrepreneur and receive such a low social value. Also, most of Vietnamese students usually have a heavy workload and they spend most of their time preparing for the difficult university entrance exam as well as other classes, which usually are simply fixed traits, which are not in the case of establishing and operating a business.

This study contributes to the existing knowledge in several ways. First, this study examined the EI of Southeast Asian students who influenced by Confucianism. Second, this study examined the impact of entrepreneurial competencies on entrepreneurial intention among Southeast Asian students. The outcome of this study has important value in developing entrepreneurship training programs to promote students' entrepreneurial intention. The implementation of entrepreneurship training programs in higher education institutions would be essential and beneficial for student development. Higher investment in these programs will allow students to explore their entrepreneurial skills and innovative ideas as well as provide other needed knowledge to become entrepreneur. Higher education institutions need to focus on developing new innovative entrepreneurship courses using project-based learning, design thinking approach applying entrepreneurial competencies as an outcome, as well as theoretical applications that would bring more effective outcome. These methods will provide students with the necessary foundation and skills to tackle the challenges facing the startup world. By enrolling in these training programs, students could gain more knowledge about what it means to become an entrepreneur, gain more skills, explore business opportunities and focus on possible career paths in the future; thereby changing their attitude toward entrepreneurship and reduce the fear of failure (Farashah, 2013; Lynch et al., 2019).

Despite the theoretical and practical implications, there are still some cautions due to the study’s limitations. First, the literature review conducted from this study is not completed as it still lack study from Asia region. Future study can be improved a lot by providing a narrative literature review on entrepreneurial competencies from around the world to have a complete list of entrepreneurial competencies to test among Vietnamese. Second, this study was conducted during the context of a COVID-19 outbreak when social distancing and isolation were applied in Danang city. Due to the above caution and with limited resources, the survey sample have been limited to single university. Therefore, our future studies can be extended to students in different majors and universities in other provinces to ensure the representativeness of the sample. Third, future studies need to test the impact of COVID-19 pandemic, which is a current a global pandemic with unpredictable consequences, on students' entrepreneurial intentions. Therefore, most parent might encourage their children to take a job in a state-owned company seeking sense of job stability and safety. Finally, the future studies also need to test the impact of family circumstance, which is an important factor in order to become an entrepreneur, on entrepreneurial competencies. Previous studies already indicated that if parents own a small business, those parents would tend to become their children mentors when their children establish and grow the business (Sasu and Sasu, 2015). Indeed, early support from family would has a positive influence on individual's confidence in becoming an entrepreneur (Sasu and Sasu, 2015).

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THE POLICY FRAMEWORK TO SUPPORT STARTUP: A COMPARATIVE STUDY BETWEEN THE CITY OF HANOI AND HO CHI MINH

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ABSTRACT

Ha Noi and Ho Chi Minh City are the most vibrant ecosystem in VietNam. In recent years, these cities have given special attention to formulating and adopting regulations and policies which provide incentives and encouragement for the proliferation of startups. Basing on the Entrepreneurship Policy Framework suggested by UNCTAD, the paper compares the policy framework for support startups in Ha Noi and Ho Chi Minh city. The study aims to find out the similarities and differences among these frameworks as well as the successes and shortcomings regarding the policy framework to support startups in these cities. These findings are not only important for these cities also for other locals in VietNam to refine the policies for developing startups in the upcoming time.

Keywords: startup; policy framework; Ha Noi; Ho Chi Minh city.

1. Introduction

It cannot be denied that startups make an important contribution to sustainable development by creating jobs, promoting innovation, and driving economic growth in countries. The state, through institutions, laws, and policies, plays an important role in supporting the development of startups. At the city level, local governments, promoting and supporting their startup communities are through initiatives of their own.

In Vietnam, Hanoi and Ho Chi Minh City are considered the two most vibrant startup hubs. The Vietnamese startup community is strongly driven by these two cities. In recent years, besides national programs, these locals have launched many policy initiatives based on their own local resources to support the development of startups. The question is how different these frameworks and which policy initiatives have been implemented successfully and could be applied to others, and what are policy gaps need to be completed. To answer the above questions, the paper focuses on analyzing the similarities and differences in the policy framework for support startups among these cities by applying the UNCTAD policy framework, thereby proposing some suggestions to improve the policy frameworks in these cities.

2. Theoretical framework

2.1. Startup

According to Startup Blink (2020) *"A startup is any new business that applies an innovative solution. The innovation can be either technological or a unique business model"*.

According to Decree No. 94/2020/ND-CP, dated August 21, 2020 in Clause 2, Article 3, defines "a startup is an enterprise established in accordance with the law to implement ideas on the basis of exploiting intellectual property, technology, new business model and rapid growth potential." (Clause 2, Article 3).

Basically, Vietnam's approach is also close to the majority when pointing out the characteristics of startups including: (1) technology innovation, (2) rapid growth, and (3) new business model. In addition, startups also have some other characteristics such as age (within 3-5 years, depending on the field). When it enters the stage of stability and development, it is not considered a startup.

2.2. Startup ecosystem

Like "Startup", there is no single official definition for a startup ecosystem and the term is used in different ways. Mason and Brown (2014) define entrepreneurial ecosystems as follows: '*a set of* *interconnected entrepreneurial actors (both potential and existing), entrepreneurial organisations (e.g. firms, venture capitalists, business angels, banks), institutions (universities, public sector agencies, financial bodies) and entrepreneurial processes (e.g. the business birth rate, numbers of high growth firms, levels of 'blockbuster entrepreneurship', number of serial entrepreneurs, degree of sell-out mentality within firms and levels of entrepreneurial ambition) which formally and informally coalesce to connect, mediate and govern the performance within the local entrepreneurial environment*' (Mason & Brown 2014, 5).

2.3. UNCTAD's Startup Policy Framework

United Nations Conference on Trade and Development (UNCTAD) presented Startup Policy Framework in 2012, aiming to assist policy makers in developing countries and economies in transition in designing initiatives, measures and institutions to promote entrepreneurial spirit. UNCTAD's Policy framework proposes six basic policy areas to be prioritized for investment.

(1) ***Formulating national entrepreneurship strategy***: Entrepreneurship is one of the most important drivers of job creation and economic growth, and crucial for the development of a vibrant formal small- and medium-sized (SME) enterprise sector. The key elements of a national entrepreneurship strategy are: to Identify country specific challenges; specify goals and set priorities; ensure coherence of entrepreneurship strategy with other national policies; strengthen the institutional framework; Measure results and ensure policy learning

(2) ***Optimizing the regulatory environment***: The regulatory environment should encourage people to set up their own business, to try new business ideas and to take on calculated risks, keeping administrative burdens to the minimum required to support public policy and sustainable development objectives. UNCTAD offers solutions to optimize legal environment about a nation's startup, specifically: examine regulatory requirements for start-ups (ii) Minimize regulatory hurdles for business startups; (iii) build entrepreneurs' confidence in the regulatory environment; and (iv) guide entrepreneurs through the start-up administrative process.

(3) ***Enhancing entrepreneurship education and skills***: Effective entrepreneurship education policies and programmes focus on developing these entrepreneurial competencies and skills (start-up knowledge, business planning, financial literacy and managerial skills.) which are transferable and beneficial in many work contexts. The aim is not only to strengthen the capacity and desire of more individuals to start their own enterprises, but also to develop an entrepreneurial culture in society. (i) Embed entrepreneurship in formal and informal, (ii) Develop effective entrepreneurship curricula education, (iii) Train teachers, (iv) Partner with the private sector

(4) ***Facilitating technology exchange and innovation:*** Entrepreneurship, technology and innovation are mutually supportive. Technology provides entrepreneurs with new tools to improve the efficiency and productivity of their business, or with new platforms on which to build their ventures. In turn, entrepreneurs fuel technological innovation by developing new or improving existing products, services or processes and ensuring commercialization. Nations can apply solutions including: (i) support greater diffusion of iCTs to the private sector; (ii) Promote inter-firm networks that help spread technology and innovation; (iii) Build link between public bodies, research institutions, universities and the private sector; và (iv) Support high-tech startups.

(5) ***Improving access to finance***: Inadequate access to finance remains a major obstacle for many aspiring entrepreneurs, particularly in developing countries. Solutions to support startups approach funds include: (i) Improve access to relevant financial services on appropriate terms; (ii) Promote funding for innovation; (iii) Build the capacity of the financial sector to serve start-ups, (iv) Provide financial literacy training to entrepreneurs and encourage responsible borrowing and lending

(6) ***Promoting awareness and networking:*** Negative socio-cultural perceptions about entrepreneurship can act as significant barriers to enterprise creation and can undermine the impact of policy intervention in support of entrepreneurship. Nations can apply specific solutions, such as: (i) Highlight the value of

entrepreneurship to society and address negative cultural biases, (ii) Raise awareness about entrepreneurship opportunities; và (iii) Stimulate private sector-led initiatives and strengthen networks among entrepreneurs.

UNCTAD also provide an illustrative set of possible indicators that comply with the characteristics of relevance, availability, timeliness and comparability. The indicators help to monitor the effect of policy measures in the six areas of the Entrepreneurship Policy Framework. For example, the indicators to measure changes in the regulatory environment should monitor the level of administrative hurdles faced by enterprises. The indicators for SME and entrepreneurship finance should measure the willingness and capabilities of banks to support start-ups (UNCTAD, 2012).

3. Research method

In this research, a qualitative approach with the main method is used: collecting secondary data.

- Secondary data: programs, decisions, reports, etc on the official website of the Ha Noi and Ho Chi Minh People’s Committee, Department of Planning and Investment, Department of Information and Communication, Department of Science and Technologyin both cities, SIHUB, Ha Noi Center for SME Support, HBI-IT Incubator.

- Data processing method: Step 1, data collected from secondary data will be classified based on the six policy areas of UNCTAD's framework. Step 2, the authors will examine how the current startup policy framework in Ha Noi, Ho Chi Minh city is in compliance with UNCTAD framework and point out the similarities and differences between these cities’ frameworks.

4. Results and discussion

4.1. Ho Chi Minh City policy framework to support startup

Decision No. 844/QD-TTg of 18 May 2016, on Approval for “Assistance Policies on National Innovative Start-up Ecosystem to 2025” is the first document and the foundation for later policies at the central and local level. After Program 844 was approved, the city of Ho Chi Minh and Hanoi have been implementing many breakthrough solutions contributing to improving the business environment and creating favorable conditions for innovative startups.

In 2016, the People's Committee of Ho Chi Minh City signed Decision 4181/QĐ-UBND which Ho Chi Minh City designed a four-year program (2016-2020) to develop a startup ecosystem supporting small and medium-sized enterprises to enhance their competitive capacity and global integration. Program 4181 focuses on foundational activities for the comprehensive and systematic development of the city's entrepreneurship ecosystem in the long term. The program has 10 supporting projects for 02 main goals: promoting innovation in existing enterprises and developing the city's innovative innovation, to strengthen the internal resources of innovation through research development and application of science and technology. To realize this goal, the city established Saigon Innovation Hub (SIHUB) that was inaugurated in 2016, creating a co-working space to support the development of the local startup community. SIHUB’s mission is to support initiatives for innovation and startup businesses, acting as a catalyst and enabling the local government to provide a public platform for startup enterprises. Also in 2016, the People's Committee of Ho Chi Minh City signed Decision 5342/QD-UBND to provide support and incentives to innovative startups. Under this policy, individuals, groups, and startup businesses with projects related to the city’s priority fields will receive a support fund of up to VND2 billion (about US$90,000) over two years.[1]In 2017, Ho Chi Minh City DOST started SpeedUP, a fund of VND11.75 billion (about US$535,000), to invest in 14 startups all over Vietnam.

In order to improve the capacity of components of the innovative startup ecosystem, more than 3,000 individual/startup groups took part in knowledge and practical experience in developing ideas and evaluating startup products; 140 teachers from 20 universities were equipped with knowledge on entrepreneurship and innovation, 142 management staff have experience in Sweden, Finland, Korea, New Zealand, Australia. Thu Duc city and districts have formed hundreds of creative clubs at 265 schools; 12,300 teachers, and 103,656

[1] http://ipam.edu.vn/en/news-event/tin-hoat-dong/hoi-thao-khoa-hoc-lo-trinh-ve-tien-uom-tao-va-uom-tao-doanh-nghiep-cong-nghe-giai-doan-2015-2025-.html.

students of street schools in these districts were trained with STEM and boost creative thinking and passion for scientific research in schools; Connecting to a network of more than 200 startup mentors from SME Mentoring, VMI, Swiss EP, Startup Vietnam Foundation, VIISA, Shinhan Future's Lab, Your Student Support networks to advise and train on perfecting business models, market orientation for products, providing investment capital for potential projects.

The city has, directly and indirectly, supported nearly 1,840 start-up projects in the stages of product improvement, business model completion, domestic and foreign market connection, financial consulting, and idea development; organized more than 1,000 events connecting individuals, organizations, and startups with experts, advisors (Mentor), investment funds, markets through forums, conferences/workshops, financial consulting sessions, completing and developing ideas/creative start-up products; coordinated to organize more than 40 contests with over 3,000 participating projects, from which over 200 projects were selected to continue incubating and participating in innovative startup support programs. Some projects after incubation have continued to successfully raise capital from other investment funds or angel investors such as Teamup project which was acquired by an investment fund with a valuation of VND 15 billion (up 1.5 billion VND) times compared to the pre-support valuation), the SchoolBus project has successfully raised capital for the next phase of VND 1.8 billion (up 1.8 times compared to before receiving support), 689Cloud has successfully raised capital from angel investors for the next stage with a capital of 100,000 USD

- Communication and international cooperation with the local and international innovative start-up community: The innovative dual startup communication and building startup culture are carried out through thousands of articles and clips on the media about innovative solutions, science, and technology application models, typical startup stories of Ho Chi Minh City. In particular, the annual event "Week of Innovation and Entrepreneurship (WHISE)" since 2017, the City Startup and Innovation Award (I-Star) since 2018... opens up new opportunities to promote the city's innovative start-up ecosystem and attract more investments for innovative start-ups. At the same time, the city has attracted more and more innovation startup accelerator, businesses, and investment funds from Finland, the US, Korea, Canada, Singapore, Thailand, Israel, and Switzerland. , Australia, New Zealand, ... participate in the activities of the city's innovation startup ecosystem with specific programs such as: bringing Vietnamese startups to the world "Runway to the World", the cooperation of Quang Trung Software Company with International Accelerator Fund (IA) and MagRabbit-MR Company (USA), cooperates with Asian Development Bank, Shinhanbank, Lotte Group, Microsoft Vietnam.

The "boom" of startups in HCM has helped the number of startups in Vietnam to increase from 400 in 2012 to nearly 1,800 in 2015, reaching 3,000 in 2017 and an estimated 3,800 startups in 2019 and the number of startups in Ho Chi Minh City is making nearly 50% of those. From the beginning of 2019 until now, many Vietnamese startups have successfully called for capital with a total value of more than 670 million USD for about 50 deals, of which Ho Chi Minh City Ho Chi Minh City accounted for nearly half with 23 deals, equivalent to more than 300 million USD. [2]

[2] https://doimoisangtao.vn/news/tp-hcm-ang-tr-thnh-trung-tm-khi-nghip-sng-to

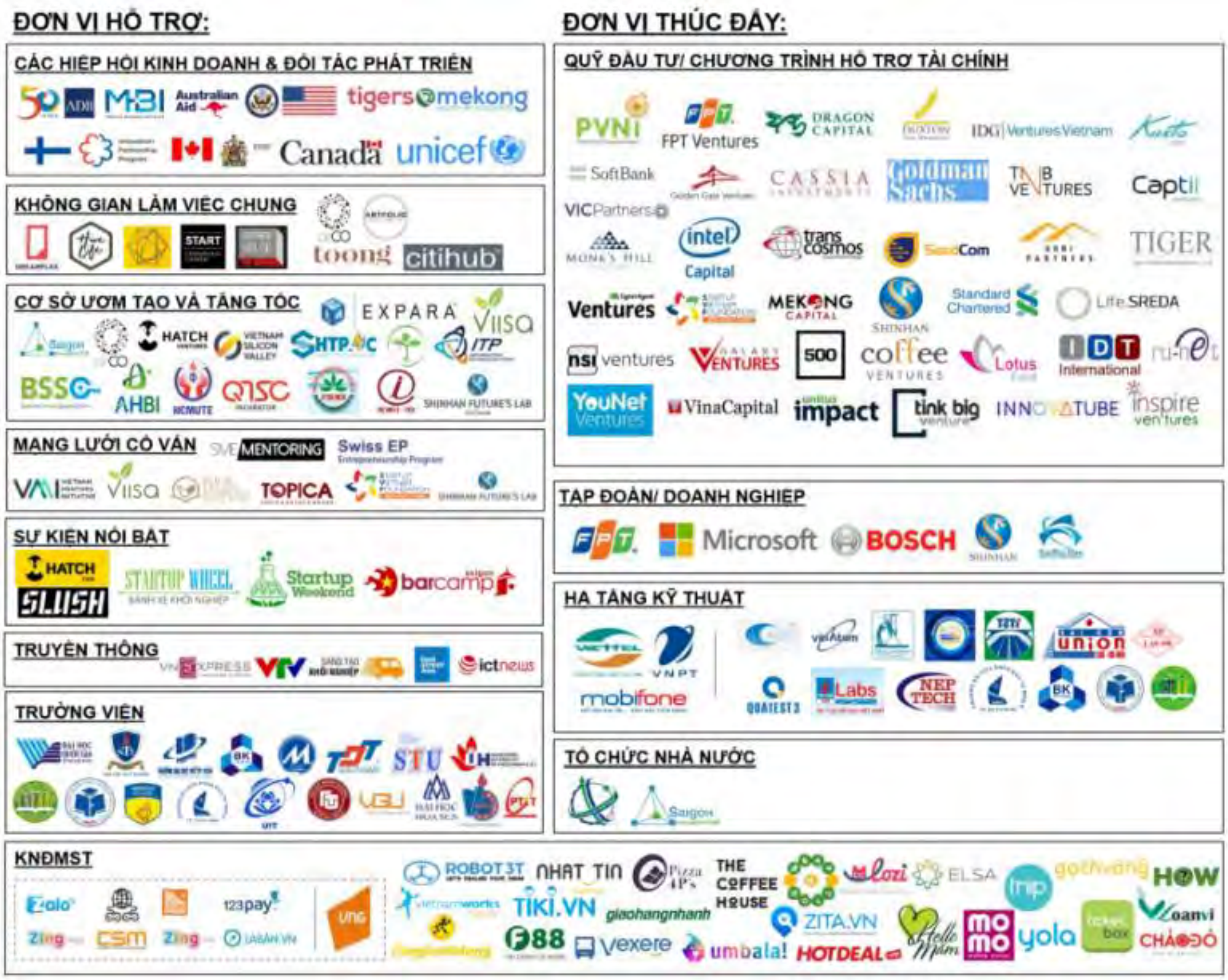

Figure 1. Ho Chi Minh City s startup ecosystem, source: SIHUB (2017)

At the beginning of 2021, The Ho Chi Minh City People's Committee introduced a project facilitating the development of its innovative start-up ecosystem during the 2021-2025 period, with a target of supporting 1,000 start-ups. This project is the only one in VietNam being based on the Hubconcepts (managing innovation ecosystem and hub). This project is hoped to put HCM City's innovative start-up ecosystem on par with the region, gradually becoming a cornerstone of activities and helping businesses improve productivity and sharpen their competitive edge. It also aims to develop a spearhead product of the southern hub, raising the rate of total factor productivity to 45-50 percent of its gross regional domestic product (GRDP). The project is expected to improve the capacity of 3,000 start-ups, assist 1,000 projects, and help 100 start-ups access venture capital by 2025. To meet such goals, seven major tasks have been devised, including infrastructure development, the introduction of services serving the start-up ecosystem, support for small- and medium-sized enterprises.

In order to implement Plan No. 1602/KH-UBND dated May 19, 2021 of the City People's Committee about "The year of building urban government and improving the investment environment" "Department of Science and Technology develops Plan No. 1286/KH-SKHCN dated June 17, 2021 with the theme of "commitment, responsibility and action" in which business is the center, Department of Science and Technology Technology introduces 8 programs to support businesses in the areas of quality productivity, intellectual property, applied research, technology development and innovationerprises (SMEs) and international cooperation.[3]

[3] http://startup.gov.vn/Pages/chi-tiet-tin-tuc.aspx?l=Tintucsukien&ItemID=508

Table 1. Ho Chi Minh City policy framework to support startup

Major policies	Supporting Schemes
Optimizing the regulatory environment	Administration refrom: cutting down procedure, online public services Tax, business registration fee
Enhancing entrepreneurship education and skills	Training Courses of knowledge on entrepreneurship and innovation creative clubs STEM Training courses for teachers, students Inspire (Mentor Training)
Facilitating technology exchange and innovation	INCUBATE, R&D&I BCBUID Tech-DEMO Saigon Innovation Hub,Sai Gon Hi-Tech Park, Agriculture Hi-tech Park, Quang Trung Software Park,
Promoting awareness and networking	CONNECT Tech-COFFE the annual event "Week of Innovation and Entrepreneurship (WHISE) the City Startup and Innovation Award The innovative dual startup communication and building startup culture
Improving access to finance	financial consulting The city's support fund, Supporting raising capital from investment funds and from angel investors SPEEDUP
Raise awareness about entrepreneurship and establish affiliate clusters, industry clusters, and supporting associations	Media campaigns about innovative, S&T, startup stories of Ho Chi Minh City, the annual event: WHISE, I-Star SIHUB Regional linkages

4.2. Ha Noi policy framework to support startup

3 years later than Ho Chi Minh City, in 2019, the Hanoi People's Committee approved and issued the project to support innovative startups in Hanoi for the period of 2019 - 2025 at Decision No. 4889/QD-UBND (Project 4889). The support policies under the project are aimed at individuals and groups of individuals with startup projects; innovative small and medium-sized enterprises (SMEs); organizations supplying services, technical infrastructure, media, and investment for innovative startups; and domestic and foreign investment funds. The approval of the project targets to improve and develop the startup ecosystem and complete the mechanisms and policies to support and develop startup activities across Ha Noi. At the same time, it aims towards supporting the formation of 2-3 business incubators and startup spaces, while encouraging the establishment of 3-5 private startup investment funds and the attraction of foreign investment funds. Accordingly, the project has set a goal of supporting the development of 500 innovative startup projects by 2025, 150 of which can commercialize their products, with at least 20% successfully calling for investment from venture capital funds and conducting mergers and acquisitions totally worth around VND500 billion (US$21.5 million).

Regarding optimizing the legal environment, many programs assisting SMEs have been issued in recent years in Ha Noi: Plan No. 83/KH-UBND, dated April 22, 2020, implementing Resolution No. 02/NQ-CP, dated January 1, 2020 of the Government, Ha Noi People's Committee has set a goal of striving to maintain the PCI index in 2020 in the group of 10 leading provinces, cities in the country.

In order to strengthen entrepreneurship education and skills development, Ha Noi has organized a variety of activities such as: fostering business knowledge for SMEs; Entrepreneurship and management training; Training courses for CEO and startup mentors... By 2020, 14 excellent start-up projects in Hanoi Hib-IT have been awarded. In 2019, SME Support Center organized 02 courses with 120 startups; 07 workshops and forums on innovative start-ups. In 2021, the Center also plans to organize many courses, seminars, and forums on innovative startups for startups if the Covid pandemic is controlled.

Creating conditions for technology transfer and exchange, The City has committed to having special investments in science and technology over the years. The city also focuses on developing science and technology infrastructure, especially high-tech parks, software parks, information technology parks, transaction centers, technology transfer... Despite only being formed in the past decade, Hanoi's Startup ecosystem is basically completed with important components. Also, Hanoi has supported the establishment of several high-tech zones with a certain level of inter-sectoral linkage and many business incubators in the fields of food, IT, mechanical engineering has been established in the city. Hanoi Innovative Enterprise Incubator of Information Technology (HBI-IT) was opened and officially put into operation in 2017 as the first incubator in the field of IT under the management of the Hanoi Department of Information and Communications. After nearly 5 years of operation, HBI-IT has attracted many startup projects to participate in the Incubator through many activities such as investment promotion conferences, seminars, networking. Many startup projects have been supported to raise funds from domestic and foreign investors and business development. In the summary report, from 2017 to 2019, Hib-IT has incubated 24 projects, of which 19 projects are still in operation (79.17%), 6 projects are in Series C funding rounds. Successfully, 19 projects are in the process of negotiating with investment funds. In addition, the Department of Science and Technology has also implemented many programs to support intellectual property; measurement and quality; technology transfer and exchange, etc.

Table 2 Hanoi 's startup ecosystem

No.	Group	No
1	Incubators	18
2	Accelerator	9
3	Co-working space	34
4	Venture	24
5	Angel Investor	32
6	Mentor /Coach	293
7	Startups	~ 2970[4]

Source: startup.gov.vn

In terms of raising awareness about startups, the City has launched many campaigns on the media, organized many forums, Hanoi Innovation Summit and Contest... In addition to the opening of the Hanoi Startup Ecosystem Portal - startup city.vn with more than 800 enterprises, the City has also established a network of Accelerator to improve the effectiveness of supporting businesses in the city.

Table 3. HaNoi policy framework to support startup

Major policies	Supporting Schemes
Optimizing the regulatory environment	Administration refrom: cutting down procedure, online public services Tax, business registration fee
Enhancing entrepreneurship education and skills	Training courses for startups, SMEs about BM, finance Training coursers for Mentor

[4] https://tuoitrethudo.com.vn/cong-dong-khoi-nghiep-sang-tao-ha-noi-co-nhieu-diem-sang-180035.html

Facilitating technology exchange and innovation	HBI-IT Incubator high-tech park in Hoa Lac The city Funds for startups with technology and innovation
Promoting awareness and networking	Hanoi Startup Ecosystem Portal - startupcity.vn Network of Accelerators
Improving access to finance	financial consulting The city's support fund raise capital from investment funds and from angel investors
Raise awareness about entrepreneurship and establish affiliate clusters, industry clusters, and supporting associations	Media campaigns Forums, Hanoi Innovation Summit and Contest the Hanoi Startup Ecosystem Portal - startup city.vn

4.3. Discussion

After a short glance through the policy frameworks for supporting startups in Ha Noi and Ho Chi Minh city, this part of the paper aims to compare the frameworks so as to show the similarities and differences between the frameworks between these two cities. A brief comparison of the frameworks in the two cities is presented in Table 4 below.

Firstly, according to Table 4, both cities' startup support policy framework basically covers all six policy areas in accordance with UNCTAD's Framework. From the comparative perspective of the frameworks, Ha Noi and Ho Chi Minh City have advanced their policy frameworks for promoting startups. However, the component policies of each policy area have been completed yet, including: (1) measuring results, ensuring policy learning (2) embed entrepreneurship in their formal education systems yet, especially at secondary and high school levels ; (4) Building bridges between public bodies, research institutions, universities and the private sector in both has been ineffective; (5) Access to finance remains one of the top constraints for startups in the two cities (lack of regulation about venture capital funds, crowdfunding…) (see detail in Table 4).

Secondly, the trend in the two cities is to pay attention to minimize regulatory hurdles for business start-ups, reform administrative procedures to reduce time and costs such as online business registration, tax payment. Also, the current policies and programs have a strong technology and product development orientation while most local startups are facing prominent challenges including innovation capabilities and the ability to access finance and entrepreneurship skills (Austrade, 2019).

Thirdly, entrepreneurship education and skills are advised to be officially embedded at school should be developed in order to help prospective entrepreneurs to accumulate skills and competencies throughout life (UNCTAD, 2012). However, in both cities, the training programs on hard skills have focused on supporting startups at earlier stages in setting up their businesses rather than entrepreneurship education and skills at all levels in the long term.

In addition to the similarities between these frameworks, there are some significant differences in developing and implementing initiatives in the two cities.

The first, both cities' entrepreneurship strategies are coherent with the national policies (Project 844). However, Hồ Chí Minh City has launched breakthroughs and create a competitive advantage compared to other centers in both Viet Nam and the region. For example, as part of an initiative by Ho Chi Minh City, The Saigon Innovation Hub (SIHUB) was officially opened on August 6, 2016. The facility works to assist the startup community toward making the locality a "startup city". SIHUB is a catalyst for the city's development and is serving as a dialogue channel among businesses, local officials, and policymakers to discuss development opportunities. SIHUB aims to integrate domestic and international resources to boost Vietnam's economic development by focusing on measures to promote international integration, startups, and innovation.

By 2018, SIHUB had established ties with the innovative and startup communities in South Korea, Malaysia, Germany, Thailand, Finland, the USA, and Taiwan (SIHUB, 2017). In addition, the city has invested and effectively exploited incubators at universities, Sai Gon Hi-Tech Park, Agriculture Hi-tech Park, Quang Trung Software Park, etc, that contributes to building a sustainable startup ecosystem. The city also has the initiative to promote innovation activities in the public sector. This is a system of tasks to support sustainable cohesion and cooperation for mutual development between enterprises, universities - institutes, the state, accelerator, venture. Also, Ho Chi Minh City has been supporting other provinces and cities in the region to develop these locals' innovation ecosystems and promote regional linkages in support of start-ups.

Meanwhile, the policies of Hanoi city are basically repeating the policies of the Government (Project 844) and lacking initiatives or breakthroughs in supporting startups even though the city has many competitive advantages and potential to become a Viet Nam innovation center: 82% of the number of laboratories, more than 65% of the total number of scientists in the country, more than 70% of science and technology organizations, universities and institutes, that are located at Ha Noi. According to Startup Blink report 2021, The Startup Ecosystem of Ho Chi Minh City is ranked at number 179 globally and shows a positive momentum increasing 46 spots since 2020. Ho Chi Minh City also ranks at number 1 in Vietnam, and 6 in South East Asia. The Startup Ecosystem of Hanoi is ranked at number 191 globally, and increase 5 spots since 2020, at 2nd in Vietnam, and 7th in South East Asia (StartupBlink, 2021). This result partly shows how the effectiveness of these cities' current startup policies. It seems that Ho Chi Minh City is better than Ha Nôi regarding making use of its advantages.

The second, being different from most locals in Viet Nam including Ha Noi, Ho Chi Minh City's policies of the ecosystem and supporting startups are based on theory and evidence. The City has hired Global Entrepreneurship Monitor (GEM) to conduct an assessment of the City's Ecosystem to analyze the strengths and weaknesses of the ecosystem, thereby selecting key areas and proposing the most appropriate and feasible support policies, etc. In the project facilitating the development of its innovative start-up ecosystem during the 2021-2025 period, the city also continues to apply the scientific basis of the Hubconcepts (Managing Innovation Ecosystems and Hubs) to develop support policies that are suitable in new contexts. While, in project 4889, there was no mention about which evidence or theory was applied to develop the ecosystem and policies to support startups in Ha Noi. In addition, policy evaluation activities have not been paid adequate attention. Until now, there has been no official and comprehensive policy evaluation of Ha Noi's startup policy framework conducted. Therefore, limitations and gaps in the current policy framework have not yet been clarified and made adjustments timely

The third, although by law a startup is an SME, it has specific characteristics, so it is necessary to have separate policies compared to other SMEs. However, in some current policies in Hanoi, startups are treated like other SMEs. On the contrary, when developing the project Ho Chi Minh city has clearly defined support policies between SMEs and startups. This makes policy implementation easier and prevents resource waste.

Table 4. A brief comparison of the frameworks between Ha Noi and Ho Chi Minh City

Policy famework for support startup (based on UNCATD framework)		**Ha Noi**	**HCM City**
	Policy objectives		
1	***Developing startup strategy***		
1.1	*Identify country specific challenges*	✓	✓
1.2	*Specify goals and set priorities*	✓	✓
1.3	*Ensure coherence of entrepreneurship strategy with other national policies*	✓	✓
1.4	*Strengthen the institutional framework*	✓	✓

Policy famework for support startup (based on UNCATD framework)		**Ha Noi**	**HCM City**
1.5	*Measure results, ensure policy learning*		
2	***Optimizing legal environment***		
2.1	*Examine regulatory requirements for start-ups*	✓	✓
2.2	*Minimize regulatory hurdles for business start-ups where appropriate*	✓	✓
2.3	*Build entrepreneurs' confidence in the regulatory environment*	✓	✓
2.4	*Guide entrepreneurs through the start-up administrative process and enhance the benefits of formalization*	✓	✓
3	***Enhancing entrepreneurship education and skills development***		
3.1	*Embed entrepreneurship in formal and informal education*		
3.2	*Develop effective entrepreneurship curricula*		
3.3	*Train teachers*		✓
3.4	*Partner with the private sector*	✓	✓
4	***Creating conditions for technology transfer and exchange***		
4.1	*Support greater diffusion of ICTs to the private sector*		✓
4.2	*Promote inter-firm networks that help spread technology and inovation*		✓
4.3	*Build bridges between public bodies, research institutions, universities and the private sector*		
4.4	*Support high-tech start-ups*	✓	✓
5	***Provide financial assess support***		
5.1	*Improve access to relevant financial services on appropriate terms*		
5.2	*Promote funding for innovation*		
5.3	*Build the capacity of the financial sector to serve start-ups*		
5.4	*Provide financial literacy training to entrepreneurs and encourage responsible borrowing and lending*	✓	✓
6	***Raise awareness about entrepreneurship and establish affiliate clusters, industry clusters, and supporting associations***		
6.1	*Highlight the value of entrepreneurship to society and address negative cultural biases*	✓	✓
6.2	*Raise awareness about entrepreneurship opportunities*	✓	✓
6.3	*Stimulate private sector-led initiatives and strengthen networks among entrepreneurs*		✓

5. Conclusion

The policy framework is considered the most crucial factor in the ecosystem for the development of startups. Based on the Entrepreneurship Policy Framework (UNCTAD, 2012), this paper compares the policy frameworks for startups between the two biggest startup communities in Viet Nam: Ha Noi and Ho Chi Minh City. In recent years, the two cities have been making great efforts to assist the growth of startups. However, there is a significant difference in the elements and the effectiveness of implementation in promoting startups as well as challenges concerning the policy frameworks. The challenges faced by Ha Noi include a lack of theory base in developing a coherent and holistic policy framework to support startup and a lack of initiatives/breakthroughs in order to make use of Ha Noi's advantages. Meanwhile, as usual, Ho Chi Minh City has expressed its creatives and dynamic through selecting a systematic approach in formulating start-up support policies, choosing a model being appropriate to the city's conditions, launching breakthroughs. This is a meaningful lesson not only for Hanoi also for other locals. However, Ho Chi Minh City still needs more efforts in improving access to finance, effectively exploiting networks between stakeholders in the ecosystem in order to realize the goals set out in the Project in the period of 2021-2025 and promoting systematic digital transformation that is the best way to help Ho Chi Minh City to become a center connecting a chain of such cities in the region - in order to quickly develop and make use of its available capacity

In general, both cities, the coming times, must have coherent and holistic policy measures and refining these cities' frameworks, including administration reforms, simplifying the process for requesting support, improved access to finance and markets, facilitated technology exchange and innovation programs and support networks (enterprises, institutes, universities, investors...). Also, both centers should invest in entrepreneurship education and skills to build an entrepreneurial mindset and entrepreneurial skills, which is critical, not only for innovative entrepreneurship but also for employability, especially in the unpredictable future. Also, the cities should focus on monitoring and evaluation of policies that can guide revisions in the design and delivery of policies, lead to quick action, in particular in times of the Covid-19, assist in identifying gaps and priorities and assess the impact of entrepreneurship on the achievement of social-economic development in both cities.

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POLICY TO IMPROVE THE EFFICIENCY OF INCUBATION SERVICES AT TECHNOLOGY INCUBATORS TO PROMOTE THE DEVELOPMENT OF SCIENCE AND TECHNOLOGY FIRMS IN VIETNAM

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ABSTRACT

The concept of Technology Business Incubators (TBIs) and Science & Technology (S&T) firms have appeared in Vietnam for more than ten years. In several developed countries, TBIs play an important role in transferring scientific research results to completed products. TBIs also help establish S&T firms combined with a business idea to provide high-quality products to society. However, incubation services S&T firms are using from TBIs in Vietnam have not been evaluated comprehensively yet. Therefore, this article focuses on sharing some findings and observations regarding the current situation of providing business incubations services of some TBIs in Vietnam. Additionally, assess the legal framework and policies to support TBIs and S&T firms in Vietnam, then give some recommendations for TBIs and the government to improve the efficiency of incubation services and promote the progress of S&T firms.

Keywords: Technology business incubator, Science and technology firms, Entrepreneurship, Commercialize research results, Technology transfer**.**

1. Introduction

In the national innovation system, enterprises, especially small and medium-sized enterprises (SMEs), show their essential role in connecting the Government to Research and Development (R&D) organizations (Universities, research institutes) and the market. The SMEs in the developing countries, including Vietnam, seems to lack the resources to scale up and develop effectively. These countries have found a lot of difficulties while innovating SMEs, creating job opportunities, and benefiting from this model. Many studies have shown that technology business incubators have been effective for innovating and creating new S&T firms.

The business incubator is a comprehensively designed model to support and create favorable conditions for startups and newly established businesses. Besides, it helps S&T enterprises develop through shared services, training, financial support, equipment, and workshops. Incubator activities have made new opportunities for strengthening the links of SMEs with domestic and foreign partners. The business incubation model has established a coherent business service system instead of single service support models. Through business incubators, together with the establishment of information sharing systems, the linkages between incubators and other stakeholders have been strengthened, contributing to improving operational capacity, competition for businesses in the context of integration. It is also an important component of the entrepreneurial ecosystem (Fred et al., 2001).

According to the National Business Incubation Association, there had been about 7,000 business incubators (as of October 2012). The USA has about 1,250 incubators (in 1980, there were only 12 incubators). In 2001, TBIs in the North America area supported 35,000 S&T firms generating over $7 billion in revenue. The cost to create a new job in a TBI was $1,100 compared to $10,000 outside. It was estimated that $1 invested in incubators and incubated S&T firms would generate around $30 in sales tax. The survival rate of the incubated companies is over 90%, which is very high compared to the 20% of the enterprises that can stand after three years outside the incubator. Europe also has over 1,200 incubators that create around 30,000 new jobs every year (Hanadi et al., 2013).

According to the National Agency for Technology Entrepreneurship and Commercialization Development (NATEC) data, as of 2018, Vietnam has about 51 Technology Business Incubators (TBI). 21

TBIs are named as technology business incubators, 30 organizations have the function of incubating S&T firms. In recent years, Vietnam's TBI ecosystem has appeared some prominent names such as Vietnam - Korea Incubator; Vietnam Silicon Valley; Center for Innovation and Business Incubation – Nguyen Tat Thanh University; Technology Startup Ecosystem – Vietnam National University of Ho Chi Minh City; National Center for Technology Progress – NACENTECH; Rehoboth-Innovation Hub. (Dao Thanh Truong, 2017a).

However, the possible conditions to provide services such as management, infrastructure, facilities, financial support capacity, and business environment for technology business incubation activities are still limited. Therefore, this article studies the current situation of providing incubation services at Vietnam's TBIs. Besides that, the authors want to analyze the limitations on TBIs' service capacity and find out limitations in policies for supporting the development of TBIs. Finally, supposing some recommendations in promoting TBI activities in Vietnam.

2. Literature review

2.1. Definition of technology business incubators

According to the United Nations Industrial Development Organization (UNIDO, 1999), "Technology Business Incubator (TBI) is an organization that systematically conducts the process of creating new businesses, providing them with a comprehensive system and enjoys services to operate successfully." TBIs do not necessarily include all equipment and services, but through a combination of external service providers' resources to ensure that businesses in TBI can operate.

In the "*Manual on the Technology Business Incubator,"* UNESCO (2000) stated that TBI aims to create technology-focused firms. In essence, a TBI is an environment. University with a management team, providing space, sharing equipment, consulting, training, specific information for selected businesses, accessibility to university studies, integrated financial and technical support services at an affordable cost. This TBI's characteristic is carefully selecting the potential S&T firms, supporting the business plans preparation and access the capital funding; training management skills in small firms; and after the incubation period, the successful firms can be graduated and left the TBI.

The United Kingdom Business Incubation (UKBI, 2003) defined "incubation is the physical manifestation of the process that encourages people to begin to form and develop a business, providing for that business resources for success and creating an environment for business growth."

Paying great attention to TBI, UNESCO (2006) continued to publish "Technology Business Incubation: A toolkit on Innovation in Engineering Science and Technology." In this book, TBI is defined as a toolkit that provides incubation services to the selected S&T enterprises and entrepreneurial teams in S&T projects at the beginning stages to support them commercialize their research results and establish sustainable spin-off or startups firms

In Vietnam, the terms "Technology Incubation" and "Technology Business Incubation" have appeared in legal documents since 2006 by Technology Transfer Law (TTL). TTL was edited and updated in 2017. Clause 12, article 2 of TTL 2017 stated that "Technology Incubation is the process to create, complete, commercialize technology from an idea or research result or incomplete technology by activities such as supporting necessary technical infrastructure, resources, services." Moreover, Clause 13, article 2 indicates that Technology Business Incubation is the establishment and development of S&T enterprises through supporting necessary technical infrastructure, resources, and services.

2.2. Process of business technology incubation

Clause 13, Article 2 of TTL 2017 about Technology Business Incubation stated that: "Science and technology enterprise incubation is the process of forming and developing it through various activities support with necessary technical infrastructure, resources, and services." During this period, S&T firms will receive full support from the TBIs for facilities and business organizations to overcome the initial difficult period and develop steadily (usually lasting 1-3 years).

In the report *"Mixed-use Incubator Handbook: A Startup Guide for Incubator Developers,"* Mark Davies (2009) pointed out that it is necessary to understand the startup cycle of business to know about incubation activities. This process is included three stages: pre-incubation, incubation, and post-incubation (Figure 1)

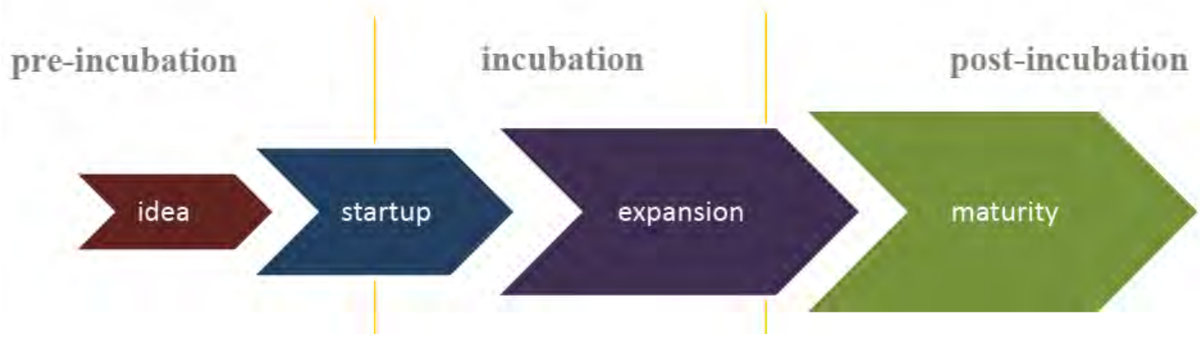

Figure 1. Start-up cycle of a business (Mark Davies, 2009)

Table 1 below describes specifically the roles of these stages:

Table 1. Start-up cycle of a business description (Mark Davies, 2009)

Germinate Pre-Incubation	Pre-Incubation is the very earliest stage of intervention, where you are helping an individual with an idea. Some incubators can afford this kind of activity where they can access public support or private risk capital. This is often required in high-tech innovation industries and with incubators closely attached to Universities. Sometimes this innovation comes out of need rather than an opportunity and is very risky.	Expensive Risky Public
Incubate Incubation	Incubate stage is where an idea has graduated to a plan, with a team, and operations have begun. Incubators can help refine the plan, build the team, provide resources, and invest in the company. It is also a relatively early intervention before the company is profitable. Companies are often not able to pay for services and assistance in general. Also known as '**acceleration,**' this focuses on more mature startups (Companies can pay for services and need targeted assistance).	Startups Expensive Part subsidized
Host Post-Incubation	Post-incubation is where a profitable company merely seeks a particular type of facility. An incubator requires no intervention, but we include it here as we feel many incubators act as hosts to some companies for a while. This relationship with mature companies can be a crucial strategy to assist with and subsidize their other programs.	Mature Safe

2.3. Definition of S&T firms

Recently, a variety of concepts have been used to define S&T firms. For example, businesses rely on new technologies (Autio, 2000; Fontes & Coombs, 2001); new technology-based enterprises (Dahlstrand, 1999); SMEs are technology-intensive (Keeble et al., 1998); High-tech SMEs (Oakey, 1991); startups units that develop new products based on knowledge and skills embodied in the engineering and natural sciences (Candi & Saemundsson, 2011); Small and new enterprises which have strong R&D activities (Maine et al., 2010). The authors use the concept of S&T firms around the keywords: new knowledge enterprises, new enterprises, independent enterprises, technology-intensive enterprises, and small and medium enterprises. It is important to note the concept of "new" with various interpretations. Some authors apply the term to refer to technology newness (Fontes & Coombs, 2001) or simply adapt it to entrepreneurship (Rickne & Jacobsson, 1999). Most of the studies use the term "new" to denote both startups and technological novelties.

Therefore, understanding S&T enterprises as academic satellite enterprises (spin-off/spin-out), knowledge-based, science-based, technology-based enterprises (high, new, small and medium, standalone) is commonly used. Founders of S&T enterprises are entrepreneurs, scientists, or scientists who hold technological know-how capable of creating new products and services with fast growth potential.

For State documents of Vietnam, Article 2 of Decree No. 96/2010/ND-CP dated September 20, 2010, of the Government, S&T firm is understood as an enterprise whose "main activity is the production and business of all kinds of products and from the results of scientific research and technological development, which are legally owned and used by enterprises; carry out S&T tasks. S&T enterprises produce and trade in other services according to the provisions of law."; Clause 4, Article 3 of the Law on High Technology stipulates that a high-tech enterprise manufactures high-tech products, provides high-tech services, and conducts high-tech R&D activities. According to points a and b, Article 75 of the Law on Investment and Article 1 of Decision No. 19/2015/QD-TTg dated June 15, 2015, of the Prime Minister, a high-tech enterprise is a technology and manufacturing high-tech products on the State's list of high-tech products encouraged for development.

3. Methodology

This study is descriptive qualitative research. The authors used some research methods: document study, in-depth interview, survey through questionnaires for TBIs and S&T firms. The content of the methods is described in detail as follows:

Document research: Collecting, analyzing relevant domestic and foreign documents from sources of international, Vietnamese journals, monographs. The document research method is carried out based on documents related to the incubation and development of S&T firms.

In-depth interviews: In-depth interviews were conducted with policymakers and implementers, experts on innovation activities, Science and technology managers and representatives of incubators; science and technology enterprise

Survey through questionnaires for incubators: The survey is conducted to give an overview of the current operating status of incubators, identify difficulties in their operation incubators in the current period. The number of incubators surveyed is 30.

Survey through questionnaires for S&T firms participating in incubation: This object group includes companies that have been and will be participating in incubators.

4. Result and Discussion

4.1. Experiences in developing TBI services of the world

Since the 1980s, technology business incubation has become one of the leading concerns in technology and innovation policy in North America, Europe, and some developed countries in Asia, largely due to the growing importance of SMEs, especially in the field of S&T. Services provided by TBIs around the world are intended to help S&T firms exploit and commercialize scientific research results. These groups of services can be divided into (1) Administrative/office, (2) Infrastructure organization, (3) business support, (4) access to finance (financial support), (5) network construction, (6) technical services (such as Supporting education and knowledge access; Branding development support) (World Bank, 2010). The groups of incubation services are described specifically in Table 2.

Table 2. Group of incubation services description

Group of incubation services	Description
Administrative/office	Administrative/office service is a combination of support services for completing the company's main functions performed by other departments.

	Boards and other departments are in charge. Some of the primary roles of this kind of service are as follow: - Acting as the center for receiving, communicating information, and coordinating the firm's operational procedures - Playing a role as the center for planning and controlling daily activities (targets, norms, processes)
Infrastructure organization	- TBIs facilitate S&T firms to rent or access specific facilities such as laboratories, specialized equipment, showrooms, etc. - Infrastructure services can be considered as basic services of a TBI. TBIs may invest in equipment to provide these services or cooperate with universities, research institutes, or other S&T enterprises with R&D departments.
Business support	- Owners of S&T firms always require the technical know-how to be developed and commercialized into highly innovative products. - Support for the management of TBIs starting with evaluation, selecting the firms, and reviewing their business plan. TBIs also support marketing provided by third-party support. - The incubator provides additional support services related to intellectual property advice, transfer, merger, licensing agreement, or these services may be provided from the centers. Consulting centers in universities, businesses, law offices at reasonable prices.
Financial support	- The main task of the TBIs is to minimize the lack of capital for S&T firms in the formation and development stages. This shortage is solved by creating a bridge to access capital sources between S&T firms and financial investors. - TBIs by themselves can also establish a venture capital fund based on attracting their capital or external private capital sources to become an investment channel for S&T firms were incubated
Community connection and network establishment	- Incubators can organize investment forums/conferences, including potential investors and business owners who are using services at TBIs. - Besides that, the TBIs also focus on establishing a network of entrepreneurial communities, including Universities, S&T firms, Incubators, Investors, Researchers, Students. It is very important because it not only shares tangible resources (equipment, human resources, finance) or intangible resources (knowledge) but also promotes the national entrepreneurship spirit, strengthen the capacity and opportunities to interact with the entrepreneurial environment for young people
Supporting education and knowledge access	- TBIs provides training services as an activity to enhance the long-term development capacity of S&T enterprises. TBIs will organize training courses on basic skills related to business management, human resource management, technology management, etc., so that companies can have a solid foundation while running operations. The knowledge resources can also be provided via a library of information on S&T or experts that the TBIs can connect with for S&T firms.
Branding development support	- Brand positioning is the factor that helps companies improve their competitiveness and reach out to customers. However, when SMEs (Including S&T firms) are newly established, they often do not pay attention to this factor, therefore bringing a relatively large cost burden for new firms.

As the World Bank (2010) report shows, the function of incubators is to assist companies in completing their projects and make them possible commercialization. TBIs have been providing projects with services to accomplish this, such as:

- Assist in the implementation of technology and marketing feasibility studies based on ideas and preparation of R&D plans
- Assist in recruiting and managing R&D staff;
- Provide appropriate facilities for the implementation of the project, including plant, equipment, and administrative facilities;
- Professional guidance, orientation, and management;
- Secretarial, administrative, maintenance, purchasing, accounting, and legal services;
- Assist in finding investment capital and prepare for commercialization and marketing plan

The following authors would like to introduce some experiences of the USA and France in promulgating policies to promote the development of technology business incubation services.

4.1.1. The experiences of the USA

In the US, providing complete and comprehensive services has led to the emergence of successful industrial clusters, the formation of specific industry TBIs, and close links with US universities. Some lessons from the US can be summarized as follows:

Firstly, TBI models in the US are very focused on commercialization and marketing, R&D plan, financial accounting. Besides, TBIs in the US have created operation and sustainable development for startups. According to the survey results of the World Bank (2010), the failure rate of startups with more than five years of operation at TBIs in the US is 6-9%, much less than the rate 32% of startups did not participate in TBIs.

Secondly, the organization of TBIs in the US is very clear and rigorous, sponsored by individuals or business sponsors. Therefore, many businesses that hire services at TBIs have the opportunity to access venture capital funds. Venture capitalists created the fund, they are carefully selected, and only startups with good growth potential receive funding. Successful TBIs have many S&T firms using the services and are funded by venture capital funds.

4.1.2. The experiences of France

The spectacular growth of TBIs in France is mainly due to the government's strong support by introducing favorable policies and operating funding. The policies of the French Government help not only TBIs and entrepreneurs but also businesses are participating in the incubation also have financial incentives.

To activate TBIs, the French government strengthened several activities to support businesses in TBI, such as technical and management consulting services, by expanding the scope of service provision and hiring skilled technology incubators.

The French government also professionalized technology incubation management systems, perfecting the selection process by inviting outside experts to participate in selection committees. Selection criteria focus on commercialization opportunities rather than technical competence.

Linking the network of TBIs is also an important policy of the French government to exchange management information and knowledge. TBIs catalyze to strengthen the partnership between the higher education sector and the industrial sector; while enhancing the establishment of new S&T firms from universities, industry, and research institutes.

In addition, the French government also encourages TBIs to promote the globalization of incubation through international cooperation with foreign TBIs to reach out to international markets.

4.2. Overview of types of S&T firms using incubation services at TBIs

Among S&T firms participating in incubation at TBIs (See Table 3), which were surveyed, the most field of enterprise is information and communication technology, with 221 (33%); the number of hi-tech agriculture is 99 (14.8%); food processing technology accounted for 12.4%. Other fields such as mechanical and automation take up a proportion of 4.8%, and new material technology has a ratio of 4.3%. It can be seen that the field of information and communication technology has many advantages such as fast incubation time, easy success; High-tech agriculture is a field of interest to many individuals/businesses and research organizations.

Table 3. Rate of the fields of S&T firms participating in incubation (Source: Survey data)

Fields of S&T firms participating in incubation	Quantity	Percentage
Information and communications technology	221	33
High-tech agriculture	99	14.8
Food processing technology	83	12.4
Biotechnology	74	11.1
Environmental technology	66	9.9
Multidisciplinary	65	9.7
Material technology	29	4.3
Automation mechanics	32	4.8

4.3. Status of incubation support services to promote the formation and development of S&T firms in Vietnam

4.3.1. Administrative offices services.

Office/administrative services are one of the basic business services. The following table is the result of a survey on the level of use of administrative/office services by S&T firms

Via the survey result, almost TBIs provide administrative, office, and communication support services and firms are interested in using this service. The specific number is as follow:

- Administrative services, only 9% of firms participating in the survey do not use it, 42% use regularly, and 49% of enterprises use it occasionally.

- Office support services, 49% of businesses use the service sometimes, 44% use it regularly, and not at all.

- Regarding communication support services, 11% of surveyed enterprises do not use this service; The frequency is 44%, the occasional level is 45%.

Table 4. The usage rate of Administrative offices services (Source: Survey data)

Type of services	Frequently used	Occasionally used	Not used
Administrative support	42%	49%	9%
Office support	44%	49%	7%
Communication	44%	45%	11%

4.3.2. Infrastructure organization service

Through the survey result, the service of organizing infrastructure is also used by S&T firms regularly. Especially the services of hiring telecommunications infrastructure, conference rooms, office rooms, devices because these services are the basic and important demand of firms. The infrastructure organization services used frequently by S&T enterprises with the highest proportion are workspaces renting (89.5%) and telecommunications and internet infrastructure (85.3%). Next is office equipment services (83.2%), and up to 65% of TBIs provide warehouse renting service. Generally, about 60% of S&T firms need to use infrastructure organization services

Table 4. The usage rate of Infrastructure organization service (Source: Survey data)

Method of Infrastructure organization services	Quantity	Percentage
Rent a workspace	383	89.5
Telecommunications and internet infrastructure leasing	365	85.3
Office equipment rental	356	83.2
Laboratory rental/specialized equipment	347	81.1
Conference room rental/audio-visual equipment	336	78.5
The exhibition hall for rent	309	72.2
Warehouse for rent	278	65.0

4.3.3. Business support services

Besides infrastructure organization services, business support services are also frequently used by S&T firms in TBIs.

The survey results show that the most frequent service used by S&T firms is business models, business strategies, business plans development, logistics, and legal support. The reason why is because when S&T firm's entrepreneurs have an idea for a business, they have not identified problems related to business model development, issues to apply for licenses, and intellectual property. They also need to source raw materials for logistics services to develop and complete products, machinery, and equipment.

Table 5. The proportion of business support services used by S&T firms in TBIs

(Source: Survey data)

Method of business support services	Frequently used (%)	Occasionally used (%)	Not used (%)
Support to develop business model/ business strategy/ business plans	78.5	17	4.5
Logistics services supports	75.5	18.3	6.2
Legal support (business license/intellectual property registration, etc.)	72.3	22.3	5.4
Support commercialization of technology (finish products/prototypes in line with market needs)	70.1	24.2	5.7
Collect and analyze market/customer data	68.3	24.5	7.2
Consulting on business management	66.5	28.3	5.2

4.3.4. Financial support service

Financing sources for S&T Firms change throughout the life of the business. The financial requirements of S&T Firms and the difficulties in accessing finance change as businesses go through different stages of development (Bank of England, 1996). A study by the Bank of England (1996) on financing for S&T Firms concluded that: S&T Firms face greater financial difficulties than small and medium enterprises. The authors argue that although S&T Firms grew faster, the proportion of unfinanced S&T Firms was higher than that of SMEs in general. To explain this, the authors gave the following reasons: (1) Higher level of risk; (2) Lower management skills and commercial ability of owners or founders of S&T enterprises; (3) More difficult to assess the prospects of a product or service; (4) Shorter product life cycle; and (5) Higher uncertainty when applying R&D results.

Therefore, participating in incubators is an effective solution to help both individuals and companies access capital, get the knowledge of successful startup businesses, get great consultation on policies, legal, etc.,

The survey results of S&T firms who use financial support services are: Services related to finance and access to capital are used frequently (over 80.0%). The ability to access funding and financial skills of businesses is a problem that S&T firms can't solve by themselves. Raising capital through accessing subsidies, government support, or donors has the highest use rate with 91.8%, raising capital through approaching venture capitalists (90.2%); and the third is administrative/accounting/financial services (90.0%). In addition, S&T firms also have a demand for capital support from TBIs. However, it has not been met yet.

There is the fact that the establishment of an incubator's fund has not been carried out, and TBIs have not officially had a venture capital fund yet.

Table 6. The usage rate of Financial support services (Source: Survey data)

Method of financial support services	Quantity	Percentage
Administration/accounting/finance services	385	90.0
Raise capital through venture capitalists	386	90.2
Access to commercial loans	366	85.5
Access to nonprofit loans	380	88.8
Access to government subsidies, support, donors	393	91.8
Support through the incubator's internal fund	341	79.7
Mobilizing community contributions	325	75.9
Enterprise equitization	333	77.8

4.3.5. Community connection and network establishment

Currently, TBIs own and use databases on technology, technology experts, and consultants for incubation activities. Therefore, providing community connection and network establishment opens up opportunities for S&T firms to connect with expert support networks and introduce products to the community. When S&T firms can take advantage of TBI's network database, they will be advantageous in incubation and maturity.

According to the survey results (Table 7), S&T firms usually demand to use community connection services and network establishment. Especially, the connection service with universities, research institutes, businesses, and incubators is the highest with the regular use rate of more than 70%; next is connecting to capital, financial, and supplier/consumer networks (accounting for nearly 70%); The third is to connect with advisors and experts (68%) frequently use. However, TBIs often do not have enough funding to retain experts because of the limited financial resource. Therefore this reason makes TBIs operate inefficiently.

Table 7. The usage rate of Community connection and network establishment services

(Source: Survey data)

Method of supporting Community connection and network establishment	Frequently used (%)	Occasionally used (%)	Not used (%)
Connect to universities/research institutes/enterprises/government/incubators	70.3	20.5	9.2

Building capital and financing networks (through venture capitalists, sponsors)	68.4	22.5	9.1
Building a network of suppliers/consumers	68.4	24	7.6
Connect to mentors/experts	68.0	24.5	7.5
Building cooperative links with partners	66.5	24.5	9.0
Organize contests	57	25.5	17.5

4.3.6. Services of supporting education and knowledge access

Through the result of the survey, S&T firms which have used *Services of supporting education and knowledge access* has the figures as following:

According to table 8, TBI's operating models are the same services to support education and knowledge access. 100% of TBIs focus on implementing training programs and intensive market and technology development; 88% organize soft skills training activities. According to Table 8, it can be seen that S&T firms have the most demand to participate in training programs on entrepreneurship with 86.2%, followed by soft skills training courses (82.9%); and E-learning programs (69.8%). The training programs help individuals and companies know the right way to commercialize S&T ideas.

Table 8. Usage of supporting education and knowledge access in TBIs

(Source: Survey data)

Method of supporting education and knowledge access	Quantity	Percentage
Implement training programs on entrepreneurship	369	86.2
Soft skills training (Presentation, decision-making, teamwork, etc.)	355	82.9
Organizing in-depth seminars on market analysis and technology assessment	305	71.2
Organizing E-learning programs (Online training)	299	69.8

4.3.7. Services of Branding development support

S&T firms are interested in researching and commercializing products and building brands of these products to reach the market. However, most incubated S&T firms lack experience in this field. Therefore they need to seek the TBIs' support.

Via the survey data in Table 9, it can be seen that branding development support services are used regularly. Especially, product promotion support reached the highest regularly used rate with 80.1%, followed by product design consultancy and trademark registration (74.3%). Service of building strategy, brand positioning, and building media strategies are also interested by S&T firms (69.4% and 63.8%)

Table 9. The usage rate of branding development support services (Source: survey data)

Method of branding development support services	Frequently used (%)	Occasionally used (%)	Not used (%)
Product promotion support	80.1	18.9	0.9
Product design consultancy and trademark registration	74.3	24.7	0.9
Strategy building, brand positioning	69.4	28.3	2.3
Building media campaign	63.8	35.0	1.2

4.4. Identity strengths, limitations for incubation services at TBIs in Vietnam.

4.4.1. Strengths identification

The operation of TBIs has created initial qualitative changes in providing incubation support services for S&T firms. Incubation services strengthen the network of links between SMEs with each other and with domestic and foreign partners.

In the new context with higher demands from the customer side, TBIs have organized the model of providing asynchronous business service systems instead of single service support models. This model is completely consistent with the development trend of TBIs and compatible with the models of TBIs in the world. Accordingly, TBIs support S&T firms from the early stages of ideas formation and product development to the establishment and development stages.

In addition, TBIs also become a bridge connecting incubated S&T firms with other entities to create a system network for sharing resources to enhance competitive capacity for S&T firms in the context of international integration.

4.4.2. Limited identification

- Infrastructure organization services: Currently, S&T firms that participate in incubation in TBIs are limited inland operation. Especially S&T firms in the field of high-tech agriculture usually demand large trial production areas. This limitation negatively affects the R&D activities of enterprises.

"My company operates in the field of agricultural production, specifically develop, produce and process of edible mushroom and medicinal mushroom. The planting area which TBIs can provide is too small to produce and research new products. It is only enough to make production models. TBI cannot provide the land fund for enterprises to expand production. This limitation makes it difficult for us. We recommend that TBIs planned for establishment be calculated a large enough land area for S&T firms to develop production during the incubation period. In addition, we also hope that the TBIs will have a concentrated agricultural land for S&T firms which completed the incubation period to be hired for long-term production development" (In-depth interview with a representative incubated S&T firm)

- Financial support services: The interviewed incubating S&T firms also have a great demand for capital support or access capital resources. However, the financial fund construction of TBIs has not been implemented because of some legal barriers. There has no venture capital fund which is established by TBIs yet.

"During business operation, our company has faced difficulties in capital and raising money to scale up to keep up with market demand. Meanwhile, the TBI does not have a fund to support our operation of a business. Despite being supported a lot by TBI in the incubation process, however, due to the need to expand production scale, my company faces many difficulties in capital resources. Asking for support from TBI, however, is not available. I would like to recommend that TBIs need more networks to support businesses in finding investment sources, loans with interest rate support, or business support funds." (In-depth interview with a representative incubated S&T firm)

- Community connection and network establishment: The operating budget of TBIs is quite limited, leading to not having enough financial capability to maintain good and experienced experts. This reason has made inefficient of providing these services.

"I see that TBIs still lacks mentors who can follow closely, have enough ability to help S&T firms. Their media relationship ability is quite low even can't advertise these TBIs' brand; therefore, how can they help S&T firms promote products? Additionally, leaders of TBIs are not able to connect support networks and ecosystems well enough to help S&T firms and improve operational efficiency" (In-depth interview with a representative incubated S&T firm)

4.5. Limitations of the legal framework in supporting technology incubation activities in Vietnam

4.5.1. Unreasonable regulations on funding sources for the implementation of programs

All programs are mainly funded by the state budget, S&T development fund, and social resources mobilizing. These funding sources are not much and are to be spent on many other activities and programs. Moreover, these are activities related to venture capital, so it is difficult to carry out settlement procedures after finishing operations under regulations on spending for S&T using the State budget: "Funding for implementing the program must be used for all purposes and ensure efficiency according to the approved cost estimates and current financial management regulations" (Circular No.19/2013/TT-BKHCN). (Dao Thanh Truong et al., 2017a)

4.5.2. *Policies of financial support for TBIs is not much*

No State fund operates as a venture capital fund: Over the past ten years, the State has had several funds to support the market launch of R&D results by state organizations such as The National Foundation for Science and Technology Development (NAFOSTED), the National Fund for Technology Innovation (NATIF)... have contributed to the formation of new firms from the application of scientific research results. However, there is no fund mentioned above operating as a venture fund. At the same time, successful S&T firms in Vietnam were mainly thanks to the financial resources of private and foreign venture capital funds. With the principle of "conservation of capital" and complicated mechanisms and procedures, the State organizations could not effectively impact incubating S&T firms in Vietnam. S&T firm incubation is based on venture capital investment with a high or very high-risk ratio as a trade-off for the expectation of benefit. Recently, the activity of "venture investment" has never been defined in legal documents, nor does it have a mechanism to manage and encourage the development of "venture funds"; "venture investment organizations". Therefore, no venture capital funds have been established in Vietnam. Even foreign investment funds have established their head office in tax havens and only established representative offices in Vietnam. Vietnam's tax laws also do not encourage venture capital activities. For example, Vietnam does not have a Residual Income Tax for individuals who invest in a startup. When they divest their capital, they will be taxed very high for their profitable investment. They cannot deduct expenses investments that generate such profits and are not offset against previous losses. Meanwhile, due to the nature of venture capital activities, the failure rate is much higher than the success rate, only about 3-10% (Thanh Thanh, 2017).

In addition, The Criminal Code of Vietnam stipulates "crime of irresponsibility causing damage to property of the State", "crime of illegally setting up a fund", "crime of irresponsibility causing serious consequences" on the regulations on "preserving and increasing the value of state capital invested in enterprises" in the Law on State Budget and the Law on Management and Use of State Capital invested in production and business in enterprises have also become invisible barriers for the state to invest in the incubation and development of science and technology enterprises. (Dao Thanh Truong, 2017b)

4.6. Some orientations to mobilize resources for incubation activities to promote the development of S&T firms

4.6.1. Focus on developing land infrastructure for TBIs

The new regulations on priority planning or land use are currently applied to high-tech enterprises and hi-tech parks. There are no specific regulations on the priority of planning and using land for TBIs. S&T firms participating in the TBIs have a lot of demand to use the infrastructure organization services of the TBIs. However, even the TBIs themselves are limited in land area, especially for TBIs in the field of high-tech agriculture. To remove these difficulties, the State needs to assign localities to make plan TBIs establishment facilities in high-tech agricultural production areas and create a clean land area before calling investment instead of calling investment after assigning enterprises to take care of site clearance cause delay in progress.

4.6.2. Promoting the public-private partnership (PPP) model

The state financial budget for S&T activities is quite low (only less than 2% of GDP), while the need for investment in technical infrastructure is very large. This problem has made it difficult for Vietnam to spend investment resources on developing and maintaining TBIs. The PPP model will be a lever to enhance the ability to mobilize financial resources both in the public and private sectors and at home and abroad. In particular, the government will ensure preferential policy support. The private sector will play a large role in mobilizing, participating, and using resources (finance, human, material, information) to build and establish TBIs. This relationship has both economic and social significance. Additionally, it is a useful solution to develop a TBI roadmap in the context of globalization and international integration (Dao Thanh Truong, 2016).

The next issue is focusing on the organizers in the S&T ecosystem to provide resources for S&T enterprises. This ecosystem includes financial providers such as banks, angel investment groups, venture capital firms, and service providers. A key solution is increasing access to finance by increasing the funding of venture capital. The public sector needs to be actively involved both directly or indirectly in generating multiple venture capital sources for the mixed effect. It includes the establishment of regional venture capital funds, often of a "hybrid" form, which combines the money and human of both private and public sectors, under the management of the private sectors (Trinh Duc Trieu, 2017)

4.6.3. Expanding incubation fee collection activities

Currently, almost all TBIs offer free services to early-stage businesses for a certain time. If the incubated S&T firms can pay service fees, it will help TBIs reduce their financial difficulties. TBIs can provide S&T firms with a cost-effective environment that supports development through periods of intensive training and guidance with experienced advisors and even investments capital contribution in cash. After successful incubation, businesses will have an agreement to return financial contributions after incubation. It will help the incubators have the revenue to improve the quality of incubation services and invest in infrastructure (Thanh Thanh, 2017).

Through survey data of more than 400 S&T firms participating in incubation, up to 78% of enterprises are willing to deduct part of their profit to support TBIs. Among that 78% of S&T firms, 48.8% agree to deduct less than 5% of s; 41% agree from 5.0-15%; 9.3% agree about 15.0-50%; only 1% are ready to share more than 50% of the profit.

On average, the profit that businesses are willing to deduct is about 15%. It is a positive signal for incubators, especially for public incubators. Only when operating on a profit-based basis can science, and technology business incubators positively impact competitiveness to improve professional capacity and service quality to support businesses regularly.

4.6.4. Accelerating the development of virtual incubator services in the context of the Covid-19 pandemic

The incubator's providing services is facing challenges due to Covid-19 spread. Businesses worldwide, especially S&T firms, have been facing the harsh realities of the Covid-19 pandemic. Online incubation services have become a welcome response, offering great possibilities for hubs to provide their services remotely. Before the Covid-19 pandemic, the virtual incubator model had practiced as one of the incubator services models. Virtual incubators have advantages over traditional incubators because incubators do not need to have a physical office, and entrepreneurs can get facilitation and incubation services without coming physically. Digital technology has created an opportunity for entrepreneurs and aspiring entrepreneurs to create a virtual incubator service model that connects them to the ecosystem. This new model can potentially disrupt the traditional incubator model (Mörke & Swensson, 2020).

It is necessary to promote entrepreneurial culture and knowledge, especially in this time of distress, as it can lay a strong foundation for the future. Universities, science parks, and incubators all play a crucial role in providing a supportive infrastructure (Shwetzer, Maritz, & Nguyen, 2019). It is essential that incubation hubs, innovation centers. Work together with the entrepreneurial communities to create innovative solutions/products to suit the customers' needs. The hubs themselves have to be creative in reaching out to entrepreneurs. Hubs should run virtual programs for SMEs in various locations at the same time. Likewise, SNV Netherlands Development Organization, together with MDF West Africa, the Ghana Innovation Hub, i-Code Ghana, and Kumasi Hive, under the European Union-funded Boosting Green Employment and Enterprise Opportunities in Ghana (GrEEn) project, is running an online incubation service to assess how entrepreneurs in Ghana can be supported during the pandemic. The online incubation program coached and mentored the participants to build eco-inclusive business models. Programs like these can provide social networking and engagement opportunities that are great for collaborations and developing innovative solutions and motivate entrepreneurs through the challenging journey of entrepreneurship (SNV, 2020). However, to continue running more entrepreneurship support programs, government financial support is needed. Such platforms' role is critical for continued innovation, as innovation does not occur in a vacuum. It requires openness and interactions. The short-term measures of the governments have succeeded in relieving the pressure on entrepreneurs to some degree. During the pandemic, helping S&T firms was crucial to get the maximum possible result from the existing efforts. However, it remains to address the long-term objective of promoting sustainable growth and an equitable business environment by setting up S&T firms for a robust and endurable recovery in the long run.

4.7. Financial policy recommendations for S&T firm's incubation activities

4.7.1. Recommendation for credit policy

The biggest obstacle for S&T firms in accessing guaranteeing credit or preferential loan interest rates is that they have not met the strict capital and credit rating standards. In particular, S&T SMEs often cannot meet or can only meet very few conditions for unsecured credit loans. Therefore, it is necessary to have a specific mechanism for S&T firms to access incentives and encourage investors to invest in innovative S&T firms. We have some recommendations as following:

Firstly, establishing the State investment fund for S&T firms under the public-private partnership model. The operation of this follows as of trust funds to call for investment capital from investors. Investment for S&T firms can be established through loans or equity to provide capital in the post-incubation stage

Secondly, it is recommended that the government should have built a special financing program for S&T firms. Moreover, through a national financial fund, S&T firms can get unsecured or guaranteed loans for a certain time, usually at the beginning of post-incubation. However, due to the high-risk ratio of the innovative S&T firms, the capital of this program can be considered an expenditure of the Government if S&T firms unsuccessfully develop.

Thirdly, commercial banks must design individual credit product packages for S&T firms, which reduce the conditions for assessing financial capacity or credit rating of enterprises that can be assessed based on criteria for identifying innovative startups or criteria for evaluating the feasibility of business plans to control risks without collateral (Pham Tien Dat, 2018)

4.7.2. Recommendations for tax policy

Firstly, S&T firms at the beginning of the operation may not have revenue or benefit. Therefore, it is possible to apply with higher tax incentives than other company types, such as allowing tax exemption for the first five years and applying the 10% Corporate Income Tax (CIT) rate for a longer time than the 15 years, which is currently applied to other preferential enterprises. Simultaneously, it is recommended to transfer losses with no time limit instead of the current five years to ensure maximum support for S&T SMEs (Pham Thi Thanh Hoa, 2018).

Secondly, policies should be designed for S&T firm's investors to maximize their support to raise capital for innovative S&T companies. For reaching this goal, it is necessary to issue official regulations on venture investment and regulations on investment for innovative startup SMEs such as Decree No. 38/2018/ND-CP of the Government. In particular, it is necessary to clarify the tax obligations of these investors when making investments or transferring capital. Provisions should be made on reducing CIT (for investors who are enterprises) or Personal Income Tax (PIT) (for individuals investing) in case of income from investment or capital transfer. Besides, it is possible to offset the loss of investment projects for S&T firms to reduce risks for investors and encourage them to invest capital for innovative S&T firms (Diem Thi Thanh Hai, 2018).

Thirdly, universities, research institutes, and TBIs supporting entrepreneurship, it is important to issue regulations on financial policies with specific characteristics for these objects. It can be applied to the results obtained from the pilot TBI in Can Tho to all incubators nationwide. Specifically, as following:

- Exemption from import tax on goods being technological products that cannot be produced or domestically imported by S&T firms directly serve the technology incubation activities at TBIs.

- Preferential tax is applied at a rate of 10% for fifteen years, tax exemption for four years, and reduction of 50% CIT for enterprises implementing new investment incubating high technology projects in the next nine years at TBIs.

- Apply regulations on PIT reduction for experts working in TBIs and individuals working in economic zones at present. There should also be specific regulations for other entrepreneurship support organizations, such as tax exemption for income from startup support for universities, research institutes, business support objects, infrastructure construction objects, etc.

Fourthly, it is essential to allow innovative S&T firms to apply tax administrative procedures and simple accounting regimes according to the law on tax and accounting. Tax registration is done via the internet, and S&T firms in the first five years can declare VAT every six months or once a year if there is no revenue.

Finally, replace the tax exemption and reduction method with a certain time into the form of an investment tax deduction for S&T firms and investment objects. Investment tax deduction means allowing a decrease of a certain percentage of the total value of new assets invested in S&T directly into the payable CIT amount in the tax year. This method of incentive is as effective as the State directly supporting capital for enterprises. Corresponding to the ability to create capital and generate income based on profitable business and fulfillment of tax obligations. For S&T firms, after the initial period of tax exemption, in the following years, if they have income, this method can be applied. Similarly, investors and supporters of incubated S&T firms can also be applied to this method (VCCI, 2017).

5. Conclusion

TBIs are considered appropriate for technology transfer and commercialization of research results from the research sector to the market. Furthermore, it promotes the incubation and formation of S&T firms. It also is a support policy tool for the development and establishment of SMEs

From the current situation of incubation services and policies to support incubation activities of S&T firms in Vietnam, it can be seen that TBIs and S&T firms also have certain favorable conditions to get closer to the useful and specific support. However, the conditions of facilities, business capacity, financial policies, and Vietnam's legal framework still have many limitations. The authors have made specific proposals and solutions to enhance incubation services availability at TBIs for S&T firms. We also have recommended some solutions on the government's support policies for this target group.

The link between research and production requires an effective focus on investing in the incubation stage to help new technology businesses grow commercially. This useful concentration can also help investors accept great risks of failure to invest in young S&T firms with good ideas and creative capacity. Technology enterprises will create breakthrough efficiency for both S&T and the economy – the society of Vietnam in the context of international integration.

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COMPETENCIES FOR VIETNAMESE ENTERPRENEURS

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ABSTRACT

The article analyzes a role of competencies for startup success, identifies key competencies and its components. Correlation and reliability analysis methods are based on the application of analytical techniques of R software 3.3.3. Two critical competencies for entrepreneurial success have been identified: professional competence and behavioral competence. The study also identified the components of competencies critical to startup success. The components of the professional competence are production management, human resource management, strategy and entrepreneurship. The components of behavioral competencies are creativity, communication, self-motivation, entrepreneurial spirit and leadership.

Keywords: competence, professional competence, behavioral competence, entrepreneuship, entrepreneurial competence, entrepreneurial spirit, successful start-up.

1. Introduction

Entrepreneurship is an activity that creates economic efficiency, increases the competitiveness of the economy, creates new business values, and has a positive and creative approach to solving employment problems related social issues.

The desire of entrepreneurs, especially young startups, who have enthusiasm and entrepreneurial spirit but have not been experienced, is that they need to be aware, what conditions, especially in particular, entrepreneurs need to have start-up capabilities, ie what competencies and qualities to start a successful business.

For education and training institutions, the determination of entrepreneurial competencies is the basis for designing appropriate training programs to develop a future entrepreneurs.

There have been studies around the world on the factors affecting the success of startups (Hardeep Kaur and Anupama, 2013; Morteza RezaeidZadeh, 2016; Thomas et al., 2008; Rosemary Fissher et al., 2014), thereby identifying the core competencies for startup success. Studies have identified the key competencies for startup success such as problem solving, creativity, motivation, and leadership, which are the basis for designing training programs for managers and start-ups.

In Vietnam, there have been studies to determine the factors affecting entrepreneurship and to serve as a basis for training entrepreneurship in universities of economics and business administration in Vietnam (Nguyen Son Tung, 2019; Pham Quang Tin, 2021; Nguyen Quoc Tuan & Ngo Xuan Thuy, 2019). These studies contribute to determining the factors affecting the intention to start a business and the contents that need to be considered when designing training programs in universities of economics and business administration in Vietnam, but not yet. focuses on answering the question, how the competence factors that the training programs on business administration and entrepreneurship, really affect career success. Therefore, the author conducts research to determine, among the competencies trained for current business administration programs in Vietnam, which factors are the influencing factors for startup success. The research results help designers of business administration training programs and training and competntence development institutions identify the content that needs to be designed for training entrepreneurs.

2. Theoretical framework

2.1. Competence and entrepreneurial competence

2.1.1. Competence

The concept of competence today has become a topical and practical topic in social and life activities and is a topic of interest to human resource management theorists, popular when it comes to jobs recruitment, performance appraisal, staff promotion.

David Dubois and William Rothwwell (2004) define competencies as "characteristics that an individual possesses and uses in an appropriate manner to achieve desired results. These characteristics include knowledge, skills, self-perception, personal characteristics, motivations, conception patterns, and ways of thinking, feeling, and acting". Vo Xuan Tien (2010) said that the competence of the employee "is reflected in the knowledge, skills, behavior and attitude of that employee and for each job goal, a certain type of capacity is needed".

There are different definitions of competence, but the most common one is defined as a combination of knowledge, skills, qualities, attitudes and appropriate personal characteristics for an individual to be effective and excel in getting the job done. The concept of competence can refer to a specific type of competence such as creativity, communication, entrepreneurial spirit.

2.1.2. Entrepreneurs

In the training program of the Faculty of Business Administration, University of Economics, graduates can work professionally and advance as a business administrator in business organizations and programs as well. designed so that graduates can pursue a career path by starting a business, i.e. becoming an entrepreneur. A startup is a person who stands up on his own or in conjunction with other startups to organize and carry out business activities. In order to fully understand the concept of an entrepreneur, it is necessary to consider not only the fact that they are the ones who do start-up activities, but also define them as people who have the ability to start a business and are motivated. Entrepreneurial drive, determination for entrepreneurship, as defined by Albadri and Nasereddin (2019), entrepreneurs are people with ambition, strong determination, innovative spirit, creativity and dare to take risks to start a business.

2.1.3. Entrepreneurial competence

Hardeep Kaur and Anupama (2013) define entrepreneurial competence as the personal characteristics of entrepreneurs. The proceeding of the Scientific Seminar on Small and Medium Enterprises in Mexico (2018) states that entrepreneurship is a combination of creativity, a sense of initiative, problem solving, the ability to mobilize resources and tecnological knowledge.

In this study, the author defines entrepreneurial competence based on the firstly from the concept of competence, secondly expanding the concept to refer to the characteristics of the entrepreneur and thirdly, that is entrepreneurship refers to the successful start-up, achieving the desired results of the entrepreneur. Thus, entrepreneurship is defined as any ability factors and personal characteristics for an entrepreneur to achieve success in starting and developing a business.

Morteza RezaeidZadeh and authors (2016), based on a study in Ireland and Iran, identified four core competencies for successful startups, namely, interpersonal skills, and motivation, productive thinking and leadership. Thomas et al. (2008) have identified a portfolio of successful entrepreneurial competencies, demonstrating its correlation to factors measuring business success. Entrepreneurial competencies are defined as analytical thinking, innovation, human resource competency, strategic thinking, learning and operational competencies.

2.2. Successful start-up

Research on entrepreneurship needs to pay attention to two main aspects, which are the factors of entrepreneurial competence or related from the perspective of the entrepreneur as well as factors from the enterprise, from the business environment, technology and the second is from the perspective of concepts and ways for businesses to operate effectively, which is called a successful startup.

Start-up success can be understood as the success of a start-up business, through financial indicators such as investment efficiency, sales, productivity, or market indicators that the entrepreneur has desire in business. However, business and entrepreneurship can be different in that the entrepreneur's point of view of success may not only be the efficiency of the business but in other aspects from the entrepreneur's assessment. Therefore, Rosemary Fissher and the authors (2014) have developed the scales according to the cognitive approach of entrepreneurs, which is about personal satisfaction in life and business; get what you want in life and business; continuously develop personal business and to achieve goals in at least one business area.

3. Research method

On the basis of synthesizing research materials, identify the competencies and develop the definition and description of the required competencies for successful start-ups and describe the concept of successful start-ups by statements and next steps conduct a survey to evaluate startups. Entrepreneurs in this study included people who started their own businesses or invested in a business.

Survey data, through the level of competence and start-up success, measure the correlation coefficient between the variables measuring the competence with the variable measuring the start-up success, determining the group of competencies that have the potential to be successful more effective, thereby identifying the core competencies for startup success.

The total number of respondents is 122 entrepreneurs, including 62 men (50.8%), 60 women (49.2%), with different fields of activity (Table 1).

Table 1. Survey object's business field

Business field	Quantity	Percent (%)
Technology	23	18,9
Travel services	22	18,0
Food Processing	15	12,3
Health, education	8	6,6
Finance, banking	16	13,1
Others	38	31,1

Source: survey's data

The analysis techniques are performed through the techniques and commands of the data analysis software R 3.3.3. Specifically, through data statistics and correlation analysis and reliability analysis, the key competencies for startup success have been identified. Analytical data is used as a basis for evaluating and proposing practical solutions in developing entrepreneurial competence.

4. Analysis and research results

The study used the entrepreneurial competence framework, which includes four types of competencies, including professional competence, behavioral competence, English language competence, and technology and information competence.

The professional competencies include the core competencies applied in training programs, summarized and described by the author as shown in Table 2. According to the discussion done at the step of identifying competencies for startups, so that respondents have a concept for each professional competence, because in fact, there are respondents who have not participated in training programs on business administration, the author has added a description to the content of the components of professional competence.

Table 2. Professional competencies for entrepreneuship

Competence and Variable Name	Competence Description	Mean	Sd
Operation management (prof_operation)	Location decisions, internal layout, process design, inventory management, strategic decision making in the production function, integrated planning, scheduling and production control.	3.76	0.80

Financial management (prof_finance)	Financial management (prof_finance), working capital management, financial analysis, budget planning, investment decision making, investment efficiency calculation.	3.96	0.93
Marketing Management (prof_mark)	Design and manage distribution channels, design communication programs, positioning, market research, customer relationship management.	3.97	0.93
Human Resource Management (prof_hrm)	Human resource planning, job analysis and design, recruitment, employee development, compensation, employee attitude research, employee relations.	3.87	0.93
Strategic management (prof_strategy)	Analyzing the business environment, analyzing core competencies, analyzing value chains, making strategic decisions, analyzing and implementing competitive decisions, etc.	3.84	1.05
Entrepreneurship (prof_entrepreneurial)	Integrate knowledge and skills of business administration in starting a business, being sensitive to business opportunities.	3.85	0.91
PROFESSIONAL_COMPETENCE		3.87	0.69

Source: Author's Defination & Survey's data

The competencies for start-ups are called the competence subscale of the competence scale, which is measured as the average of the professional competencies with the variable name PROFESSIONAL_COMPETENCE.

Behavioral competencies were identified as creativity (variable name: creative), communication (communication), teamwork, time management (time_management), critical thinking, self-motivation, entrepreneurial spirit, and leadership. The above behavioral competencies are the component of competence (competence subscale) forming the common behavioral competence (competence scale) with the variable name used as BEHAVIORAL_COMPETENCE (Table 3).

Table 3. Behavioral competencies for entrepreneuship

Competence and Variable Name	Mean	Sd
Creativity (creativite)	3.94	0.92
Communication (communication)	3.94	0.87
Teamwork (time_management)	3.91	0.93
Time management (time_management)	3.89	0.88
Critical thinking (critical)	3.19	0.94
Self-motivation (motivation)	4.06	0.86

Entrepreneurial spirit (entrepreneurial)	3.89	0.91
Leadership (leadership)	4.12	0.88
BEHAVIOR_COMPETENCE	3.87	0.59

Source: Survey's data

The English language and information technology competencies are called the competence scale with the corresponding variable names ENGLISH, ITC (Table 4).

Table 4. English and ICT

Competence (Variable Name)	**Mean**	**Sd**
ENGLISH	3.62	1.05
ICT	3.88	0.91

Source: Survey's data

Successful start-up (SUCCESS) - dependent variable, called a common variable and defined by 4 component variables (items) as success1, success2, success3, success4 (Table 5).

Table 5. Items of susseccfull start-up

Item (Variable Name)	**Description**	**Mean**	**Sd**
success1	I find myself personally satisfied with my life and business for my start-up.	3.29	0.92
success2	I have done what I want in life and business through starting a business.	3.94	0.87
success3	Starting a business has contributed to the continuous development of my personal business.	3.77	0.94
success4	Starting a business that has helped me achieve my goals in at least one business area.	3.83	0.90
SUCCESS		3.57	0.70

Source: Rosemary Fisshher (2014) & Survey's data

The mean and variance of the scale variables and subscale variables of the analyzed data are shown in Table 2,3,4,5.

Successful entrepreneurial competence must be competencies that play a role in creating career success, that is, they must first have a standard validity, as measured by a coefficient that correlates with career success. Analyzed by visual model of correlation data by pairs.panels()/R, the results of correlation analysis between common competency variables and between them and successful startups are shown in Figure 1 below.

The competencies are correlated with each other and with the above start-up success at an average or higher level (mostly above 0.4), only the correlation between "professional competence" and "English" is still low. (0,36). Among the four analyzed competencies, "professional competence" and "behavioral competence" are highly correlated (r = 0.7) and have a good correlation with "career success" (r>0, 5), while "English" ability has a low correlation with "professional competence" (r=0.36) and has a medium correlation with "professional success" ($0.4 < r < 0.5$), so it is possible to identify two key competencies for successful start-ups, namely "professional competence" and "behavioral competence".

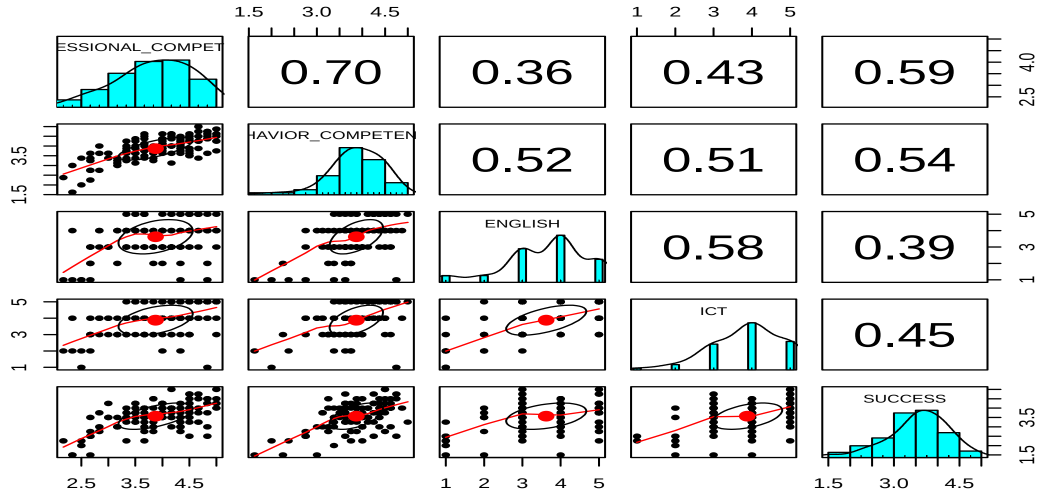

Figure 1. Correclation between of competencies and successful start-up

Source: Outputs of pairs.panels()/R

Analyzing the correlation between the components of professional competence and career success (Figure 2), we have identified four essential components of professional competence that are production management (r=0. ,41), human resource management (0.43), strategy (r=0.51) and entrepreneurship (r-0.52).

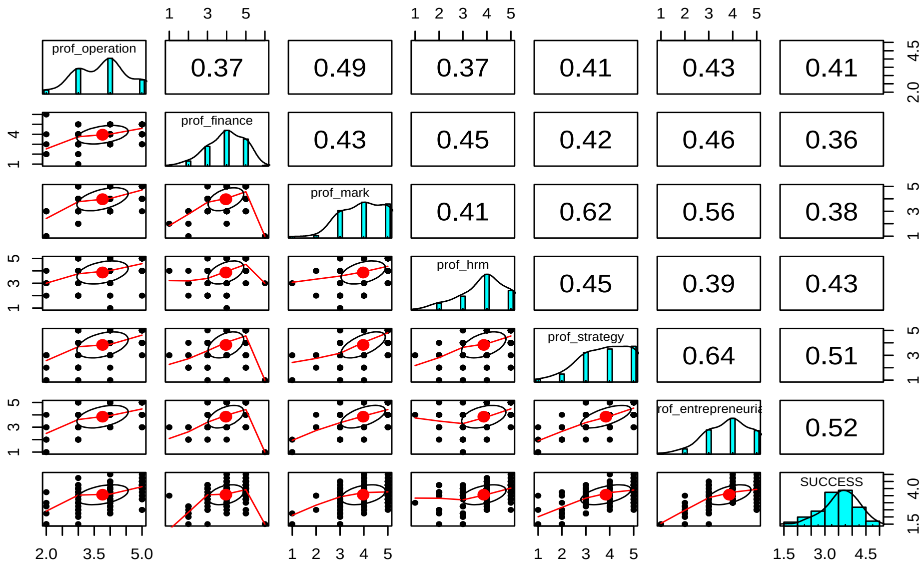

Figure 2. Correclation between the components of professional competence and successful start-up

Source: Outputs of pairs.panels()/R

Analyzing the correlation between the components of behavioral competence and career success (Figure 3), identified four essential components of behavioral competence that are creativity (r=0.39)), communication (0.49), self-motivation (r=0.41) and entrepreneurial spirit (r-0.42).

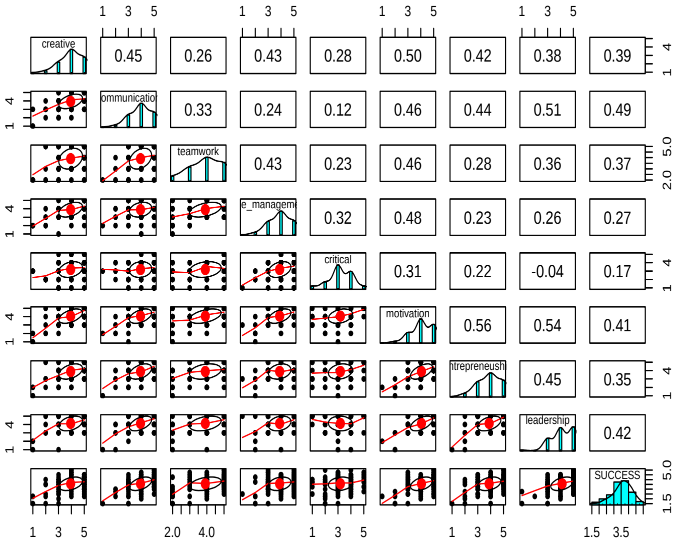

Figure 3. Correclation between the components of behavioral competence and successful start-up

Source: Outputs of pairs.panels()/R

To determine the reliability of the general capabilities (professional competence, behavioral competence) as well as the common variable of startup success, the Cronbach alpha reliability is performed through the alpha() function of the psych library of R and gives reliable results for these common variables (Table 6) with values between 7.6 and 8.1.

Table 5. Cronbach alpha of competencies and susseccfull start-up

Competence	**Cronbach alpha analysis**								
Professional competence	raw_alpha	std.alpha	G6(smc)	average_r	S/N	ase	mean	sd	median_r
	0.77	0.76	0.73	0.45	3.3	0.034	3.8	0.71	0.42
Behavioral competence	0.78	0.78	0.74	0.47	3.6	0.033	4	0.68	0.48
Success	0.81	0.81	0.8	0.51	4.1	0.03	3.6	0.7	0.43

Source: Outputs of alpha()/R

Thus correlation and reliability analysis results help identify the key competencies for career success (Table 6) that help develop competencies for entrepreneurs.

Table 6. Competencies for entrepreneurs

Competence	**Component**
Professional competence	Operation management
	Human Resource Management
	Strategic management
	Entrepreneurship
Behavioral competence	Creativity
	Communication
	Motivation
	Entrepreneusrial spirit
	Leadership

5. Conclusion

Startup success must first meet the goals of the entrepreneur, and the degree of success is influenced by the entrepreneur, important in that is the critical competence for entrepreneurial success.

Research has identified two key general competencies for success: professional competence and behavioral competence. The components of the identified professional competencies are production management, human resource management, strategy and entrepreneuship. The component of behavioral competencies are creativity, communication, creativity, entrepreneurial spirit and leadership.

The identification of competencies and components of successful entrepreneurship helps to design and practice the effective program of development of competencies for Vietnammese entrepreneurs.

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IMPACT OF PSYCHOLOGICAL CAPITAL TO ENTREPRENEURIAL INTENTIONS – A PLS-SEM APPROACH

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ABSTRACT

This study was conducted to understand the effects of psychological factors on the intention to start a business through the TPB model. Based on the arguments and previous studies on Recognizing opportunities, we add to the traditional TPB model a new factor, Opportunities Recognition, to test the impact of this factor on the intention to start a business. Based on the results of PLS-SEM analysis, data obtained from 281 students have shown the effects of psychological factors on the variables in the new TPB model. Moreover, the newly added factor of Opportunities Recognition also has a strong and significant impact on students' intention to startup. This study has provided more empirical evidence on the role of psychological factors on the formation of students' entrepreneurial intentions. Furthermore, this study will serve as a foundation for researchers to apply the newly added factor of Opportunities Recognition in studies related to TPB.

Keywords: Entrepreneurship; Opportunities recognition; TPB Upgraded; Psychological factors; PLS-SEM.

1. Introduction

Entrepreneurship is often regarded as the driving force behind economic progress (Borges et al., 2021; Hassan et al., 2020). Entrepreneurs provide value not only to their own lives, but also to the lives of others by creating jobs (Loi et al., 2021; Unger et al., 2015). Understanding how successful entrepreneurs are formed has far-reaching societal ramifications. Innovative technical development is aided by entrepreneurial activity, as well as job creation and increased competitiveness. Entrepreneurial activities have a long-term impact on economic growth. New business development is especially important during recessions because it creates jobs, distributes innovation, and supports the local economy (Thurik & Wennekers, 2004).

In recent decades, academics have been especially interested in the concept of entrepreneurial intention (EI). (Fayolle et al., 2014). The significance of EI was recognized following a realization that entrepreneurship is a process rather than an event (S. Shane, 2012). The importance of entrepreneurship is undisputed. In addition to the positive social and economic impacts, entrepreneurship has injected new impetus into all traditional business models and thereby spurred innovation and change. We have witnessed the transformation as well as the birth of completely new business models based on technology platforms such as Online Food Ordering, Phone Booking, Accommodation Sharing … All of these things could not take place without the momentum generated from the start-up activities that have taken place strongly in the world in recent years.

The research on entrepreneurship in Vietnam is very diverse and had a strong development in recent years. This is in line with the general trend of the economy and the development strategy of the country when many policies and projects have been launched to support and promote the start-up movement to develop widely not only in urban areas but also in rural areas.

The application of an entrepreneurial intention model, in conjunction with the cognitive approach, forms the basis of this study. Recently, a number of works have been published that address this topic. In fact, previous studies have linked entrepreneurial intention to subjective norms, attitudes, perceived behavioral control, and other contextual variables (Kautonen et al., 2013; Krueger & Carsrud, 1993; Nowiński et al., 2019). Some studies focus on understanding entrepreneurial intentions at universities (Fayolle & Gailly, 2015; Fayolle et al., 2006; Liñán & Chen, 2009) and has shown the important role of higher education in entrepreneurship. Many authors have studied the impact of different educational policies on the development of entrepreneurial intentions (Peterman & Kennedy, 2003).

Many studies have been conducted throughout the globe to demonstrate the applicability of TPB in the context of higher education. For example, according to a research conducted on MIT engineering students, personal traits and environmental variables both have an equal effect on business intention (Lüthje & Franke, 2003). Their results provide evidence that perceived contextual barriers and supportive factors play an important role in MIT students' entrepreneurial behavior. The studies carried out by Liñán et al. (2011) and Rueda et al. (2015) provides proof of TPB validity to Spanish universities. Fayolle & Gailly (2015) demonstrate that TPB is also valid for French business and technical schools. Other researchs, including those conducted in the United States, Norway, and the Netherlands, support this conclusion. (Kolvereid, 1996; Krueger Jr et al., 2000; Van Gelderen et al., 2008). However, more research is required in order to gain a better understanding of the factors that influence entrepreneurial perceptions.

This study will also apply the TPB model and make additional adjustments as presented below. The main purpose of this article is twofold:

First, we test the effect of adding to the traditional TPB scale (3 factors) a new factor that we think can have an impact on the intention to start a business, that is the Opportunity Recognition factor (OR). Indeed, although the TPB model is still dominant in studies investigating the intention to perform a behavior, we find that entrepreneurial intention will be different from other common behaviors in that it will be associated with the ability to identify opportunities. Indeed, a lot of entrepreneurs start a business just because they recognized an opportunity they saw that could grow into a successful business. OR for new companies is an essential element of the entrepreneurial process that academics are attempting to understand and human resource managers are attempting to promote. However, this factor has not been studied much in the studies applying the TPB model and that's why we decided to add this factor to our research model.

Secondly, we add the influence of psychological factors into the complex model to explain students' entrepreneurial intention. Psychological capital is a factor that influences one's judgment and behavior. It was in the workplace that the term "psychological capital" was first used to represent positive psychology, and it has since become widely used (Wang et al., 2014). It is made up of psychological abilities that may be tested, developed, and managed in order to increase performance. In addition to economic (what you have), human or intellectual (what you know), and social (who you know), psychological capital includes a specific focus on the psychological state of mind and on what can go well for people. Psychological components, according to existing research studies (Esfandiar et al., 2019; Robledo et al., 2015; Y. Zhang et al., 2014) appear to be the most important predictors of EI. However, there is not much empirical evidence in Vietnam to prove the impact of psychological factors on entrepreneurial intention. We chose optimism, creativity and social worth as three psychological capital traits that aid to improve the ability to startup (Ephrem et al., 2019). We will test the effects of psychological factors on the variables of this new model.

2. Theoretical framework

2.1. Entrepreneurial intention

Individuals' entrepreneurial intentions are a complicated subject to examine (Autio et al., 2001). This intricacy is a result of the multiplicity of elements that influence intention (Nikou et al., 2019; S. A. Shane, 2003), purposeful behaviors' cognitive mechanisms (Entrialgo & Iglesias, 2020) and the complexity of perceptual processes (Krueger & Carsrud, 1993). Typically, entrepreneurship is not a professional option that a university student considers immediately after graduation, but rather a few years later. Thus, the entrepreneurial literature has established procedures for connecting the present ambition to construct an idea with its future realization. Entrepreneurial intention is defined as a person's self-admitted conviction that they intend to start a new business endeavor and deliberately plan to do so in the future (Thompson, 2009). The literature makes reference to Ajzen's theory of planned behavior (TPB) to explain this. Through complicated cognitive processes, the TPB is increasingly recognized as valuable for describing individuals' entrepreneurial activity. It has been discovered that these processes and models have an intriguing predictive power when it comes to explaining the act leading to the establishment of a firm. (Autio et al., 2001; Bird, 1988; Krueger et al., 2000; Lin~an, 2008). Lans et al. (2010) remarked that intentions are excellent indicators of human behavior in a certain context. This prediction is especially useful in the context of entrepreneurship (Ajzen, 1991; Krueger & Carsrud, 1993; Robledo et al., 2015). The authors' premise is that the more the entrepreneurial intention, the greater the likelihood of starting a new company (Kautonen et al., 2013).

2.2. Opportunity recognition

Ideas for new goods or services may be thought of as a sort of raw material for entrepreneurship, since it is frequently from these ideas that actual business possibilities emerge (Baron, 2007). It is important to note that there has been an ongoing debate in the field of entrepreneurship about whether opportunities are recognized or created, they emerge in the minds of specific individuals who generate them from their own cognitive resources and knowledge (Alvarez and Barney, 2005). Both methods, according to the author, are feasible and are not mutually incompatible. However, given the purpose of this work, the examination of opportunities will focus on the variables that affect their identification rather than the ones that drive their creation.

Whatever their exact origins, opportunities are frequently the starting point for overt entrepreneurial action—efforts by entrepreneurs to build new companies that would capitalize on these chances. Indeed, the choice to engage in such operations is frequently motivated by entrepreneurs' perception that they have uncovered an opportunity that no one else has identified and may gain from being the first to bring it to market (Durand & Coeurderoy, 2001). Given that opportunity awareness is frequently the beginning of the entrepreneurial process, it is not unexpected that it has long been a prominent idea in the subject of entrepreneurship. However, until recently, little effort was made to investigate it as a process. Only ideas for a new product, service, raw material, market, or manufacturing technique that might be effectively exploited to create economic benefits for stakeholders were deemed real opportunities. This technique, while useful in many ways, ignores numerous critical problems.

2.3. Psychological capital: Optimism, Creativity, Social worth as three components

Psychological capital is especially important for entrepreneurial viewpoint decision and behavior (Baron, 2006; Ephrem et al., 2019). When faced with difficulties, individuals can build sufficient confidence through positive psychology, allowing them to devise innovative solutions to problems and inspire more creativity (Youssef & Luthans, 2007). Ong et al. (2010) found that people with high levels of psychological capital are more willing to accumulate new experiences and develop innovative ways of doing things in difficult situations, which unintentionally inspires them to turn their creative potential into actual creativity.

Optimism (OP): Optimists make optimistic predictions for the future. These individuals must always retain a positive outlook on future opportunities and will not relinquish current or future opportunities. When someone is optimistic, they have a generalized expectation that they will have a positive outcome in life (S.-N. Zhang et al., 2020).

Creativity (CR): When market rivalry is fierce, innovation can lead to opportunity, creativity is the major factor that contributes to the development of entrepreneurial intent. (Nadim & Singh, 2011). As a result, the inventiveness of entrepreneurs in this industry is crucial. Creative thinkers are adept at detecting and seizing new opportunities, as well as actively seeking and pursuing new ones (Asante & Affum-Osei, 2019). Creativity differs from general ability in its uniqueness and originality, as well as its unique capacity to seek out chances. Tsai et al. (2016) study likewise found that perceived opportunity influenced entrepreneurial inclination positively. It seems plausible to conclude that travel and hospitality students with high levels of creativity are better able to find and explore new opportunities, which increases entrepreneurial intent.

There are numerous definitions of creativity, but most agree that it entails the creation of (1) something new that did not previously exist (at least in its current form), and (2) something that is not only new but also appropriate or beneficial. The United States Patent and Trademark Office applies these criteria to patent applications: not only must an idea be novel (an advance over existing 'art' in legal terms), but it must also be potentially beneficial.

Social worth (SW): Entrepreneurs are thought to have high social worth (Grühn et al., 2008). Social worth, in particular, is a psychological process that reflects the realization of one's own worth and the attention of others (Gärling et al., 2003). According to Nga & Shamuganathan (2010) the most important determinant of entrepreneurial consciousness was social worth, because the value of others to others was the underlying drive of individuals. When people believe that others value their goals, they believe that their future labor will be relevant and necessary. Individuals are more likely to behave in this manner if they feel valued by potential recipients. In other words, after discovering opportunities, individuals with high social worth are more likely to gain value through entrepreneurship (Bacq & Alt, 2018). According to the findings of this study, opportunity identification can boost the entrepreneurial intents of tourism and hospitality students who exhibit social worth attributes, hence speeding up the process of converting discovered business prospects into business intentions.

2.4. The TPB Model

Since the development of the TPB model, a great number of scholars have attempted to alter or extend the theory to fit specific research contexts. A meta-analysis of over 180 independent investigations found that the TPB model is capable of predicting both intentions and actual behavior (Armitage & Conner, 2001). We rely on TPB to model students' entrepreneurial intentions. According to TPB, entrepreneurial intention indicates the effort that the person will make to carry out that entrepreneurial act. And so it includes three motivational factors, or antecedents, that influence behavior (Ajzen, 1991; Liñán & Chen, 2009):

• Attitude towards entrepreneurship (personal attitude, PA) refers to the degree to which individuals positively or negatively evaluate being an entrepreneur. It includes not only sentiment (I like it, it's attractive), but also review consideration (it has advantages).

• Social norms (SN) measures perceived social pressure when performing or not performing entrepreneurial behaviors. Specifically, it will refer to the perception that "references" will approve the decision to become an entrepreneur or not.

• Perceived behavioral control (PBC) is defined as the perception of the ease or difficulty of being an entrepreneur. Therefore, this is a concept quite similar to self-efficacy (SE) and perceived feasibility (Shapero & Sokol, 1982). All three concepts refer to a sense of competence related to the performance of company-building behaviors. However, there has been recent work emphasizing the difference between PBC and SE (Ajzen, 2002), PBC will include not only the feeling of being able, but also the perception of the ability to control behavior.

However, in most of the studies that use the TPB model to study startups, a very important factor and we think that will have a strong impact on the intention to start a business is Opportunity recognition. incorporated into this model.

In deed, whatever their exact origins, opportunities are frequently the starting point for overt entrepreneurial action - efforts by entrepreneurs to build new companies that would capitalize on these chances. Indeed, the choice to engage in such operations is frequently motivated by entrepreneurs' perception that they have uncovered an opportunity that no one else has identified and may gain from being the first to bring it to market (Durand and Coeruderoy, 2001). Given that opportunity recognition is frequently the beginning of the entrepreneurial process, it is not unexpected that it has long been a prominent idea in the subject of entrepreneurship. However, until recently, little effort was made to investigate it as a process. Rather, opportunities were defined primarily in terms of economic outcomes: only ideas for a new product, service, raw material, market, or manufacturing method that could be successfully exploited to generate economic advantages for stakeholders were considered genuine opportunities.

One may predict that opportunity recognition would be entrepreneurial in nature if the destination's internal motives and external pressures are simultaneously activated. As a result, an extended theory of planned behavior model with the addition of a new predictor, opportunity recognition, was developed for this study in order to better understand students' intents toward starting as shown in Figure 1.

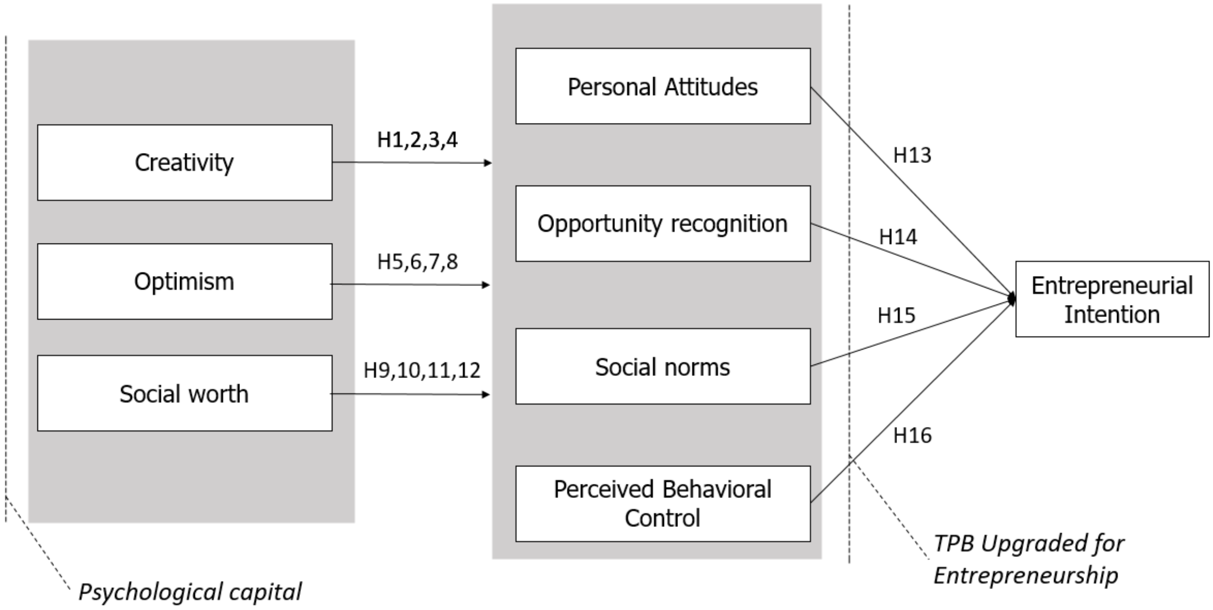

Figure 1. Conceptual framework and hypothesized relationships (own elaboration)

3. Research method

The target population involved of students following a bachelor's degree in business adminstration at University of Economics – The University of Danang.

The study used convenience sampling method. According to Hair et al. (2006b), the minimum sample size should be 5 times the number of variables used for the survey. With 36 variables in the questionnaire, the minimum sample size would be 36*5 = 180. We used previous studies to develop questionnaires to collect research data. A five-point Likert scale was used to record responses from study participants ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaires were sent to the respondents who accepted to participate in the study in two ways: online via email and printed form. 400 questionnaires were sent to students obtained 281 valid answers (70.25%), exceed the minimum sample size requirement. The data obtained after cleaning and coding will be put into the statistical software SPSS for processing.

We employ PLS-SEM and SmartPLS 3.0 to test our hypotheses (Ringle et al., 2015). We chose PLS-SEM because it is a very effective tool for refining and extending existing theory in management research. PLS-SEM has predictive benefits, the ability to deal readily with formative factors, and strong characteristics for assessing mediating effects and complex models (Richter et al., 2016; Sarstedt et al., 2017). 8 variables were referenced to the following scale in Table 1.

Table 1. Measurement scales for constructs in the model

Constructs/Dimension	**Item code**	**Source**
1 – Creativity (CR)		
I often come up with new and practical ideas.	CR1	(Rego et al., 2007)
I often suggest new ways to increase quality.	CR2	
I often develop adequate plans and schedules for the implementation of new ideas	CR3	
I see myself as a creative person	CR4	Developed from focus group interview

2 – Optism (OP)		
When things are uncertain for me in my job search, I usually expect the best.	OP1	(Zhang et al. 2020)
I always look on the bright side of things regarding my life.	OP2	
I approach my life with the attitude that something positive will always turn out no matter how difficult it might be.	OP3	
I consider myself an optimist	OP4	Developed from focus group interview
3 - Social worth (SW)		
I felt valued as a person by the people I helped.	SW1	(Bacq & Alt, 2018)
I felt appreciated as an individual by the people I helped.	SW2	
I felt that I made a positive difference in the lives of the people that I helped.	SW3	
I felt close to the people I helped.	SW4	
I felt strong trust from the people I helped.	SW5	
4 - Perceived behavior control (PBC)		
To start a firm and keep it working would be easy for me	PBC1	(Liñán & Chen, 2009)
I am prepared to start a viable firm	PBC2	
I can control the creation process of a new firm	PBC3	
I know the necessary practical details to start a firm	PBC4	
I have the necessary qualifications and skills to be a successful entrepreneur	PBC5	Developed from focus group interview
5 - Personal attitudes (PA)		
Being an entrepreneur implies more advantages than disadvantages to me	PA1	(Liñán & Chen, 2009)
A career as entrepreneur is attractive for me	PA2	
If I had the opportunity and resources, I'd like to start a firm	PA3	
Being an entrepreneur would entail great satisfactions for me	PA4	
6 - Social norms (SN)		

If I decide to start a business, my family will support this decision	SN1	Adapted from (Liñán & Chen, 2009)
If I decide to start a business, my friends will support this decision	SN2	
If I decide to start a business, my teachers will support this decision	SN3	
If I decide to start a business, the people who are important to me will support this decision	SN4	
7 - Opportunity recognition (OR)		
I frequently identify opportunities to start-up new businesses.	OR1	(S. Shane et al., 2010)
I frequently identify ideas that can be converted into new products or services.	OR2	
I generally have ideas that may materialize into profitable enterprises.	OR3	
I am very interested in learning about new business opportunities	OR4	Developed from focus group interview
8 - Entrepreneurial intentions (EI)		
I am ready to do anything to be an entrepreneur	EI1	(Liñán & Chen, 2009)
My professional goal is to become an entrepreneur	EI2	
I will make every effort to start and run my own firm	EI3	
I am determined to create a firm in the future	EI4	
I have very seriously thought of starting a firm	EI5	
I have the firm intention to start a firm some day	EI6	

4. Results and discussion

4.1. Results

4.1.1. Demographic profile

The sample of 281 respondents, who are students of University of Economics - The University of Danang. This is the largest public university in Central Vietnam that provides high-quality human resources in the economic field and is an important start-up resource for the whole region.

As shown in Table 2, the respondents to the survey are mainly female, accounting for 73.7%. This rate of gender difference is often seen in studies on students majoring in economics – the environment where female often outnumber male. The number of respondents from urban areas is 37.8% less than those from rural areas. More than 20% of participants have a parent who is an entrepreneur, of which 7.1% have both parents involved in business activities as entrepreneurs.

Table 2. Demographic profile of respondents

Items		Frequency	Percentage
Gender	Male	74	26.3
	Female	207	73.7
Hometown	City	143	37.8
	Rural area	235	62.2
Are your parents business owners?	None	204	72.6
	1	57	20.3
	2	20	7.1

4.1.2. Evaluation of measurement models

For the purpose of investigating the connection between constructs and entrepreneurial ambition, a structural equation model (SEM) has been developed. The least squares-based structural equation modelling technique (PLS SEM) has been selected to analyze the data due to the complexity of the generated model, as opposed to alternative structural equation modelling methods such as covariance-based structural equation modelling (CB-SEM).

PLS-SEM stands for Partial Least Square - Structural Equation Modeling - Modeling of structural equations based on partial least squares. In contrast to CB-SEM, PLS-SEM estimates model parameters using a variance-based matrix. According to Hair et al. (2016), PLS-SEM employs least squares regression (OLS) with the objective of minimizing dependent variable errors (ie residual variance). In other words, PLS-SEM maximizes the R2 value of the dependent variable by estimating the coefficients (path model relationships) (target variable). This feature accomplishes PLS-forecasting SEM's objective. As a result, PLS-SEM is the preferred method for researchers whose primary objective is to create theory and explain the variation in a dependent variable (forecast of research variable). PLS-SEM is made up of two major parts. The measurement model, often known as the outer model, is the first component. The outer model calculates each indicator's contribution to expressing its associated latent variable and evaluates how effectively the whole collection of indicators reflects a variable. The inner model assesses the latent variables' direct and indirect connections. (Hair et al., 2006a).

In the PLS-SEM approach, the evaluation of measure-ment constructs is based on the assessment of internal consistency reliability, convergent validity and discriminant validity recommended by Hair et al. (2006a). After remove the value of factor loading which are less than 0.7, the composite reliability is used as a means to measure internal consistency. Satisfactory composite reliability would be higher than 0.7. This research also offered average variance extracted (AVE) and composite reliability (CR) to assess construct validity. All the constructs' AVE were ranged from .605 to .884 (above .50) and CR values were ranged from .759 to .882 (above .70) (Fornell & Larcker, 1981) as shown in Table 3. As a result, the concept demonstrated excellent convergence validity and reliability. Furthermore, the square root of each construct's AVE was higher than the greatest correlation with any other construct, indicating discriminant validity.

Table 3. Evaluation of measurement model

	Outer loading	CR	AVE
Creativity		0.821	0.605
CR1	0.758		
CR2	0.734		
CR4	0.837		
Entrepreneurial intention		0.882	0.884
EI2	0.821		
EI4	0.895		
EI5	0.871		
EI6	0.851		
Optism		0.776	0.781
OP2	0.855		
OP3	0.813		
OP4	0.822		
Opportunity recognition		0.782	0.782
OR1	0.787		
OR2	0.77		
OR3	0.802		
OR4	0.748		
Personal attitudes		0.807	0.816
PA2	0.847		
PA3	0.863		
PA4	0.836		
Perceived behavior control		0.831	0.845
PBC2	0.856		
PBC3	0.858		
PBC4	0.761		
PBC5	0.775		
Social norms		0.803	0.824
SN1	0.71		
SN2	0.852		
SN3	0.775		
SN4	0.821		
Social worth		0.759	0.781
SW2	0.744		
SW4	0.839		
SW5	0.879		

Table 4 contains correlations for each construct. There were substantial correlations between constructs, and collinearity was examined using the variance inflation factor (VIF). The results indicated that VIF was less than 3.63, indicating that multicollinearity was not a significant problem in this study (O' Brien, 2007).

Table 4. Correlations between hidden constructs (Fornell- Larcker Criterion)

Construct	CR	EI	OP	OR	PA	PBC	SN	SW
CR	0.778							
EI	0.299	0.86						
OP	0.219	0.278	0.83					
OR	0.555	0.517	0.332	0.777				
PA	0.317	0.662	0.216	0.497	0.849			
PBC	0.419	0.437	0.229	0.51	0.304	0.814		
SN	0.296	0.44	0.258	0.401	0.353	0.274	0.791	
SW	0.316	0.273	0.183	0.329	0.285	0.257	0.375	0.822

Square root of average variance extraction are shown on the diagonal in bold

4.1.3. Evaluation of direct effects

Table 5. Results of direct effects

Direct paths	Path coefficients	t values	P Values
CR -> OR	0.465	9.727	0.000
CR -> PA	0.229	3.736	0.000
CR -> PBC	0.352	6.208	0.000
CR -> SN	0.167	2.819	0.005
OP -> OR	0.204	3.972	0.000
OP -> PA	0.131	2.109	0.035
OP -> PBC	0.13	2.555	0.011
OP -> SN	0.168	2.585	0.01
OR -> EI	0.111	2.09	0.037
PA -> EI	0.49	10.648	0.000
PBC -> EI	0.185	3.053	0.002
SN -> EI	0.172	3.324	0.001
SW -> OR	0.145	2.483	0.013
SW -> PA	0.189	2.551	0.011
SW -> PBC	0.122	1.881	0.061
SW -> SN	0.292	4.536	0.000

The obtained results in table 5 show that most of the research hypotheses are supported (15/16). Except for the null hypothesis H15, that is, the SW factor has no effect on the variable PBC, all the remaining hypotheses are accepted with $p<0.05$. CR has the strongest effect on OR, and has a significant effect on the remaining variables in the research model. OP also has the strongest effect on OR and has a statistically significant impact on the remaining variables in the research model. SW has the strongest effect on SN, and has a decreasing effect on PA, OR.

The additional new factor in the model is that OR also has a statistically significant effect on EI. And the results for the variables of TPB have also again proven to have a positive and significant impact on students' entrepreneurial intention. In which PA is the strongest variable and is superior to the remaining variables in the TPB Upgraded model.

4.2. Discussion

This study provided significant contributions to the future prediction and cultivation of college students' entrepreneurial intent. The research findings indicate that the theoretical model we developed has significant practical implications for how to foster students' creativity and shape their psychological capital through education in order to further develop students' entrepreneurial ambition. The results of this study are robust and significantly supports the research findings. First, the findings highlight the positive effects of Opportunity recognition to Entrepreneurial intentions of students. Second, this study is successful to provide a more thorough and complex path for the formation of college students' entrepreneurial intentions, as well as to uncover the interaction of numerous elements that influence the outcome. Even more revolutionary are the conclusions that psychological capital are key conditions for entrepreneurial intention formation. The research result expands on the crucial roles of positive psychological qualities in college students' entrepreneurial decision-making by providing a novel perspective on predicting entrepreneurial intention (Bonesso et al., 2018). Additionally, Bacq and Alt (2018) included social worth variables as a critical moderating factor in the formation of college students' social entrepreneurial intention for the first time, and this study confirmed the conclusion's stability.

5. Conclusion

While the findings confirm the TPB's generalizability across contexts, they also contribute in diverse ways to the existing EI literature. OR should be extended beyond the usual TPB model variables to have a better grasp of the embeddedness of purpose. Additionally, this research suggests that developing skills related to psychological capital – social value, inventiveness, and optimism – could be a substantial contribution to the content of entrepreneurship education. This study develops a more complicated model of how entrepreneurial intentions are formed in college students, and our findings also highlight theoretical contributions and practical value. Certain research restrictions, on the other hand, persist; these can help to better future study. First, our research samples were from business students from one university in Danang City. The conclusions of this research are limited to the students from this university. The findings of this study indicated that physical elements and opportunity recognition have a significant favorable effect on business students' entrepreneurial intentions. However, educational systems and modalities of instruction vary significantly across various domains, including the learning environment, cultural notions, and the feedback system. As a result, samples will be collected from other sectors (such as education, engineering, etc.) and regions to further investigate the universality of the study's conclusions and to compare the effects of various characteristics of trans-regional education on the formation of entrepreneurial intention in college students. Second, this may not accurately reflect actual entrepreneurial behavior due to the fact that EI levels fluctuate over time (Byabashaija & Katono, 2011; McCann & Vroom, 2015). Indeed, while intention is often the strongest predictor of behavior, it is not the activity itself as the path from intents to actions and new venture formation can be lengthy at times (Gielnik et al., 2014).

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DETERMINANTS OF CONSUMER PRESSURE FOR BETTER REVERSE LOGISTICS

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ABSTRACT

In supply chain research and applications, reverse logistics is often overlooked compared to forward logistics although it can bring substantial financial benefits to the companies. This research will employ the extended Theory of Planned Behaviour (TPB) to investigates the determinants of consumer pressure for better reverse logistics. Therefore, the research questions of this study were articulated as: (1) Are there any relationships between the behavioural intention of consumer pressure and its determinants including attitude, subjective norms, and perceived behavioural control?; and (2) Are there any relationships between the behavioural intention of consumer pressure and its other determinants such as moral norms, past behaviour, and self-identity? This study can be considered as a viable theoretical framework for further research.

Keywords: Reverse logistics; Consumer pressure; Theory of Planned Behaviour; Moral norms; Self-identity.

1. Introduction

In supply chain research and applications, reverse logistics is often overlooked compared to forward logistics (Grabot et al., 2014). The managers have traditionally focused on the inbound movement of products or materials to ensure it can be efficiently delivered (Abdullah and Yaakub, 2015; Yen, 2018). However, reverse logistics needs to be managed sustainably with more attention as it can bring substantial financial benefits to companies (Anderson, 2009; Genovese et al., 2017; Jayaraman and Luo, 2007). Besides, the companies are also under pressure to master reverse logistics activities because they have emerged as powerful platforms for blueprinting companies' environmental strategies and generating economic benefits for society (Buysse and Verbeke, 2003; Eltayeb et al., 2011; González-Benito and González-Benito, 2006; Lin and Ho, 2011; Luque-Vílchez et al., 2019). The pressure comes from different stakeholders such as (1) government, (2) societies and communities, (3) markets and competitors, (4) media, (5) suppliers, (6) organisations (focal company and shareholders), (7) employees, and (8) customers (clients and consumers) (Govindan and Bouzon, 2018).

Among these groups, customers can be regarded as one of the firms' most influential stakeholders regarding firms' environmentally proactive motivation (Christmann, 2004; Etzion, 2007; Oka, 2018; Rondinelli and Berry, 2000). They would love to see a company's activeness and readiness in pursuing environmental campaigns (De Pelsmacker et al., 2005; Yen, 2018). They search for those active firms (Han and Hyun, 2018; Manaktola and Jauhari, 2007), push those to implement green practices (Darnall, 2006; Iatridis and Kesidou, 2018) with their requirements and motivations (Agyabeng-Mensah et al., 2020; Lamming and Hampson, 1996; Lee, 2008; Preuss, 2002). Without customer pressure, companies are less likely to adopt green practices willingly (Jack et al., 2010; Paula et al., 2019). That is, the more pressure customers put on the firms, the more active they will be in adopting innovative environmental approaches (Abdullah and Yaakub, 2015). As a result, past studies have confirmed the positive relationships between customer pressure and companies' environmental activities (Caniels et al., 2013; Christmann, 2004; Etzion, 2007; Habib et al., 2020; Lee, 2008; Liu et al., 2012).

Although research indicates that customer pressure radically affects the practices of reverse logistics - one of the companies' environmental activities (Abdullah and Yaakub, 2015), few studies have examined customer pressure as one kind of behaviour towards green practices. Besides, relatively little research has been carried out on the determinants of customer pressure and even less on those of consumer pressure. To bridge this research gap, this research will employ the extended Theory of Planned Behaviour (TPB) to investigates the determinants of consumer pressure for better reverse logistics. Therefore, the research questions of this study were articulated as below:

RQ1: Are there any relationships between the behavioural intention of consumer pressure and its determinants including attitude, subjective norms, and perceived behavioural control?

RQ2: Are there any relationships between the behavioural intention of consumer pressure and its other determinants such as moral norms, past behaviour, and self-identity?

2. Theoretical Background

2.1. Consumer pressure for better reverse logistics

Revere logistics activities re-use of packaging, or buy refurbishment of goods, or receive repairs and maintenance as per guarantee agreements, or enroll on programmes of exchange or give-away end-of-life goods for recycling and disposal purpose. In order to have better reverse logistics, consumers have to be more aggressive when asking companies to provide more reverse logistics activities. Consumer pressure for better reverse logistics, therefore, can be categorised as one kind of pro-environmental behaviour that includes buying, using and post-using, managing household, and involving in consumer activism (Peattie, 2010; Sdrolia and Zarotiadis, 2019). The behaviour can be explored via two different angles: one is related to the pressure, and the other is related to the reverse logistics activities. While the former can be analysed through the lens of consumer activism or the purpose of the behaviour, the latter can be viewed as one chain of the whole pro-environmental behaviour - the post-use one. Firstly, this study reviews the extant literature on consumer activism. According to Fielding et al. (2008a) and Jin et al. (2019), few studies on consumer activism and its closest and broader term - environmental activism-refer to behaviour or actions performed to increase environmental quality by raising environmental awareness (Derchi et al., 2021; Seguin et al., 1998). The research literature has introduced several factors as the determinants of consumer activism such as risk perceptions, perceived responsibility (Derchi et al., 2021; Seguin et al., 1998), environmental hazard, environmental knowledge, personal efficacy (Geiger et al., 2017; Lubell, 2002), and attitude (Forno and Graziano, 2014; McFarlane and Boxall, 2003; McFarlane and Hunt, 2006). Many of them are extensively used in the TPB, whose main strength in explaining the process of decision making is to facilitate additional factors based on specific behavioural situations (Hayes, 2018; Manstead and Parker, 1995), which in turn boost the predictive ability of the whole model (Biddle et al., 1987; Conner and Armitage, 1998; Cook et al., 2002; Terry et al., 1999; Zientara and Zamojska, 2018).

Like consumer activism, post-use of consumer behaviour represents another under-researched aspect within the extant literature, although consumers play a vital role in ensuring the reverse logistics system work (Peattie, 2010; Sdrolia and Zarotiadis, 2019). Currently, most studies have discussed consumers' attitudes, behaviours, and motivations (Bekin et al., 2007; Kilbourne and Beckmann, 1998; Wilson, 2016) to support reverse logistics processes such as recycling (Boldero, 1995; Monnot et al., 2019; Taylor and Todd, 1995), using energy (Harland et al., 1999), composting (Monnot et al., 2019; Taylor and Todd, 1995), encouraging sustainable agriculture initiatives (Beedell and Rehman, 2000; Carr and Tait, 1991; Fielding et al., 2008b), conserving water (Harland et al., 1999; Kantola et al., 1982; Wilson, 2016), and reclaiming post-use products for reuse, or responsible disposal (Seitz and Peattie, 2004). Unsurprisingly, the TPB has also been relied on considerably to examine these post-use activities.

Therefore, as the literature on consumer pressure for better reverse logistics, in particular, is still in the infant stage, this research will apply the TPB model based on predictors regarding consumer activism (the first angle) as well as post-use behaviour (the second angle). This decision is based on the fact that, for the past thirty years, environmentalists and others who are professionally concerned with environmental activities have heavily employed the TPB to describe and explain attitude - behaviour relationships as well as predict various kinds of pro-environmental consumer behaviour (Ajzen, 1991; Conner and Sparks, 1996; Garay et al., 2019; Godin and Kok, 1996; Han, 2020).

2.2. The original variables of TPB

The TPB is a revised version of the theory of reasoned action (TRA) with the addition of perceived behavioural control (PBC) (Ajzen, 1991). Ajzen (1991) claimed that introducing this component is needed as the TRA seems limited in explaining and understanding behaviours that are not entirely controlled by people's volition. The link between the perceived behavioural control and intention is derived from two main assumptions. First, they are positively related and, second, the people's control will directly impact the actual behaviour if the perceived control matches the actual control (O'Connor and Armitage, 2003). Besides, like the TRA, the other critical components of behavioural intention in the TPB are attitude toward the behaviour and subjective norms (Ajzen, 1991). As mentioned above, the three determinants are also applicable to predict pro-environmental behaviour and environmental activism.

More specifically, first, attitude toward the behaviour can be considered a positive or negative feeling about obtaining an objective (Ajzen, 1991; Salgues, 2016). It refers to multiplicative products of belief strength and outcome evaluation (Manosuthi et al., 2020). If a person perceives a specific behaviour leads to a desirable outcome, he is more likely to have a positive attitude towards that behaviour (Manosuthi et al., 2020). Secondly, subjective norms are known as perceived social pressure of conducting a particular behaviour (Ajzen, 1991). It is regarded as multiplicative composites of normative belief - motivation interactions (Manosuthi et al., 2020). Normative beliefs suggest behavioural expectations from crucial reference groups (e.g., family and friends), whilst motivation to comply depends on the criticalness of the reference group's expectations (Meng et al., 2020; Moon, 2021). Finally, the last predictor, PBC, is the total perceived control over carrying out a certain behaviour. That is to say, PBC shows people's perception about whether carrying out that behaviour is hard or easy and the likelihood of that behaviour is sufficient (Ajzen, 1991).

In general, high levels of attitude, subjective norms and perceived control increase ones' intentions to carry out a certain behaviour. Therefore, three following hypotheses are provided:

H1. The attitude towards consumer pressure for better reverse logistics is positively related to the intention to carry out that pressuring behaviour.

H2. Subjective norms regarding consumer pressure for better reverse logistics are positively related to the intention to carry out that pressuring behaviour.

H3. The PBC of pressuring firms for better reverse logistics is positively related to the intention to carry out that pressuring behaviour.

2.3. The additional variables of TPB

Many authors, including its founder Ajzen, have stressed that TPB is a self-completed theory with the three compatible components (Elliott et al., 2003; Sheeran et al., 2001). However, they also confirmed that TPB is very flexible and happy to welcome new variables. In fact, 72% of articles employing TPB have at least one new variable to understand pro-environmental behaviour including recycling, travelling and commuting, energy-saving, and performing general green behaviour (Yuriev et al., 2020). These studies have identified several additional factors: moral norms, past behaviour, self-identity, habit, self-efficacy, environmental awareness, and so on. Therefore, moral norms, past behaviour and self-identity (the three highest chosen) are additional variables included in the model of this study to explain intentions of consumer pressure for better reverse logistics more adequately.

Firstly, moral norms refer to the reflection of a personal value system attached to a certain behaviour (Conner and Armitage, 1998; Liu et al., 2020; Lizin et al., 2017; Yuriev et al., 2020). Past research shows that, along with attitude, subjective norms, and PBC, moral norms are a crucial component in understanding pro-environmental behaviours like recycling (Botetzagias et al., 2015; Chan and Bishop, 2013; Chu and Chiu, 2003; Guagnano et al., 1995; Kumar, 2017; Lizin et al., 2017), using public transportation (Heath and Gifford, 2002), using car (Mancha and Yoder, 2015), and buying green products (Liu et al., 2020). Besides the direct effects, moral norms' indirect ones on intention via attitudes are examined in these studies (Botetzagias et al., 2015; Chan and Bishop, 2013; Liu et al., 2020). Besides, subjective norms can be viewed as a determinant of moral norms (Liu et al., 2020) because some argue that the belief of what is right stemmed from referents will eventually become an individual's moral norms (Bamberg and Möser, 2007). Hence, the following hypotheses are generated:

H4. Moral norms are positively related to intentions regarding consumer pressuring for better reverse logistics behaviour.

H5. Moral norms are a significant mediator between subjective norms and attitude towards consumer pressuring for better reverse logistics.

H6. Attitude is a significant mediator between moral norms and intention towards consumer pressuring for better reverse logistics.

Secondly, as ones' decisions regarding pro-environmental behaviours are said to closely related actions performed in the past, the past behaviour has increasingly been added to the TPB to explore its link to intention or behaviour (Boldero, 1995; Cheung et al., 1999; Liu et al., 2020; Lizin et al., 2017; Mannetti et al., 2004; Richetin et al., 2012; Terry et al., 1999; Tonglet et al., 2004; White and Hyde, 2012). However, despite being slightly in favour of positive relationship, the findings have been inconclusive so far. For example, Boldero (1995) found no significant connection between past behaviour and intention to recycle newspapers while some researchers claimed a positive association between past behaviour the and behavioural intention (Cheung et al., 1999; Lizin et al., 2017; Terry et al., 1999; Tonglet et al., 2004; White and Hyde, 2012). Another concern about past behaviour is whether it directly influences the actual behaviour in the future or whether it is mediated by intention (Liu et al., 2020). In this study, consumers' past behaviour concerning reverse logistics is hypothesised as a strong predictor of intention and future behaviour of the consumer pressure as well as the attitude, subjective norms, and PBC can be served as crucial mediators for the link between past and future behaviour via the intention (White and Hyde, 2012). Therefore, several hypotheses are formed as below:

H7. Past behaviour is positively related to intentions regarding consumer pressuring for better reverse logistics behaviour.

H8. Attitude is a significant mediator between past behaviour and intention towards consumer pressuring for better reverse logistics.

H9. Subjective norm is a significant mediator between past behaviour and intention towards consumer pressuring for better reverse logistics.

H10. PBC is a significant mediator between past behaviour and intention towards consumer pressuring for better reverse logistics.

Last but not least, self-identity has been a crucial antecedent of intentions (Armitage and Conner, 1999; Biddle et al., 1987; Conner and Armitage, 1998; Cook et al., 2002; Fielding et al., 2008a; Jin et al., 2019; Mannetti et al., 2004; Pierro et al., 2003; Sparks et al., 1995; Sparks and Guthrie, 1998; Sparks and Shepherd, 1992; Terry et al., 1999; Zientara and Zamojska, 2018). White and Hyde (2012, p. 787) have defined it as "the extent to which performing a particular role behavior is an important component of an individual's self-concept." Self-identity is crucial in predicting environmental activism (Conner and Armitage, 1998; Fielding et al., 2008a; Jin et al., 2019) as these kinds of behaviour require more collective, group-based solutions (Fielding et al., 2008a; Peattie, 2010; Sdrolia and Zarotiadis, 2019). In other words, focusing only on the attitudes and behaviour of consumers is not enough to make behavioural changes needed for sustainability (Liedtke et al., 2013). Similar to past behaviour, self-identity could affect intentions directly (Fielding et al., 2008a; Mancha and Yoder, 2015; Sparks and Shepherd, 1992; White and Hyde, 2012) or indirectly via attitudes (Fielding et al., 2008a; Mancha and Yoder, 2015; Sparks and Shepherd, 1992), subjective norms (Mancha and Yoder, 2015), and PBC (Mancha and Yoder, 2015) in the case of consumer pressure for better reverse logistics. It is also a mediator between past behaviour and behavioural intention (White and Hyde, 2012). This study, as a result, proposes several hypotheses related to self-identify as follow:

H11. Self-identity is positively related to intentions regarding consumer pressuring for better reverse logistics behaviour.

H12. Attitude is a significant mediator between self-identity and intention towards consumer pressuring for better reverse logistics.

H13. Subjective norm is a significant mediator between self-identity and intention towards consumer pressuring for better reverse logistics.

H14. PBC is a significant mediator between self-identity and intention towards consumer pressuring for better reverse logistics.

H15. Self-identity is a significant mediator between past behaviour and intention towards consumer pressuring for better reverse logistics.

3. Research method

This study will employ the quantitative method to understand determinants of consumer pressure for better reverse logistics. Consumers experiencing any types of reverse logistics in Vietnam is the target population of this research. They may re-use of packaging, or buy refurbishment of goods, or receive repairs and maintenance as per guarantee agreements, or enroll on programmes of exchange or give-away end-of-life goods for recycling and disposal purpose. These activities are getting more and more frequent and popular in Vietnam with the increasing support from consumers.

A self-administered on-site survey will be carried out to collect data via convenience sampling from the above consumers. Online-based platforms such as Facebook and Twitter will be used to distribute the e-questionnaire, developed by using the Google Form, to the consumers. The data will be then analysed using the R package SEMinR. First, a structural equation modelling (SEM) using the PLS-SEM approach will be carried out to test and map the causal relationships between constructs. Second, the bootstrapping method will be employed to examine mediating effects of moral norms (from subjective norms to attitude), of self-identity (from past behaviour to intention) and of attitude, subjective norms, and perceived behavioural control, respectively (from past behaviour and self-identity, respectively, to intention).

4. Discussion and conclusion

This research reviewed past studies that explore the determine affecting consumer activism and post-use of consumer behaviour regarding reverse logistics. Moreover, this study also proposed a conceptual model to fill the existing research gaps. Specifically, consumer intention to pressuring activities for better logistics are hypothesised to be affected by a number of determinants such as attitude, subjective norms, and perceived behavioural control. Besides, additional factors such as moral norms, past behaviour, or self-identity are also discussed as potential causes of the intention. These new addition also mediate and are mediated the proposed associations between the intention of consumer pressure and its determinants according to the TPB. These hypotheses are fascinating because Vietnamese consumers start to take reverse logistics activities such as recycling into consideration and they also want to receive support from companies. For example, consumers was very pleased with the programme of PS asking them to exchange their old toothbrushes for recycling. The company also collaborated with a famous singer to promote the programme with a catchy song “Dieu nho be than ky.” This can build up consumer’ attitude towards the behaviour of recycling and they will be eager to ask other companies to have similar reverse logistics campaign. Besides, COVID-19 has happened and damaged the economy but it also makes people think over sustainability development. This can be only successful with the collaboration between companies and consumers to protect the environment. And there is no doubt that consumer’s aggressiveness with reverse logistics activities could be a great start to develop that collaboration.

Overall, this research helps build up a novel perspective for the literature on consumer pressure in regards of reverse logistics. Second, the study has implications for both practical management and relevant authorities in the sense that both government and societies are key enablers as well as moderators of companies’ reverse logistics activities. Third, a major limitation of this paper is the lack of empirical results to support proposed theoretical arguments. Further empirical research on consumer pressure towards better reverse logistics therefore is necessary.

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INNOVATION OF HOTELS IN VIETNAM

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ABSTRACT

As a driving force for growth of the tourism industry, innovation has become a necessity for hotels to stay competitive in the long run. However, innovation is rarely assessed for hotels in Vietnam at the present time. This study aims to determine a scale to measure innovation in the hotel industry in the context of Vietnam and provide an insight on how innovative hotels are, thereby offering implications to promote innovation in the hotel industry.

Keywords: innovation; tourism; hotel; Vietnam.

1. Introduction

Innovation has become a major driver of competitive advantage in the contemporary global environment. According to Drucker (1994) and Haja (2015), innovation is critical to the success and survival of an enterprise. Innovation is the only way whereby an organization can turn difficulties or challenges into opportunities and thereby achieve success (Huse et al., 2005).

Innovation is being undertaken more and more in various tourist destinations and organizations, both private and public (Hjalager, 2002). Traditional business practices that once brought success in the age of mass tourism are no longer sufficient to guarantee customer satisfaction (Monteiro and Sousa, 2011). Hotels, dining and entertainment establishments, tour operators and travel agents, and transportation service providers are all trying their best to address diverse needs and desires of customers. In order to achieve that goal, it is essential that service providers in the tourism industry adopt innovations which help them better recognize their customers' needs, tailor their offering to match market trends and create more innovative practices to satisfy customers more properly at a lower cost.

The tourism industry covers a wide range of activities such as restaurants, entertainment, transport and hotel. The hotel industry is a prominent tourism sector because it is the basic requirement of tourists in the destination and plays a necessary part in providing other tourism services. As the world becomes more complicated, the tourism and hospitality industry are constantly changing and facing new global challenges, forcing enterprises to adapt to this volatile environment. Traditional business solutions that have been successful for a long time are no longer relevant. New and innovative ways of doing business are required. Organizations need to be flexible and efficient in order to deal with unexpected changes and to maintain successful processes (Basadur, 1997). Furthermore, organizations should be able to analyze and anticipate environmental changes and adapt by creating new products, services or processes. To gain customer satisfaction and increase competitive advantage worldwide, it is crucial that the hospitality industry undertake innovation (Beesley & Davidson, 2013; Kallmuenzer, 2018; Río-Rama et al., 2017). Managers of different levels must take innovation into consideration and promote innovation in their organizations. Hotels are categorized as high-level client-intensity type (Coombs & Miles, 2000) and innovation in the hotel fundamentally depends on the awareness of the managers as well as the commitment and continuous improvement of the employees. The highly competitive environment of the hospitality industry encourages the search for new ways and factors to perform effectively. One of the core trends in this area is the development and application of many new innovations and factors that can act as a powerful driver for the growth of the hospitality industry. All forms of innovation are necessary for both the survival and competitiveness of hospitality businesses. The systematic and wide embrace of innovations to accelerate growth and business performance is now recognized by many researchers and managers (Dzhandzhugazova et al., 2016). The innovation trend in the hospitality industry is shown by the ability to create diverse innovations that ensure the successful development of a hotel (Zaitseva, 2013). The large-scale application of new knowledge, as well as its combination creates new services, products and technologies. If a hotel does not engage in any innovation process, its performance will sooner or later decline and its competitiveness will be reduced (Ilyenkova & Hochberg, 2009).

Vietnam identifies tourism as a crucial economic sector, contributing greatly to employment and GDP, playing a part in changing tourism infrastructure. According to Vietnam National Administration of Tourism, tourism contributed over nine percent to Vietnam's GDP in 2019, creating nearly three million jobs. In general, tourism witnessed a high growth rate of 22.7% during the period from 2015 to 2019. Vietnam was ranked seventh among the world's 20 fastest growing travel destinations in the year 2019 according to the United Nations World Tourism Organization. With global tourism being fiercely competitive especially after the Covid-19 pandemic, the tourism sectors including hospitality are required to implement proper business innovations to gain competitive advantage for the destination. The main subject of this study is hotels since hotels are the main accommodation provider in the tourism and hospitality industry. Moreover, they have been made more vulnerable due to the change in customers' behavior as a result of technological developments as well as the outbreak of the Covid-19 pandemic. Despite the importance of innovation in the success of hotels and the development of the tourism industry, the lack of literature about hotel innovation in Vietnam has been revealed. Especially, no prior research has addressed the issue of hotel innovation measurement in the context of Vietnam. The purpose of this study is therefore to shed light on innovation measurement in the hotel industry in Vietnam and the extent of innovation at 3- to 5-star rated hotels in Vietnam, thereby proposing implications for hotel owners and managers to develop more innovative policies in the hotel industry.

2. Literature review

2.1. Innovation

One of the first researchers to address the topic of innovation in organizations is Drucker (1985). He proposed the adoption of innovation as a differentiator that creates new value. From an organizational perspective, innovation requires finding and implementing certain processes, products and services, with the objective of establishing a competitive advantage over competitors and making profits (Divisekera & Nguyen, 2018; Hjalager, 2010; Zehrer et al., 2015). To many authors, innovation is defined as the ability to successfully carry out an idea, process, product, or service, involving the possibility of change and adaptation. It is characterized by everything that differs from business as usual or which represents a discontinuance of previous practice in some sense for the innovating firm (Divisekera & Nguyen, 2018; Fraj et al., 2015; Hjalager, 2010; Kallmuenzer, 2018).

The terms creativity and innovation are often not clearly distinguished in the academic literature. In prior research, creativity is considered as a process that results in a novel work that is accepted as useful, tenable, or satisfying by a significant group of people at some point in time (Stein, 1994) while innovation is defined as the intentional introduction and application within a job, work team or organization of ideas, processes, products or procedures which are new to that job, work team or organization and which are designed to benefit the job, the work team or the organization (West and Farr, 1989). Decelle (2004) describes creativity as the production of new ideas, new approaches and inventions while innovation is the application of new and creative ideas and the implementation of inventions. On the other hand, De Sousa (2008) believes innovation is related to creative processes. Creativity refers to creative processes at the individual level, whereas innovation corresponds to performance at the organizational level. However, as organizations implement systems to solve complex problems, moving from individual to group and organizational levels, it becomes increasingly difficult to separate creativity and innovation, so we can agree with Basadur (1997) and assume that there is no distinction between creativity and innovation despite any other level above the individual.

2.2. Innovation in tourism

World Tourism Organization (2019, p.11) states that "Innovation in tourism is the introduction of a new or improved component which intends to bring tangible and intangible benefits to tourism stakeholders and the local community, improve the value of the tourism experience and the core competencies of the tourism sector and hence enhance tourism competitiveness and/or sustainability. Innovation in tourism may cover potential areas, such as tourism destinations, tourism products, technology, processes, organizations and business models, skills, architecture, services, tools and/or practices for management, marketing, communication, operation, quality assurance and pricing". Similarly, Elzek et al. (2020) define tourism innovation as a group of new and creative operations aimed at developing tourist destinations and improving services in order to satisfy desires and needs of tourists.

Innovation in tourism has positive impacts on the economy, local community, tourists and destination (Elzek et al., 2020). From an economic perspective, as tourism is one of the fastest-growing industries worldwide and plays a critical role in economic development, tourism industry's ability to offer new products and experiences is needed to boost economic performance and competitiveness of both tourism enterprises and destinations (Boycheva, 2017; Hall & Williams, 2008; Hoarau & Kline, 2014; Tuzunkan, 2017). Besides, tourism innovations contribute to increased efficiency and productivity of tourism enterprises and facilitate their connectivity (Hjalager, 2013). With regards to the local community, tourism innovation enhances productivity and thus contributes to the growth of income for the local community and their welfare (Boycheva, 2017; Carlisle et al., 2013). From a tourist perspective, tourism innovation is one of the most important factors that contribute to fully respond to the increasing needs and demands of tourists, provide tourists with comfort, increase the quality of tourist experience, and consequently improve their loyalty to the destination (Carlisle et al., 2013; Hall & Williams, 2008; Hjalager, 2013; Souza et al., 2017). On the destination level, innovation in tourism helps to develop the reputation of the destination and performs the main role in destination management (Carlisle et al., 2013; Carvalho & Costs, 2011; Souza et al., 2017). Tourism innovation is also among the factors that affect sustainable development of tourism destinations and new destination formation (Hjalager, 2013; Marákovál & Medved'ová, 2016).

2.3. Innovation in the hotel industry

In the hospitality industry, which is considered a complicated industry (Kallmuenzer, 2018), most innovations usually involve incremental improvements or adjustments to existing situations which are designed to improve performance, efficiency and, if possible, increase profits in the short term (Brooker, 2011). Most hotel managers realize that innovations are the essence of success in modern hotel operations (Chen, 2011). Recent studies show that innovation helps hotels grow and get a strategic position by lowering costs and increasing quality (Grobelna & Marciszewska, 2013; Río-Rama et al., 2017; Tajeddini & Trueman, 2012; Tigu et al., 2013; Tseng et al., 2008). Some authors believe that through innovation, performance of hotels can be improved, processes can be optimized, organizational culture can be built in accordance with market trends, and profits can be assured in an increasingly competitive market (Campo et al., 2014; Chen et al., 2014; Kessler et al., 2015; Liao & Wu, 2010; Río-Rama et al., 2017; Sinclair & Sinclair, 2009; Tajeddini & Trueman, 2012; Tigu et al., 2013; Tseng et al., 2008).

Obtaining and maintaining a sustainable competitive advantage is one of the main objectives of many hotels nowadays (Grobelna & Marciszewska, 2013; Liao & Wu, 2010; Lu & Tseng, 2010; Sinclair & Sinclair, 2009; Tajeddini & Trueman, 2012). Therefore, it is necessary to embrace innovation in organizations' processes in order to design strategies creating value in delivery of products and services (Chen et al., 2014; Fraj et al., 2015; Sinclair & Sinclair, 2009; Tseng et al., 2008). By this way, hotels can address the needs of guests, keeping their loyalty and intention to return (Chen, 2015; Grobelna & Marciszewska, 2013; Liao & Wu, 2010; Tajeddini & Trueman, 2012; Tigu et al., 2013) and achieve the desired service quality and financial performance (Bani-Melhem et al., 2018; Kallmuenzer, 2018; Kallmuenzer & Peters, 2018).

With regards to innovation types, Schumpeter (1934) classifies innovation into five categories: product innovation, process innovation, marketing innovation, input innovation and organizational innovation. According to Tigu et al. (2013), innovation may take the form of five relevant types: product or service innovations, process innovation, managerial innovation, marketing innovation, institutional or management innovation. Tseng et al. (2008) identify three objects of innovation: technological innovation, organizational innovation, human capital innovation and noted that innovation is important to hotel performance through a survey conducted on executives from 116 hotels in Taiwan. The Organization of Economic Cooperation and Development OECD (2005) distinguish four types of innovation which can be applied to the tourism sector including product innovation, process innovation, marketing innovation and organizational innovation. In terms of their degree of novelty, the innovations can be new to the world, new to the market or only new to the hotel (OECD, 2005). In addition, Divisekera & Nguyen (2018) point out that while innovations in manufacturing firms mainly focus on developing new products which are technology-based, tourism enterprises engage in all types of innovations - product, process, organizational and marketing. The classification of innovation introduced by OECD (2005) is adopted by many researchers, notably Nieves et al. (2014) studying the influence of knowledge-based resources on these four types of innovation in hotels in Spain or Wikhamn et al. (2017) who assess four categories of innovation in the hotel sector in Sweden. Also following the OECD (2005) guidelines, Nicolau & Santa-María (2013) conduct a research on the effect of innovation on hotel market value in Spain and indicate a positive impact of innovation on the future sales of the hotel; similarly, Hu et al. (2020) explore how innovation types, namely product, process, marketing and organizational innovation affect the performance of hotels in Ghana and find significant positive effect. In line with our objectives, this study adheres to the OECD's four categories of innovation in the hotel industry which are described as follows:

- Product innovation is the "introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses. This includes significant improvements in technical specifications, components and materials, incorporated software, user friendliness or other functional characteristics. Product innovations can utilize new knowledge or technologies or can be based on new uses or combinations of existing knowledge or technologies" (OECD, 2005, p.48). In the hospitality industry, product or service innovations are defined as products and services that are new to the customers or new to the enterprise (Backman et al., 2017). Services such as spa facilities are also included when product innovation is under consideration in hotels (Jacob et al., 2003; Pikkemaat, 2008).

- Process innovation is the "implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software. Process innovations can be intended to decrease unit costs of production or delivery, to increase quality, or to produce or deliver new or significantly improved products" (OECD, 2005, p.49). Nicolau & Santa-María (2013) claim that information and communication technologies represent the most important part of process innovation. Examples of process innovation in the hotel sector may include self-check-in systems or booking services or apps where customers can place their order (Backman et al., 2017) or faster methods of preparing food, effective technologies to save energy and reduce waste (Rodgers, 2007).

- Marketing innovation is the "implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing. Marketing innovations are aimed at better addressing customer needs, opening-up new markets, or newly positioning a firm's product on the market, with the objective of increasing the firm's sales" (OECD, 2005, p.49). Ladany (1996) and Nicolau & Santa-María (2013) state that this type of innovation is related to detecting new segments, redesigning promotional messages or introducing new alternative pricing methods or marketing methods. In addition, the advent of the Internet has a huge impact on tourism intermediaries, not only because providers can now communicate directly with their customers but also because traditional wholesalers, such as Global Distribution System, can distribute products to their potential customers without intermediaries. Therefore, most of the marketing innovations in hotels have been carried out via the Internet which helps reduce marketing costs (Hankinson, 2004).

- Organizational innovation is the "implementation of a new organizational method in the firm's business practices, workplace organization or external relations. Organizational innovations can be intended to increase a firm's performance by reducing administrative costs or transaction costs, improving workplace satisfaction (and thus labor productivity), gaining access to non-tradable assets (such as non-codified external knowledge) or reducing costs of supplies" (OECD, 2005, p.50). In other words, the introduction of new organizational methods within the company to improve its operational practices involves administrative efforts aimed at renewing the organizational processes, procedures, mechanisms or systems and promoting teamwork, information sharing, coordination, cooperation, collaboration, learning and innovativeness (Gunday et al., 2011). Organizational innovation can be divided into: (a) internal innovation that is related to the renovation or improvement of the internal structure of the hotel, which may be linked to changing procedures, activities and processes, or to providing new ways to organize the work of hotel; (B) external innovation that engages in establishing new relationships with external parties, for example by supporting an alliance strategy or expanding the business operations (Attia et al., 2019; Menses & Teixeira, 2011). Empowering employees to make decisions, training them on the job, encouraging them through benefits and salary increases, improving workplace satisfaction, or reorganizing employees' tasks are examples of organizational innovation implemented in hotels (Hjalager, 2010; Hochschild, 1983; Ottenbacher and Gnoth, 2005).

3. Research method

A questionnaire was developed for gathering primary data, utilizing methods to make the measurement valid and reliable. To ensure content validity, an extensive literature review was conducted to identify appropriate factors in determining a scale to measure innovation for hotels.

According to our goals, this paper adopts the four-dimensional model of innovation related to tourism industry as suggested by different authors (Campo et al., 2014; Divisekera & Nguyen 2018; Hu et al., 2020; Nicolau & Santa-María, 2013; Nieves et al., 2014; OECD, 2005; Rajapathirana, 2018; Wikhamn et al., 2017) The four types of innovation deployed here including product, process, marketing and organizational innovation are representative of innovation in the hotel industry. The scale of measurement for the four types of hotel innovation is illustrated in Figure 1.

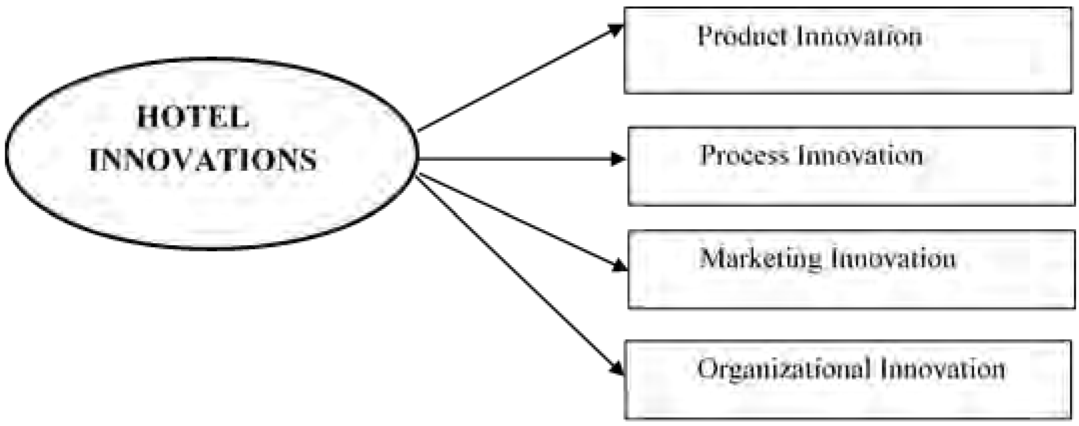

Figure 1. Proposed research model for hotel innovations in Vietnam

To make observed variables which are based on four items of the innovation measurement scale suitable for this study, they have been contextualized, reviewed, pre-tested and validated in the hotel industry by means of in-depth interviews with experts who are executives/managers of hotels and hotel associations in Vietnam. In-depth interviews are carried out to confirm the coverage, relevance and how easy it is to understand and response to the questions. The two main questions posed to the experts in this study are: (1) Are the indicators for measuring innovation in hotels in the scale relevant in the context of Vietnam? (2) Which indicator needs to be added or adjusted to measure innovation in hotels in Vietnam, and why? In-depth interviews are conducted in the office or over the phone (subject to respondent's acceptance) with each interview typically lasting 60 minutes with a prepared scenario.

This qualitative approach contributes to the inclusion of context-specific indicators associated with reality and keeps up to date with hotel innovations. As a result of the qualitative research, the wording of some indicators has been changed to make them easier to understand. One expert initially suggested adding another observed variable regarding marketing innovation, however, after consulting with other experts and analyzing the need, this addition is not appropriate. In terms of product innovation, due to characteristics of hotels, the experts agree on three separate product categories of hotel, namely: (1) tangible goods (food, drink, and souvenirs….); (2) main services (room service); and (3) additional services (spa, swimming pool, restaurant, bar, karaoke...). After some adjustments, the questionnaire is pre-tested by three experts and there are no further changes. Consequently, the scale of hotel innovations in Vietnam consists of four objects of change in which the measurement of product innovation is related to three items, the measurement of process innovation involves three items, the measurement of marketing innovation entails four items, and the measurement of organizational innovation refers to three items.

The well-structured questionnaire is designed in two parts. Part 1 requires basic information about the selected hotels (hotel rating, number of staff, type of hotel) and information about respondents. Part 2 includes hotel innovation related questions.

Research subjects are hotels operating in Vietnam. Usually, for exploratory factor analysis, sample size should be at least 10 times the number of observed variables (Hair et al., 2010). Consequently, with 13 observed variables representing the four objects of innovation, we determine that the enough amount of data for analysis is n = 130 (13 x 10 = 130). However, in order to ensure the minimum sample size and in case of unsatisfactory responses, the number of questionnaires distributed is 150 due to the expected number of invalid responses at about 15%.

Data collection is implemented via both face-to-face and telephone interviews, making use of convenience sampling. Respondents are approached thanks to relationships with a few of hotel executives and the introduction of Vietnam Tourism Association. This sampling method is employed because respondents are accessible and willing to answer the questionnaire responsibly, and it is also less expensive in terms of time and cost of information collection. To have data collection well-prepared, three CEOs are invited for pilot interviews with an initial survey draft. They are knowledgeable and enthusiastic to help assess how easy it is to correctly understand the content of the questions and predict how long it takes respondents to answer the questionnaire. 135 usable questionnaires are obtained resulting in a response rate of 90%, compared with 15 invalid questionnaires accounting for 10%. The data of 135 valid ones are eligible for the analysis, so no further investigation is needed.

4. Results and discussion

4.1. Description of the research sample

Among 135 surveyed hotels, there are 87 three-star rated hotels, accounting for 64.4%; 38 four-star rated hotels, accounting for 28.2%; and 10 five-star rated hotels making up 7.4%. In terms of type of ownership and management, privately-owned hotels managed by domestic joint stock companies account for the highest proportion, at 76.3% (103 hotels) while privately-owned hotels managed by international hotel chains occupy 20.7% (28 hotels) and mainly 4- to 5-star rated luxury hotels. State-owned hotels comprise only 3%.

4.2. Results of testing the scale of factors measuring innovation

In order to assess the extent of innovation of hotels in Vietnam, this study employs the four-dimensional framework of innovation that has been deployed in much previous research, in which the measurement items have been adjusted to be suitable for the context of Vietnam. Hence, the data analysis method to test the scale is carried out by confirmatory factor analysis (CFA) first to confirm the reliability and validity of the scale in a new context. The findings show that Chi-square value / df (1.478) is less than 2, GFI (0.917) is greater than 0.9; TLI (0.934) is greater than 0.9; CFI (0.921) is greater than 0.9 and RMSEA (0.048) is less than 0.08; hence, the model is considered to match the data (Hair et al., 2010).

In addition to evaluating the model's fit, confirmatory factor analysis (CFA) allows to consider the reliability and the validity (the convergent validity and discriminant validity) of the scale model. According to Hair et al. (2010), the comparative thresholds of the indexes corresponding to the tests of reliability and validity are achieved (Table 1).

Table 1. Results of confirmatory factor analysis (CFA)

Observed Variables	Standard loading *	AVE	CR	MSV
Marketing Innovation (α = .835)		**0.678**	**0.814**	**0.295**
MAR1. Introducing significant changes to the design of hotel	0.861			
MAR2. Introducing new media or techniques for product promotion	0.842			
MAR3. Introducing new methods for product placement or sales channels	0.784			
MAR4. Introducing new methods of pricing goods or services	0.801			
Process Innovation (α = .889)		**0.602**	**0.743**	**0.201**
QT2. Introducing new or significantly improved logistics, delivery or distribution methods for inputs, goods or services	0.787			
QT1. Introducing new or significantly improved methods of manufacturing for producing goods or services	0.806			
QT3. Introducing new or significantly improved supporting activities for processes	0.812			
Organizational Innovation (α = .807)		**0.652**	**0.739**	**0.358**
TC2. Introducing new methods of organizing work responsibilities and decision making	0.807			
TC3. Introducing new methods of organizing external relations with other organizations	0.798			
TC1. Introducing new business practices for organizing procedures	0.784			
Product Innovation (α = .865)		**0.785**	**0.825**	**0.312**
DV3. Introducing new or significantly improved additional services (spa, swimming pool, restaurant, bar, karaoke...)	0.865			
DV1. Introducing new or significantly improved main service (room service)	0.823			
DV2. Introducing new or significantly improved tangible goods (food, drink, souvenirs...)	0.838			

* All Standard loadings are significant at $P<0.001$

Source: Research's findings

As can be seen from Table 1, standard loadings are greater than 0.5, CR (Composite Reliability) is greater than 0.7. In terms of convergent validity, AVE (Average Variance Extracted) is greater than 0.5. MSV (Maximum Shared Variance) is less than AVE which ensures discriminant validity for factors in the scale (Hair et al., 2010). CR, AVE, MSV of the constructs in the study are determined by Stats Tool Package.

4.3. Results of assessment of innovation level of 3- to 5-star hotels in Vietnam

Based on the tested innovation scale, the innovation level of hotels in Vietnam are measured as shown in Table 2:

Table 2. Innovation degree for f 3- to 5-star hotels in Vietnam

Code	Observed Variables	Mean	Std. Dev.
	Product Innovation	**3.35**	**1.326**
DV1	1. Introducing new or significantly improved main service (room service)	2.52	0.893
DV2	2. Introducing new or significantly improved tangible goods (food, drink, souvenirs...)	3.34	1.523
DV3	3. Introducing new or significantly improved additional services (spa, swimming pool, restaurant, bar, karaoke...)	4.20	1.561
	Process Innovation	**3.01**	**1.308**
QT1	1. Introducing new or significantly improved methods of manufacturing for producing goods or services	2.99	1.238
QT2	2. Introducing new or significantly improved logistics, delivery or distribution methods for inputs, goods or services	3.01	1.321
QT3	3. Introducing new or significantly improved supporting activities for processes	3.04	1.364
	Marketing Innovation	**3.67**	**1.061**
MAR1	1. Introducing significant changes to the design of hotel	3.68	1.224
MAR2	2. Introducing new media or techniques for product promotion	3.89	1.023
MAR3	3. Introducing new methods for product placement or sales channels	3.76	1.014
MAR4	4. Introducing new methods of pricing goods or services	3.34	0.982
	Organizational Innovation	**3.09**	**1.010**
TC1	1. Introducing new business practices for organizing procedures	3.21	1.036
TC2	2. Introducing new methods of organizing work responsibilities and decision making	2.43	0.837
TC3	3. Introducing new methods of organizing external relations with other organizations	3.62	1.158
	Average	**3.28**	**1.176**

Source: Research's findings

On average, the extent of innovation of four categories in 3- to 5-star hotels currently is low with a value of 3.28. The type that is the most innovative in hotels is marketing innovation (mean value is 3.67). The innovation level of four marketing activities is almost the same, lowest at 3.34 and highest at 3.89. Product innovation is the second most innovative (mean value is 3.35), in which introducing new or significantly improved additional services (spa, swimming pool, karaoke, restaurant, bar...) has the highest mean value (4.20). Organizational innovation ranks third (mean value is 3.09), which most often involves introducing new methods of organizing external relations with other organizations (mean value is 3.62). The lowest level of innovation occurs in process innovation (mean value is 3.01) and there is little difference in the change of three items evaluated (mean value is 2.99, 3.01 and 3.04 respectively). Besides, the average value of standard deviation of four innovation dimensions is 1.176 and standard deviation for each type of innovation ranges from 1.010 to 1.326, indicating a relatively big difference in innovation degree among hotels.

5. Conclusion

A scale used for measuring innovation with four dimensions of 3- to 5-star rated hotels in Vietnam has been investigated: (1) product innovation (three observed variables including: Introducing new or significantly improved main service; Introducing new or significantly improved tangible goods; Introducing new or significantly improved additional services); (2) process innovation (three observed variables including: Introducing new or significantly improved methods of manufacturing for producing goods or services; Introducing new or significantly improved logistics, delivery or distribution methods for inputs, goods or services; Introducing new or significantly improved supporting activities for processes); (3) marketing innovation (four observed variables including: Introducing significant changes to the design of hotel; Introducing new media or techniques for product promotion; Introducing new methods for product placement or sales channels; Introducing new methods of pricing goods or services); and (4) organizational innovation (three observed variables including: Introducing new business practices for organizing procedures; Introducing new methods of organizing work responsibilities and decision making; Introducing new methods of organizing external relations with other organizations). The findings with quantitative data collected in Vietnam guarantee that this scale is highly reliable and valid. Thus, executives of hotels in Vietnam can use the scale to assess how innovative their hotels are in order to make conscious decisions aimed at enhancing innovation degree and improving innovation capacity.

The research findings also provide an overview of the level of innovation of 3- to 5- star rated hotels in Vietnam which is quite low in different dimensions, in which marketing innovation is paid most attention. During the research process, in-depth interviews were conducted to identify, edit and add measurement items according to the research model as well as to get more information to explain the survey results. Executives in 3-star rated hotels all believe that lower-class hotels are mainly focusing on selling available products, paying more attention to marketing these products, and paying less attention to improving or developing products, process and organizational structure. It can be explained by the fact that management competency of senior managers in 3-star rated hotels is still lacking. As a consequence, it is clear that in the coming time, hotel executives are required to raise awareness of the importance of innovation and establish specific projects to practice innovation in hotel operations, especially process and organizational innovations in order to enhance their competitiveness. Guest experience, guest satisfaction and hotel's operating costs are significantly related to product, organizational and process innovation. In the attempt to recover the tourism industry from the COVID-19 pandemic, hotels are forced to come up with highly innovative solutions with a view to adapting to the "new normal". Five years ago, developing smart room technology was a key trend for leading hotels. However, COVID-19 pandemic has compelled lower-class hotels to embrace technology for the sake of their growth. Technological solutions like TN Tech Smart Hotel Solution (T SHS) are the "brain" of the entire system and have been applied by many accommodation providers around the world. Accordingly, service provided to guests such as booking, check-in and check-out, opening the door, sending things ... at the hotel are completely automatic, guests thereby avoid touching things like buttons, switches, door locks, curtains... To reduce direct person-to-person contact, many hotels have deployed mobile applications to help guest book, check-in and check-out, lock, unlock or control room temperature, sound, and lighting right on the app. In addition, many other services such as meditation practice, food ordering service... are also installed in the application. In the hotel industry, the biggest advantage that technology brings is sustainability. This mainly involves the ability to save energy in the room, the devices that are automated and connected to each other through the Internet of Things (IoT). For example, light bulbs can be set to automatically increase or decrease wattage subject to the amount of light in the room at that time. Similarly, the air conditioning system can be configured to automatically stay at a specific temperature, subject to the guest's body temperature. Technology is also adopted to record and analyze guest behavior, thereby enabling hotels to create new goods or services. An impressive technological development in the hotel industry that has been attracting a lot of interest is the use of robots to carry out various tasks traditionally performed by humans including housekeeping, information provision, room cleaning, and make routine processes automated as much as possible. This method may be essential to reduce social contacts, keeping the current environment safer during the pandemic. Technological trends make it possible for hotels to widely apply artificial intelligence or big data... which increase customer service facilities without contact, reduce operating costs, and optimize business processes efficiently. In short, the application of technology can help innovate business organizations, improve hotel services, innovate processes, offer a novel experience to guests, improve guest satisfaction and reduce operating costs. Performance efficiency of hotels will be promoted as a result.

In order to stimulate innovation in hotels, especially lower-class hotels, executives in Vietnam's destination management organization, hotel associations and state policy makers are obliged to establish policies to share knowledge about innovation, give support and promote innovation in four operational dimensions of hotels. This will increase the competitiveness of hotels as well as Vietnam in terms of tourism destinations.

There are several limitations to this study. Due to COVID-19 pandemic, the sample was only drawn by convenience sampling. Such data collection restricts the generalization of results to other hotels in all Vietnam's tourism destinations. Therefore, it is imperative to examine the framework with the sample collected by probability and stratified sampling to ensure that the sample is highly representative. The issues of how the difference in innovation among different hotel classifications is and which factors bring about that difference can also be ideal questions for further research since the prior interviews with experts implied the possibility of a large distinction in innovation among hotels. Furthermore, the influence of innovation types on the performance or guest loyalty of hotels in Vietnam should be investigated in future research.

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THE ROLE OF INTRINSIC MOTIVATION IN THE RELATIONSHIP BETWEEN PSYCHOLOGICAL CAPITAL, AUTONOMY, AND INNOVATIVE PERFORMANCE - AN APPLICATION OF THE THEORY OF PLANNED BEHAVIOR-TPB

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ABSTRACT

In this study, we test the mediating role of intrinsic motivation in the relationship between psychological capital, autonomy, and innovative performance in an educational context. The testing structural model results reveal that all the hypotheses are satisfied at the 5% significance level based on convenient samples of 440 lecturers collected from universities in Southern Vietnam and intrinsic motivation is a partial intermediary in the relationship between psychological capital, autonomy, and innovative performance.

Keywords: Psychological Capital, Autonomy, Intrinsic Motivation, Innovative Performance, Vietnam.

1. Introduction

All properties and materials are made by human beings' mental and physical capacities. Subsequently, the human asset has an urgent influence on existing and development for organizations. Although there are many kinds of creating competitive advantages for businesses, building the competitive advantages of humans is the most important factor. It is considered a sustainable and unchanged factor in any organization. In a harsh competitive market, the organization maintain Human resource continuously and provide suitable solutions to implement the innovative process (Budhiraja, 2017).

These days, innovation is an inescapable factor that helps the association's quick acclimation to economic change before cruel worldwide global competitiveness. Interestingly, the association frequently centered around mechanical development a long time ago. The innovative problem in the businesses is fundamental, and Its impact on work results is enormous Sapprasert & Clausen, 2012 (as cited in Fernandes et al., 2018). Numerous investigations show that creation brings the association's adequacy Thornhill, 2006 (as cited in Bos-Nehles, 2017). Lacking innovation at various levels will seriously reduce the competitiveness of the business (Sweetman et al., 2010).

An inquiry was raised to us on how to empower the soul of innovation for every person. This is how administrators need to help the executors in their workplace. One approach to convince the creation is to recognize the person's psychological capital and self-determination and then support their idea. (Amabile et al., 2004). Along these lines, the directors need to push up the person's mental capital, which is to start innovative development, which is gotten from this reason. On the other hand, the intrinsic motivational mechanism that drives creativity, and psychological capital and its components, are considered as a case for this process (Sweetman, 2010).

The most significant factor is itself human who makes competitive power for business constantly. As indicated by Luthans et al. (2007), Psychological capital is considered a competitive advantage of human resources. In many studies, it is emphasized that well-managed psychological capital will help organizations build the important conditions for competitive advantage and long-term success Luthans and Youssef, 2004 (as cited in Fedai & Ata, 2015). Along these lines, to improve work effectiveness in an inventive climate, psychological capacity is required, which is a reason to drive innovation. Thusly, to improve output in an innovative organizational environment, the mental capital must be applied by the individuals. HRM is one of the approaches to battle against the hindrance during the development process of innovation, and A lot of studies prove that creativity is motivated by self-determination (Spreitzer, 1995) and the following psychological components: self-efficacy (Tiemey & Farmer, 2002); Hope (Luthans et al., 2007); Carver & Scheier, 2002 (as cited in Sweetman et al., 2010) and resiliency (Luthans et al., 2007; Sweetman et al., 2010).

According to Vnexpress.net on July 24th, 2019, a report about the ranking list of worldwide innovation indexes in 2019 was released by WIPO - World Intellectual Property Organization said that the innovation index of Vietnam has increased 3 levels, ranked by 42/129 countries. Although this index has increased, it is still quite far from the average group. The world fact has proved that people are the factors determining the wealth or poverty of a country, not the factors of population or resources. At any level, in the context of globalization and the science and technology revolution, human resources are always the most important factor in assessing the competitiveness between different countries. Production capacity will be enhanced if people apply the innovation well (Hughes, 2008). Because of the above reasons, the study of this topic in the Vietnamese context is really necessary and meaningful.

Although there are many researchers interested in the innovations enacted at organizations, their understanding of how to make an individual's innovation development in this process is very limited (Bos-Nehles, 2017). Such research haven't been studied much in the world. In Vietnam, most of these topics haven't been performed, either. Thus, individuals' real innovative capacity has not been found yet. So, the studies of increasing the effect of innovative performance under the impact of psychological capital, autonomy, and the mediating role of intrinsic motivation are considered in the study.

2. Literature review

2.1. Psychological Capital, Autonomy, Intrinsic Motivation, And Innovative Performance

2.1.1. Psychological capital

It is characterized to be the person's positive psychological development (Luthans et al., 2007; Luthans et al., 2005), and it is likewise conviction, mindfulness, positive outlook of the individual to the pattern of life and work Tettegah, 2002 (as cited in Han et al., 2012). In addition, different therapists likewise think about psychological capital as an essential positive capacity. Particularly, Positive Organizational Behavior (POB) and its parts are certified that these go beyond the capacity of the human to acquire competitive advantages on their own. (Luthans et al., 2005).

Psychological capital is known as a multidimensional structure that relates to the situation of an individual's psychological capital development, and it is viewed as a state to develop psychology positively and composed of 4 aspects (Luthans et al., 2007). Being confident enough to overcome difficulties to succeed (2) being hopeful about the positive results of work at the present and later, (3) being tireless in pursuing the goal and taking the necessary efforts and specific strategies to achieve good goals and results (4) being steady in tackling troublesome issues for accomplishments (Luthans et al., 2007).

Self-efficacy is the conviction or belief of a person with their ability that pushes up their inspiration, knowledge, and fundamental activity for a certain mission (Stajkovic & Luthans, 1998). Conviction demonstrates fundamental efforts to succeed Luthans et al. (2007). Park (1988) said that it is an individual's assessment of the ability to perform a specific job.

Broadly speaking, Optimism is defined as the tendency to maintain a positive view and it is a pattern for the hopeful person constantly. Optimistic spirit can be developed by learning and experiencing from the past, which is the process of perceiving things and phenomena in the present and achieving results in the future (Luthans et al., 2006). An optimist is a person with a healthy way of thinking, who always expects excellent things will happen. Scheier & Carver (1985) stated that, generally, people have an alternate way to deal with their general surroundings. they expect good to happen rather than a bad one.

Hope is the firmness of an individual's objective, and it is necessary to change the method of execution and the route for the end (Luthans et al., 2007). According to Snyder et al. (1991b), hope is a “positive motivational state that is based on an interactively derived sense of successful”, while Snyder et al. (1991a) assumed the positive motive state is expressed by strength for the ultimate goal.

Finally, resiliency refers to positive adjustment. Resilience is a capacity that can be developed to combat adversity, obstacles, conflicts, and failures, and maintain recovery when facing difficult obstacles firmly (Lusthans, 2002a). Conquering the trouble is the capacity of resistance which enables an individual to rebound or bounce back quickly from adversity, suffering, and loss (Luthans et al., 2005; Luthans et al., 2007; Block & Kremen, 1996). Simultaneously, Nguyen and Nguyen (2011) contend that beating challenges is a positive change in unfavorable conditions.

2.1.2. Autonomy

Many studies show that delegators tend to be more creative and have a better perception of their work performance (Spreitzer, 1995). Delegation strengthens employees' emotions and ultimately these emotions stimulate positive employee behavior towards desired outcomes. Spreitzer (1995) suggested that the factor belongs to intrinsic motivation, which is a group of characteristics that reflect an individual's tendency to their job role, including 4 components, including Competence, Impact, Meaning, and Autonomy.

The various papers, all describe self-determination or autonomy in a very similar way. Autonomy is the individual's perception of the freedom to do his own thing, which determines how the job is to be done (Zigarmi et al., 2012). According to Hackman & Oldham (1975), self-determination is the level of doing as you like, making important decisions for one's work. There is a distinction between an organization and an individual in the concept of empowerment. For organizations, it is the delegation of the organization to subordinates. Regarding an empowered individual, this is the psychological state in which it is created (the individual's perception of the power he has) (Kazlauskaite et al., 2011) and self-determination is an expression of this psychological trait.

2.1.3. Intrinsic motivation

In light of self-determination theory, the human spirit of motivating included two overarching types of motivation. The external and internal motives are often mentioned in studies and confirmed differences. Deci & Ryan (2000) proposes the following concepts of extrinsic and intrinsic motivation:

Intrinsic motivation is characterized to be the activities engaged for the sake of the activity itself more than outside forces or activities is driven by emotions that people find interesting, enjoyable, not boring.

When people's interior activity is being constrained, they will be stimulated in light of the satisfying result, not for the outcome. Working isn't influenced by outside pressure or other agents. This concept is consistent with Warr et al., 1979 (as cited in Suteerawat et al., 2016) “the degree of one person who works his job well to satisfy his inner thought”. According to Amabile, 1983 (as cited in Jong & Hartog, 2008), internal motivation is also defined as motivating from positive individual responses to the job itself rather than external actors.

Whereas extrinsic motivation is the one that is associated with activities aimed at a particular result, so intrinsic motivation is different from the extrinsic one simply because of being activities aimed at the enjoyment of the job itself. However, people often focus primarily on external motives basing on financial or non-financial rewards. These studies are conducted in different social contexts but are mostly based on external factors. Such studies do not represent the full nature of the problem because an individual's work motivation is not only based on external factors but internal forces. Deci and Ryan (2000) raised the question of why a person would choose such an action to perform?

From the point of view of self-determination theory, extrinsic motivation is divided into 4 levels.

External regulation: Behavior in which the performer intends to deal with external pressure.

Introjected regulation: In this case, the individuals who perform the behavior are slightly under internal pressure because motivation is controlled.

Identified regulation: This kind of motivation arises when the individual values the behavior as being important and performs it voluntarily.

Integrated regulation: Such motivation is most powerful when the behavior is performed entirely voluntarily because it is the same as a personal goal.

Meanwhile, intrinsic motivation is the one that is derived from the innate fascination of the behavior itself. In other words, intrinsic motivation is mental strength that is manifested within the act and does not need any other external agents. Particularly, it is the passion and satisfaction of the individual rather than the job performance due to external influences (Amabile, 2012).

The inner motivation associated with performing the act by interests is directly related to the inner act itself rather than by an irrelevant outcome, which is the subject that has been shared by the educators in recent years (Barto & cộng sự, 2004; Oudeyer, 2007). This concept appears in psychology and is debated because the fundamental problems of this concept are still unanswered Deci & Ryan (2000). Sometimes, people confused intrinsic motivation with extrinsic motivation. Traditionally, educators consider intrinsic motivation to influence academic performance rather than extrinsic one (Deci et al., 1999).

2.1.4. Innovative performance

Job performance is a multi-faceted concept in which innovative performance is one of those aspects DeVet & Van der Beek, 2011 (as cited in Nguyen et al., 2019). Innovative development is progressively concerned and thought about as an essential resource of the organization. Academic researchers are also more concerned with the organizational factors that drive creativity (Amabile, 1988; Oldham & Cummings, 1996). Innovative results in an organization are shown through innovative behavior, which is the idea, process, or product that satisfies two characteristics that are novel and useful (Amabile, 1988; Oldham & Cummings, 1996).

There are many definitions of innovation because it appears in many different fields and in sociological theories (Goldsmith & Foxall, 2003). It may relate to the innovative process through this process with new products, ideas generated, or new processes being created Zaltma et al., 1973 (as cited in Goldsmith & Foxall, 2003). Innovative behavior is an intentional act of an individual to create and execute new and useful ideas that benefit individuals, groups, and organizations. This implies that innovation has broader implications than creativity, whereas creativity is just a process of creating new ideas Acott & Bruce (as cited in Bos-Nehles et al., 2017). In addition, there is also a difference between these two concepts, unlike creation, innovation towards the goal of practical adoption and leading to an innovative output. Creativity is an important part of innovation, the initiating factor in innovation West, 2002 (as cited in Jong and Hartog, 2008).

Amabile et al. (1996) said that creativity is the idea generation and the utility of these ideas. Hurt et al. (1977) describe innovation as a willingness to try new things (Goldsmith and Foxall, 2003).

2.2. The Linkage Among Psychological Capital, Autonomy, Intrinsic Motivation, and Innovative Performance

2.2.1. Psychological Capital - Intrinsic Motivation

Ajzen's Theory of Planned Behavior (1991) states that an actual behavior can be predicted or explained by behavioral tendencies to perform the behavior in which the Intended behavioral includes motivational factors that influence the intended behavior and is defined as the amount of effort that people try to commit the behavior (Ajzen, 1991). Applied to the study, according to the TPB model, intrinsic motivation or intention is the fundamental factor driving behavior in reality. As just mentioned, those parts of psychological capital are factors that reflect the attitude.

An individual's intrinsic motivation depends on his psychological characteristics that shape his attitudes which can be understood in terms of positive or negative (desirable or undesirable aspects) (Sahoo et al., 2015). While many scientists have found relationships between psychological capital and behavior, attitudes, and relationships between psychological capital and empowerment (Joo et al., 2016). For example, people with positive psychological characteristics such as optimism, self-confidence, resiliency will have attitudes towards difficulties other than those with negative psychological traits such as pessimism, Such an attitude leads to the intended behavior (Ajzen, 1991), before the actual act, or in other words, the intrinsic motivation is the intended behavior in this situation, which is also the prerequisite before any real action. Therefore, psychological capital influence internal motives.

About the relationship between psychological capital and intrinsic motivation. If a person contains positive psychological characteristics such as optimism, hope, self-efficacy, it will lead him to have positive internal motives. In other words, once he has a positive attitude, they will have positive internal motivations and vice versa. For example, if people have an attitude against evil, in life, they will tend to do good deeds such as visiting the temple, giving alms, saying a prayer, etc., generally, they think and do good deeds.

Thus, Belief-attitude will lead to intended behavior like psychological capital will lead to intrinsic motivation. According to TPB theory, applied to this situation, psychological capital is attitude. This is confirmed in the study of Gulistan & Clapp-Smith (2014), the authors have affirmed a positive relationship between psychological capital and motivation in a changing environment of culture among countries.

Confidence is not only one's ability but also one's own beliefs in the face of difficulties Bandura, 1997 (as cited in Sonnentag et al., 2008). In other words, a highly self-confident person increases their intrinsic motivation (Amabile et al., 1996) and individual creativity (Tierney & Farmer, 2002). For the hopeful, they reinforce the desire for positive results and bring feelings of goodness to make dreams come true. Hope can be seen as a trait that awakens people to get motivation Akman &nd Korkut, 1993 (as cited in Fedai & Ata, 2015).

According to Ng et al. (2012), the relationship between psychological capital and motivation is also found in the multicultural field. An individual's ability to adapt to learning and accept cultural changes in different cultures is reflected by motivational cultural intelligence. Absorbing the changing multicultural environment will be noticed by individuals with high motivation (Deci & and Ryan, 2000). As recent studies show that cultural motivations will increase if people can be trained to increase their confidence (Imai & Gelfand, 2010). So, psychological components are considered intrinsic factors which positively impact the cultural motive.

2.2.2. Autonomy-Intrinsic Motivation

In the framework of TPB theory, perceived Behavior Control is formed from Control Beliefs, that is, the performer can direct his behavior based on the ability to perceive himself with certain desires (Ajzen, 1991). Thinking about this situation, for example, a lecturer with a belief-attitude is that he needs to get a new house with a comfortable living place for his family as well as a place to welcome his colleagues and students. Besides, he is also under social pressure (as a university lecturer), if he lives in a poor house, he feels bad for his current position. Thus, the efforts to buy a new home are even more motivating for him. But he perceives (Perceived Behavior Control) his existing income (assuming his income is low) it is really difficult to buy a comfortable new house in HCMC for large sums of money. Applied to this study, Autonomy is the Perceived Behavior Control that someone assesses the ability to perform his intention.

2.2.3. Intrinsic Motivation–Innovative Performance

In TPB theory, the intended behavior is the premise for action (Ajzen, 1991). As analyzed above, the intrinsic motivation is also the intention, it can be shown in the state that motivates the behavior from inside to towards the desired goal. Besides, Victor Vroom, 1964's expectancy theory in Robbins & Judge (2012) explains the relationship between motive and its results. According to the light of expectation theory, the strength of a tendency to act in a certain way depends on the strength of our expectation on a given outcome and its attractiveness. Accordingly, employees will be motivated to put in more effort when they believe that it will lead to good performance. The effort-effect relationship shows when an individual realizes that effort will bring them the outcome and stimulate their activity

Although the relationship between intrinsic motivation and innovation performance is rarely found, there is a lot of empirical evidence talking about the link between intrinsic motivation and performance Karatepe & Tekinku, 2006 (as cited in Yulius, 2016). This is also confirmed in the study of Baard et al. (2004) on this relationship. The study of Baard et al. (2004) showed that there is a positive relationship between intrinsic motivation and job performance. If meaningful work can promote employees' perception of their work and in turn, that will motivate them to work better (Spreitzer, 1995).

2.2.4. Psychological Capital and Autonomy – Innovative Performance

The above analysis shows that the relationship between psychological capital and work performance has quite a few studies in the world and there are also a few studies on this topic in Vietnam, such as (Luthans, 2002b; Luthans & cộng sự, 2006; Nguyen & Nguyen, 2011; Dinh Tho & cộng sự, 2014; Brown & Peterson, 1994). Academic researchers have rarely found the direct relationship between psychological capital and innovative performance, and they have hardly conducted such studies in Vietnam, either. However, the study of Tho & Duc (2020) demonstrates that psychological capital impacts explorative learning, and then explorative one has a strong influence on innovative performance. It is said that the way to promote creativity is to affect the psychological capital of the individual, the source of creativity (Amabile et al., 2004; Sweetman, 2010).

Similar to the relationship between psychological capital and innovative performance, the linkage between Autonomy and innovative performance is also rarely found. Li et al. (2015) argues that when workers are empowered, they have a mentality of self-determination to solve organizational problems. There is also empirical evidence that empowerment is an important factor in fostering creativity (Budhiraja et al., 2017). In Spreitzer's (1995) study, it was found that workers with a high level of psychological empowerment boost their creative performance. In addition, the relationship between employee empowerment and creativity has also been found in previous studies (Singh & Sarkar, 2012; Sun et al., 2012).

2.2.5. Conceptual Model and Hypotheses

Building on the above literature, we hypothesize the following

Hypothesis 1: Psycap has a positive impact on IM.

Hypothesis 2: AU has a positive impact on IM.

Hypothesis 3: IM has a positive impact on IP

Hypothesis 4: Psycap has a positive impact on IP

Hypothesis 5: AU has a positive impact on IP

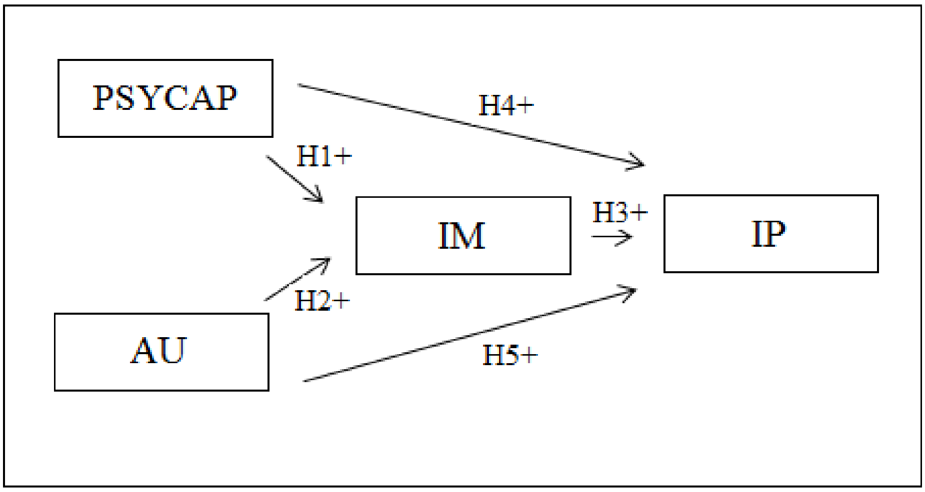

Figure 1. Conceptual Model

3. Research method

3.1. Research Context

Vietnam provides a suitable case for IP research. As an economy in transition, Vietnam's economy has moved from a centrally planned economy to a market-oriented economy in which the state economy plays a leading role. Over the past two decades, Vietnam's continued economic transformation has seen a sharp increase in demand for qualified staff in both Vietnamese and foreign companies (Nguyen et al, 2011). Universities in Vietnam have also responded to this requirement by improving the quality of their educational programs. Therefore, universities need to have policies to promote innovation in lecturers to ensure their training quality. In this study, the main survey sample is (n=440), the respondents to the survey questionnaire are university lecturers with a master's degree or higher, with a convenient sampling method.

3.2. Research Process

This study was carried out in 2 phases including preliminary research and main survey:

The pilot study includes a qualitative study and a quantitative survey. In the qualitative study, 5 experts used in-depth interviews. The purpose of this step is to adapt and develop the items to ensure that the scales cover the content value of the research concepts to the research context and focus group discussions with 12 experts to assess the degree of clarity about the meaning of the items according to the respondents' naive understanding. The quantitative pilot survey was implemented by using face-to-face interviews with one hundred and twenty-four lectures at six Universities to refine the scales. Cronbach's Alpha reliability and exploratory factor analysis (EFA) were used to assess the scales

The main survey was also conducted using face-to-face interviews. A convenient sample of 440 lecturers at universities in Vietnam, such as Ho Chi Minh City University of Food Industry (FIU), Nguyen Tat Thanh University (NTTU), Tien Giang University (TGU), Long An University of Economics and Industry (LAU), Ho Chi Minh City Open University (HOU), Thu Dau Mot University (TDMU), University of Finance-Marketing (UFM), Thu Duc College (TDC), Saigon College of Arts, Culture and Tourism (SACT), Ly Tu Trong College (LTTC), which were interviewed in the survey. The purpose of the main study is to re-evaluate the measures and to test the structural equation model. First, confirmatory factor analysis (CFA) was used to re-evaluate the scale. Then, the Structural Model (SEM) is verified with the help of Amos software.

3.3. Measurements

All observers measuring research concepts are modified and adapted to the research context. Psycap and IP were the second-order constructs. Whereas AU and IM were the first-order ones. Psycap was comprised of four parts: hope (HP), resiliency (RE), optimism (OP), and Self-efficacy (SE), were all measured by twenty-two indicators borrowed from Nguyen & Nguyen (2011); Luthans & cộng sự (2005); Scheier & Carver (1985); Parker, (1998); Block & Kremen (1996). IP was comprised of two components: Willing to try and Creative original was measured by ten items adopted from Hurt et al. (1977). IM was adapted from five items of Amabile et al. (1994) and Tremblay et al. (2009). Finally, AU was measured by three adopted from Spreitzer (1995). All scales were originally written in English and then translated into Vietnamese by a fluent interpreter. This procedure is necessary because most of the respondents do not understand English well. Then, a fluent interpreter will help the interviewee with the correct translation. Self-assessment is often criticized as less accurate than an objective response. But it's still valid when anonymity is guaranteed. All items used five-point Likert rating-scales (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree or agree 4 = agree, 5 = strongly agree).

4. Results and discussion

4.1. The qualitative study

After conducting a depth interview with experts, the total number of items remaining is 42 (with 2 new observers of AU have been developed). Then, 3 items were excluded from the focus group.

4.2. Measure Refinement

As introduced in the Methodology, the reliability assessment was refined via Cronbach's alpha reliability and Exploratory Factor Analysis (EFA). In the pilot study, 124 university lecturers were interviewed. The results show that all the scales used in the study satisfy the requirements of reliability. Specifically, Cronbach's Alphas of the scales measuring Psycap, AU, IP and IM were respectively SE=0.888, HP=0.790; OP=0.862; RE=0.820 (after removing 1 item of RE due to Item-Total correlation=0.25<0.3); AU=0.898; WC=0.890; CO=0.790; IM=0.817. All the remaining item-total correlations were favorable (>0.3).

Continuing the EFA analysis, Psycap has a percentage of the extracted variance of 55.328%, at (eigenvalue = 1.367) extracted 4 components. Similarly, IP with the percentage of variance extracted is

59.907%, at (eigenvalue = 1.972) 2 components were extracted (1 item of CO removed due to factor loading <0.5), AU and IM extracted one component each at the eigenvalues of 3,557 and 2,601 respectively, and the percentage of variance extracted was 64.170% and 53.605%. The preliminary assessment results showed that all 37 items used in this study satisfied the requirements for reliability and validity. Accordingly, these measures were applied for the main survey.

4.3. Measurement Validation

CFA was utilized to validate the measures in this phase, then, SEM was used to test the theoretical model and hypotheses. As mentioned above, there are four constructs in the model: Psycap, AU, IM, and IP. The scales measure that these constructs were refined via Cronbach's Alpha reliability and EFA, the data set of 124 university lectures collected in the pilot study. In the main survey, the measures were then validated by CFA using the empirical data gathered from 440 undergraduate lectures.

The saturated model was reanalyzed after 4 times (due to GFI < 0.9) to get a good fit with the data. However, the factor loadings of AU4 is 0.484 (less than 0.5). So, CFA is performed for the 5th time after AU4 is removed. The saturated model (final measurement model) is suitable to the acceptable data: $\chi2$ [579] = 908.665 (p = 0.000), CMIN/df= 1.569<2, GFI = 0.0.899 (close to 0.9), CFI = 0.957>0.9, TFI= 0.953>0.9, and RMSEA = 0.036<0.05 (depicted in Fig.2).

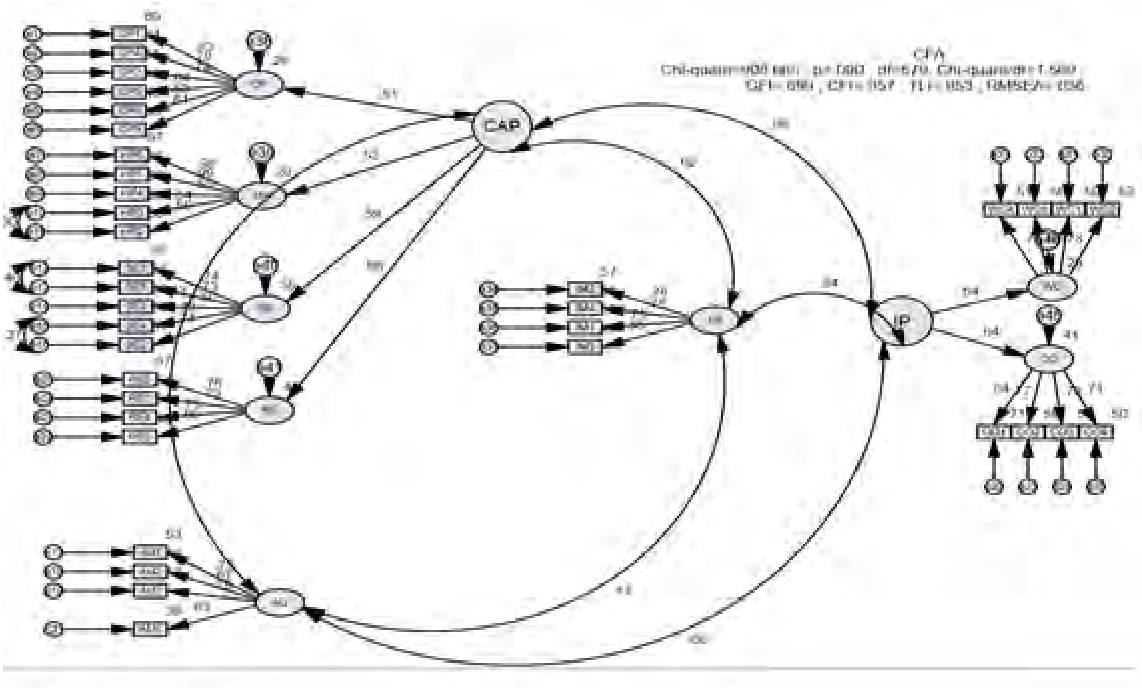

Figure 2. Saturated Model

In the model, the factor loadings of all predictors of the constructs were high (≥0.5) and significant (p<0.001). The findings indicate that the scales measuring these constructs were unidimensional, and the within-method convergent validity was achieved. The correlations between constructs, together with their standard errors (see Appendix), indicate that they were significantly different from unity. Thus, supporting the construct discriminant validity. Table 1 presents the CFA factor loadings of items, composite reliability (CR), and average variance extracted (AVE) of the scales shows that all are satisfactory (only the AVE of AU is slightly weak = 0.487).

The research results also show the agreement of the theoretical model with the collected market data and the hypotheses proposed in this study. The test results also show that the hypotheses are statistically significant at the 5% level of significance. It means that psychological capital and autonomy have a direct and indirect impact through intrinsic motivation on innovative performance. The test results in Table 2 show that psychological capital tends to have a stronger impact on innovative performance than autonomy.

Table 1. Standardized CFA Loading, CR, and AVE

			Unstandardized Estimate	Standardized Estimate	S.E.	C.R.	p
Psychological capital: OP: ρ_c=0.858; AVE=0.506							
OP1	<---	OP	.831	1.000			
OP4	<---	OP	.783	.892	.050	17.757	***
OP2	<---	OP	.742	.888	.053	16.615	***
OP5	<---	OP	.636	.680	.049	13.751	***
OP6	<---	OP	.632	.637	.047	13.655	***
OP3	<---	OP	.615	.640	.048	13.211	***
Psychological capital: HP: ρ_c=0.859; AVE=0.570							
HP5	<---	HP	.984	1.000			
HP1	<---	HP	.989	1.023	.015	66.931	***
HP4	<---	HP	.562	.565	.040	14.019	***
HP3	<---	HP	.541	.537	.040	13.266	***
HP2	<---	HP	.547	.542	.040	13.475	***
Psychological capital: SE: ρ_c=0.859; AVE=0.550							
SE1	<---	SE	.745	1.000			
SE5	<---	SE	.729	1.007	.055	18.479	***
SE3	<---	SE	.796	1.153	.078	14.736	***
SE4	<---	SE	.725	1.095	.081	13.465	***
SE2	<---	SE	.713	1.025	.077	13.245	***
Psychological capital: RE: ρ_c=0.819 AVE=0.531							
RE2	<---	RE	.757	1.000			
RE1	<---	RE	.732	1.017	.073	13.982	***
RE4	<---	RE	.733	.972	.069	13.999	***
RE3	<---	RE	.694	.958	.072	13.310	***
Autonomy: AU: ρ_c=0.790; AVE=0.487							
AU1	<---	AU	.730	1.000			
AU2	<---	AU	.675	.889	.073	12.168	***
AU3	<---	AU	.755	1.037	.079	13.176	***
AU5	<---	AU	.625	.824	.072	11.393	***
Innovative Performance: WC: ρ_c=0.814; AVE=0.523							
WC2	<---	WC	.727	1.000			
WC1	<---	WC	.704	.993	.077	12.920	***
WC3	<---	WC	.749	1.017	.075	13.568	***
WC4	<---	WC	.713	.965	.074	13.066	***
Innovative Performance: CO: ρ_c=0.847; AVE=0.581							
CO1	<---	CO	.843	1.000			
CO2	<---	CO	.769	.922	.054	17.119	***
CO3	<---	CO	.727	.885	.055	16.046	***
CO4	<---	CO	.705	.866	.056	15.459	***

			Unstandardized Estimate	Standardized Estimate	S.E.	C.R.	p
Intrinsic Motivation IM: ρ_c=0.810; AVE=0.517							
IM2	<---	IM	.758	1.000			
IM4	<---	IM	.750	1.021	.071	14.285	***
IM1	<---	IM	.709	.990	.073	13.597	***
IM3	<---	IM	.655	.914	.073	12.607	***

Table 2. Structural Path

			Estimate	**S.E.**	**C.R.**	**P**
IM	<---	AU	.177	.068	2.610	.009
IM	<---	CAP	.542	.135	5.855	***
IP	<---	IM	.315	.068	3.112	.002
IP	<---	CAP	.674	.135	4.916	***
IP	<---	AU	.232	.055	2.881	.004

5. Conclusion and Implications

There were two phases carried out in this study: a pilot study and the main survey, in which the pilot study includes two steps: qualitative and quantitative research. The qualitative pilot research is for adjusting scales, and the quantitative pilot one is for refining the scales. The main survey is to test the model's hypotheses. This study aims to examine the direct relationship between Overall PsyCap and the innovative performance in transitioning markets such as Vietnam. In addition, the study also verified the mediating role of intrinsic motivation in this relationship. In particular, intrinsic motivation partially mediates the relationship between psychological capital and IP. This study's results are consistent with the author's predictions specified in the conceptual model in this study and not different from the findings in the literature review. This research also has important practical implications because psychological capital is a trail of an individual's psychological state, and it is flexible for development. Specifically, the findings suggest that innovative performance can be boosted by developing workers' psychological capital. Synthesis of key points and practical and managerial implications are crucial elements of the conclusion section.

6. Appendix

Appendix A

			r	Se('r)	CR	P
AU	<-->	CAP	0.466	0.042276	12.6310	2.10281E-31
AU	<-->	IP	0.682	0.034945	9.09992	3.20263E-18
AU	<-->	IM	0.429	0.043161	13.2293	7.53711E-34
CAP	<-->	IP	0.979	0.009740	2.15587	0.031637277
IM	<-->	CAP	0.624	0.037337	10.0701	1.3567E-21
IM	<-->	IP	0.835	0.026291	6.27568	8.37719E-10
e12	<-->	e13	0.399	0.043813	13.7171	7.0514E-36
e10	<-->	e11	0.297	0.045625	15.4079	4.116E-43
e15	<-->	e16	0.273	0.045966	15.8157	6.77396E-45

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IMPACT OF AUTONOMY ON PERFORMANCE OF PUBLIC SCIENCE AND TECHNOLOGY NON - BUSINESS UNITS IN VIETNAM

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ABSTRACT

Public science and technology non-business units with tasks of scientific research, applied research, experimental implementation, trial production, technology development, production and sales of products, are established and registered to operate in accordance with the provisions of the law. In order to operate the structure and management apparatus more effectively, like other public non-business units, the State also grants autonomy to public science and technology non-business units. The innovation in management mechanism and method have changed the performance of these units. Based on a survey of 36 units with 761 survey questionnaires for officials and public employees, the article focuses on clarifying the impact of autonomy on the performance of public science and technology non – business units in Vietnam. The research result shows that the aspects of managerial autonomy, policy autonomy, structural autonomy and financial autonomy have a positive influence on the performance of public science and technology non-business units.

Keywords: Autonomy, performance, non-business units, science and technology, Vietnam.

1. Introduction

On February 14, 2015, the Government issued Decree No. 16/2015/ND-CP stipulating the autonomy mechanism of public non-business units (including the field of science and technology). However, Decree 16 only stipulates the general principles and regulations on the autonomy mechanism, serving as the basis for the formulation of the Decree stipulating the autonomy mechanism of non-business units in each field. On June 14, 2016, the Government issued Decree No. 54/2016/ND-CP stipulating the autonomy mechanism of public science and technology organizations and Decree No. 141/2016/ND-CP dated June 14, 2016. October 10, 2016 stipulates the autonomy mechanism of public non-business units in the field of economic and other non-business services. This is considered an important legal basis in the process of transforming thinking on economic and financial management of science and technology non-business units. Implementing the policy of assigning autonomy and self-responsibility to public science and technology non-business units, over the years, many science and technology non-business units have implemented the assignment of autonomy. These units have mobilized a large amount of capital from organizations and individuals to invest, expand their operation scale, improve efficiency and service quality to meet social requirements. The research results of these units provided the s in science, technology solutions revenue ailings for many areas of life. These service activities have brought a relatively performance for public science and technology non - business units in Vietnam.

In the world, there are many scientists who have studied autonomy in organizations as well as the performance of non-business units such as Lorsuwannarat, (2014)[1]; Kim & Cho, (2014)[2]; Verzulli et al., (2017)[3]. In the country, some authors also research on autonomy such as Vu Thi Thanh Thuy (2017)[4]; Tran The Cuong (2016)[5], Do Duc Kien (2019)[6], ... These studies were carried out in different sectors such as education and training, culture, health care, science and technology, etc. The authors have concretized legal documents of the State and analyzed the basic characteristics of autonomy of public non - business units. From that, it can be seen that there are research gaps in previous studies. Firstly, research on the autonomy of public science and technology non-business units is quite limited in Vietnam in the context that science and technology is an important factor in the development of the country. Secondly, there has been no research investigating the impact of autonomy on the performance of public science and technology non-business units in Vietnam by building research models and scales. Based on those gaps, this study aims to answer the following research questions:

(1) How to measure the autonomy and performance of public science and technology units in Vietnam?

(2) How does autonomy affect the performance of public science and technology units in Vietnam?

2. Theoretical framework

2.1. Organizational Autonomy

Typically, organizational autonomy refers to the reduction of constraints from oversight, management in the form of goal setting, or oversight over the management agencies's operational decisions. According to Olsen (2009)[7], the term "autonomy" refers to the ancient Greek state, implying "autonomy and the right to organize an individual's internal affairs and make his own principles without not subject to outside influence. According to this view, Maggetti, (2007)[8] argues that autonomy is the ability to turn preferences into actions according to their own authority without external constraints. This definition is widely applied, but it does not reflect the relational nature of autonomy. Van Thiel, (2004)[9] defines autonomy as ownership in production. Therefore, autonomy is mainly about decisions about goals, tasks, budgets, labor, capital, outputs, results, prices of goods, services, and production processes. The concept of autonomy is related to the decline in the level of control of the State managing the activities of the member organizations. Verhoest et al, (2004)[10] proposed a more comprehensive concept of autonomy from two perspectives: enhancing the agency's decision-making capacity and eliminating the constraints of superiors on the agency's decision-making capacity. The authors have presented different aspects of autonomy, including managerial, policy, structural, financial, legal and interventional autonomy. Managerial autonomy means decision-making power in the selection and use of financial, human and other resources while policy autonomy implies freedom in terms of goals, target groups, tools policies, output quality and quantity, procedures and enact regulations or decisions (Lægreid & Verhoest, 2010)[11]. The other four dimensions of autonomy emphasize that the extent to which the State can limit an agency's actual decision-making capacity is determined by the level of funding, decentralization, legal status of the agency and government intervention (Verhoest et al, 2004)[10]. Autonomy is often understood as a form of self-governance, self-regulation or self-direction, belonging to an individual or an organization (Groenleer, 2009)[12]. Research on the degree of autonomy of public organizations (organizational autonomy) is very diverse. Autonomy is a multidimensional concept and a synchronous assessment is required to ensure the comprehensiveness of an organization's degree of autonomy (Verhoest et al., 2004[10]; Groenleer, 2009[12]).

Some researchers consider autonomy to be "the withdrawal of activities from a government organization or the transformation of activities within that organization", distinguishing between internal and external autonomy (Verhoest et al., 2004)[10]. This opinion stressed the aspects of management and economic autonomy for public authorities, on the one hand, refers to empower decision-making related to managing input factors and progress. On the other hand, management and economic autonomy means responsibility for sharing risks with public authorities. Gilardi, (2002)[13] argues that autonomy is defined as the complete immunity of the head of an official agency from political oversight by the minister by granting a certain degree of financial autonomy or by give legal autonomy, authorize according to the law to the head of the agency to decide the operational capacity of the organization by himself. In this view, the formal independence of management agencies is divided into five aspects including the status of the agency head and member of the board of management, the relationship with the government and parliament, financial autonomy and management capacity.

In this research, autonomy is defined as the capacity of self-determination of the activities of organizations which are not dependent on any other agency, including the state. In other words, autonomy in public science and technology non-business units is a state in which an organization is entitled to self-determination and responsibility for its activities without being controlled by the State. The content of organizational autonomy is approached from the point of Verhoest et al., (2004)[10] and Lorsuwannarat, (2014)[1] including 4 aspects: managerial autonomy, policy autonomy, and structural autonomy and financial autonomy.

2.2. Organization performance

Performance of the organization is the most important indicator assessing the organization reach the goal of them. According to Andersen, (2006)[14] the achievement of financial and professional goals indicates that the organization has good performance. In other words, an organization's performance is the qualitative and quantitative set of work achievements of individuals or groups in that organization. According to Torelli & Ahluwalia, (2012)[15] states that the performance and measuring performance increasingly significant improvements and more important for organizations. According to Kaplan & Norton, (1993)[16], the performance of an organization is determined from four basic groups of components, including: Finance, customers, internal processes, learning and growth. It forms the basis for translating business strategy content into execution conditions.

Neely et al., (2005)[17] defined performance of the organization is a set of criteria to quantify the efficiency and effectiveness of all activities within the organization. It is tested by 03 levels: individuals, organization goals and the relationship between those evaluation criteria and the operating environment (culture, customer satisfaction, development strategy, etc.). Otley, (1999)[18] argues that organizational performance is information intended to provide managers with the task of maintaining and developing behavioral standards in the organization's operations. Components include: objectives, strategy, spending, rewards and information flow. In addition, Maisel, (2001)[19] defines that organization's performance is a system that helps an organization plan, measure, and control the results of its sales, marketing, and information technology activities, business decision making, etc. and other activities of the organization that aim to set goals and create value for those with relevant interests. According to Zakaria et al., (2014)[20] the performance of the organization is a tool for the organization to monitor the transactions included in the contract. According to Marr et al., (2003)[21] performance measurement system of the organization is not consistent, not the same, so the use of measurement tools is entirely due to management's objectives. The more research on measuring the performance of the fields: strategic management, operational management, human resource management, accounting, auditing, etc., the more it contributes to enriching knowledge and diverse and complete accessibility.

Public science ang technology non-business units have operational characteristics different from those of enterprises. Due to different operational goals, the way to measure and evaluate organizational performance is also different. Operational nature of public non-business units is mainly public service activities, financial goals are not the top ones. Therefore, the performance of public non-business units is a system to measure the progress of the unit's achievement of the objectives in a period by financial and non-financial criteria. Thereby helping the organization to have more information to achieve the management objectives. Kaplan, (2010)[22] and Moullin, (2007)[23] believes that performance is an indicator used to evaluate the effectiveness in the operation of public organizations. If an enterprise has almost the sole goal of doing business to make a profit, the public sector needs to provide public products and services and focus on social and security strategies, promote the development of each sector in the entire economy. In this study, we use the most commonly used BSC balanced scorecard models with the following 4 orientations:

For financial orientation: It is necessary to develop a set of criteria to evaluate the efficiency of capital use for state-owned enterprises and business units using state capital. For the administrative and non-business sectors, it is necessary to have criteria to measure the level of resource use to avoid waste and increase revenue for the budget and avoid tax revenue loss.

For customer orientation: View the public sector as a real business, putting customer satisfaction first. Depending on the public unit, there will be appropriate criteria. For example, for administrative work, it is necessary to ensure the satisfaction rate of people when they come to the transaction, ensure security and order at the local and national level, etc.

For internal process orientation: The measurement system needs to measure the quality and timing of internal processes, thereby improving the service delivery process or the process of serving the people. One-stop transaction processes can be applied to improve service quality. In addition, the innovation process needs to be integrated with internal public sector processes.

For learning and growth orientation: Measuring this aspect needs to focus on three issues: people, systems and organizational procedures. The measure for human resources is the ability to improve the working skills of civil servants; organizational training and employee satisfaction. The information technology system of the public sector is also extremely important, which can be measured by the ability to respond to management information and the level of application of scientific achievements to management. Organizational procedures can be measured by the extent to which internal processes have been improved.

2.3. The impact of autonomy on organizational performance

Organizational autonomy is not a new term in the world. Autonomy in an organization has a certain influence on the performance of that organization.Verhoest et al., (2004)[10], by doing practical research in public organizations in Flanders, clarified aspects of autonomy and analyzed the impact of organizational autonomy on performance in the public sector. This is a study with many implications both academically and methodically. Langfred & Moye, (2004)[24] have built a model to explain the relationship between task autonomy and performance proposed combining three different causal mechanisms. The benefits of task autonomy can be realized by motivational, informational, and structural mechanisms. In which, creating the motivation of autonomy in performing tasks has the strongest impact on the performance of the organization. Caxton, (2015)[25] concluded that organizations with autonomy are more likely to achieve higher performance than those with lower levels of autonomy. The author has analyzed that public organizations are often controlled by the public power of the state, which is a financial burden on public funds and creates difficulties in ensuring effective operation. Therefore, giving autonomy to public organizations is both a special favor and a responsibility for that organization. When autonomy, the organization is more technologically and financially proactive. They will use those resources creatively and responsibly to maintain and grow the organization. Therefore, a public organization that possesses a high degree of autonomy, proactive strategy, modern technology, self-realization and decentralization of management will achieve higher performance.

Lorsuwannarat, (2014)[1] studied this relationship in 9 independent agencies under the Ministry of Industry in Thailand. In this study, Lorsuwannarat combined qualitative and quantitative research methods. The author conducted 37 in-depth interviews and sent 3228 questionnaires to achieve the research objectives. However, in order to be more suitable with the spatial and temporal context of the research, the author has used different scales. For the autonomy variable, the author has used five aspects of autonomy including: legal autonomy, managerial autonomy, structural autonomy, financial autonomy and policy autonomy. There is no intervention aspect as in previous studies. For the unit's performance variable, the author evaluates through 3 aspects: efficiency, financial self-reliance and level of impact on industry. However, in this study, the author did not find a causal relationship between autonomy and performance in 9 independent agencies at the Ministry of Industry in Thailand. Thereby, it can be seen that the autonomy of the organization can bring certain positive and limited performance. Public organizations need to consider the conditions of autonomy to ensure better autonomy.

The study by Kim & Cho, (2014)[2] used regression analysis with data from 44 executive agencies in Korea to test the effect of autonomy on organizational performance. The two aspects of autonomy that the authors mention are autonomy in human resource management and financial autonomy. The results show that both human resource management autonomy and financial autonomy have a positive effect on organizational performance. Since then, the authors have suggested the need to promote the process of autonomy, especially in human resource autonomy and financial autonomy. That is to say, the state should empower and let public organizations take the initiative in personnel and financial matters. There is no control as well as too much dependence on the regulations, policies as well as the state budget. Verzulli et al., (2017)[3] investigated the relationship between autonomy and performance, through an empirical study in the NHS health care system in the United Kingdom. Since 2004, the NHS healthcare system has carried out autonomy in activities such as finance, personnel, organizational structure... The results after autonomy are reported back to the healthcare system saw an increase in employee performance, employees' attitudes and work morale also changed, thereby, the performance of the organization also increased significantly. Carrying out a regression test with the dependent variable being the performance and the independent variable being the degree of autonomy, Verzulli et al., (2017)[3] concluded between autonomy and organizational performance have a positive relationship. The higher the degree of autonomy, the greater the organizational results or performance, and vice versa.

In Vietnam, research on the effects of the autonomy (including financial autonomy) shows that autonomy is associated with increased revenue, increased income of employees and increased investment into the device. However, the experimental results show that the impact of autonomy in general and financial autonomy in particular on service quality is not clear, even in some hospitals, financial autonomy has a negative effect on hospital service quality. Similarly, research on policy autonomy hospitals in Vietnam, London, (2013)[26] that autonomy does not increase operational efficiency, does not affect the cost structure and will not increase the total cost of the hospital. In addition, research results show that self-reliance leads to more spending per treatment session and more out-of-insurance payments. However, the author did not find evidence of the impact of self-control on hospital quatity. Do Duc Kien, (2019)[6] used multiple regression model to analyze the impact of indicators of financial autonomy on the quality of public diseases. And the results showed that the finacial autonomy make to increases the quality of public hospitals in Vietnam.

Organizational autonomy is stipulated in legal documents of the State, the main objects mentioned here are public non-business units, especially autonomy in universities. Agencies have reports on the organization's performance and compare and contrast before and after the implementation of autonomy. Reports in a number of public institutions give quite positive results. However, the impact of autonomy on organizational performance is a rather broad and complex issue. In the country, there has not been any research to study systematically and specifically to clarify this relationship, especially in the context of public science and technology non – business units.

3. Research method

3.1. Qualitative research methods

Before identifying aspects of organizational autonomy and performance of public science and techonology non - business units in Vietnam, we have reviewed the literature (scientific articles, writing seminars, textbooks, monographs, doctoral theses, master's theses at domestic and abroad, regulations and policies of the state on autonomy in general and in public science and technology organizations in particular…) to summarize issues related to organizational autonomy and performance of public science and technology non-business units in Vietnam. Next, we list some of the initial selection factors from a personal point of view. After that, we organized a number of small seminars with 8 scientists in the field of Economic Management (instructors, lecturers of National Economics University, professional staff at the Ministry of Home Affairs, staff related to research field…). We conducted preliminary interviews with four more leaders and four staff members in order to find out, identify and confirm the initial hypotheses that the author set forth. The leaders, officials and employees interviewed by the authors included leaders of Viet nam Academy for Water Resources, Institute of Labour Science and Social Affairs, Vietnam Centre for Science and Technology Evaluation and Institute of Strategy and Policy on Natural Resources and Environment. Interviewees are experts with many years of experience working in research institutes.

Based on the qualitative research objectives of each group of subjects, we set up a set of questions with open-ended questions related to the research model. We conduct interviews at the workplace or at a convenient location for the interviewee. Each interview is about 30 minutes and we observed, documented and recorded.

3.2. Quantitative research methods

To achieve the research objective, we have built a survey with 37 observational scales. Autonomy variables include 20 observations, applied and adjusted from the study of Verhoest et al. (2004)[10], Lorsuwannarat, T. (2008)[1]. The scales are rated according to a 5-point Likert, from (1) agency takes the decisions itself, with the minister only slightly involved, (2) agency takes the decisions itself, with a priori consultation of the minister, (3) agency takes decisions itself within a frame of rules and conditions set by minister, (4) minister takes decision, with a priori consultation of the organisation and (5) minister takes decision independent of organisation. Performance variables include 17 observations, applied according to the scale of Kaplan, (2010)[22] and Moullin, (2007)[23] and rated on a 5-point Likert scale (from strongly disagree to strongly agree).

After the official survey was issued, we conducted a large-scale distribution of survey questionnaires at 36 public scientific and technological units in Vietnam with a total of 761 valid votes. The purpose of formal quantitative research is to find out the trends and impact levels of 4 aspects of autonomy (managerial autonomy, policy autonomy, structural autonomy and financial autonomy) to the performance of public scientific and technological non – business units in Vietnam.

4. Results and discussion

4.1. Results

On the basis of survey results of 761 managers and employees, it is clear that having influence of autonomy on the performance of Vietnamese public science and technology non-business units. This result is very similar to the researches of Lorsuwannarat, (2014)[1]; Verzulli et al., (2017)[3], we have collected responses according to the research content based on the respondents' personal feelings about the operation of the unit where they are working. A number of different measures were taken to ensure sufficient data collection for the study. Among the respondents, there are 761 respondents, accounting for a response rate of 95.1 %.

The results of regression analysis in this exploratory study also clearly show a positive relationship between the influence of autonomy on the performance of public science and technology non-business units. Simple regression analysis was performed to evaluate the impact of autonomy on organizational performance (through four aspects: customers, internal processes, learning and growth, finance). The results of the linear regression and the adjusted coefficient R2 corresponding to the standard coefficient show that the regression model has statistical significance with $p<0.01$ (table 1), specifically as follows:

Managerial autonomy has an impact on the customer, internal process, learning and growth, financial aspects (coefficient β_1 is 0.292, $p <0.01$). That means, in the condition that other factors remain unchanged, for every 1% of managerial autonomy changes, the performance of science and technology non-business units change by 0.292 units. The analysis results also show that having autonomy in making decisions about salary and financial remuneration, working conditions and environment, decisions about promotion, employee appointment has a positive impact on the organizational performance. This is entirely reasonable and true to reality. These decisions are made in a fair, reasonable manner, at the right time and with the right authority, which will greatly affect the working capacity of the individual, thereby positively affecting the performance of that unit.

Similarly, policy autonomy also has a positive impact on the performance of public science and technology non-business units. Survey results showed that the coefficient β_2 is 0.153, which means that in terms of other factors do not change, just 1% of policy autonomy changes, the organizatonal performance changed 0.153 units with $p<0.01$. This result shows that the level of impact of policy autonomy is lower than that of managerial autonomy. In addition, decisions on selecting target groups for policies, policy implementation tools, setting detailed performance norms in each target group of policies, and decisions on audiences and the scope of policy application will greatly affect the performance of the unit. Because, these decisions affect the progress of tasks, the quality of scientific and technological products, the attitude of employees, etc.

With a coefficient of β_3 is 0.147 and $p < 0.01$, the structural autonomy has a positive impact on the performance of science and technology non-business units. This coefficient is reflected in the condition that other factors remain unchanged, for every 1% change in the structural autonomy, the unit's performance will change by 0.147 units. Thus, the decision on the construction of a plan to rearrange the constituent units; establishment and reorganization of constituent units; decide to dissolve the constituent units. The higher the degree of autonomy in deciding to establish the management board and evaluating the membership of the management board, the better the performance of the unit will be. At that time, the unit will build an organizational model, management, organizational system in line with the development orientation of the unit, reducing the role and responsibility of the State in controlling activities. Instead, the State monitors the performance and the management apparatus will be held accountable for the decisions and results of its operations.

Finally, financial autonomy greatly affects the performance of public science and technology non-business units. The coefficient β_4 is 0.366, which explains that, other factors being held constant, a 1% change in the level of financial autonomy will change 0.366 unit of the variation of the performance variable. Autonomy in revenues from scientific and technological activities, production, business, joint ventures, associations and other lawful sources of income; the source of toll revenue according to the law on fees and charges shall be left to pay for regular operations and for the procurement and major repair of equipment and assets in service of toll collection; revenues from the state budget if assigned by competent agencies to perform scientific and technological tasks, regular tasks according to functions, public non-business services; Revenues from the state budget to perform non-routine tasks if assigned by competent agencies; loans, aid and grants according to current regulations will help public non-business units of science and technology to be more proactive in using financial funds. Financial autonomy forces businesses to be proactive in finding and mobilizing capital, and improving operational efficiency. Therefore, financial autonomy is associated with the right to self-determination in revenue and expenditure decisions, but also with the responsibility to ensure funds and operating results of their units.

Table 1. Linear regression model of the impact of autonomy on organizational performance

Variables	**Organizational performance**	
	Coefficient β	**Adjusted R Square**
Managerial autonomy	0.292**	0.64
Policy autonomy	0.153*	0.57
Structural autonomy	0.147*	0.53
Financial autonomy	0.366***	0.67

*Note: *p<0.05, **p<0.01 and ***p<0.001*

Source: Survey results of the author's team

In addition, the survey results also show that autonomy affects different aspects of performance. Managerial autonomy has the most impact on internal internal processes (β is 0.376); The lowest is the customer aspect (β is 0.052). Policy autonomy has the most impact on the aspect of learning and growth (β is 0.402); the lowest is the customer aspect (β is 0.036). Structural has the most impact on the internal process aspect (β is 0.342); in particular, has the lowest impact on the customer aspect and has a negative sign (β is -0.065). Financial autonomy has the most impact on the financial aspect (β is 0.308); The lowest impact is the internal process aspect (β is 0.166). The specific results are shown in the following table 2:

Table 2. Linear regression model of the impact of autonomy on aspects of organizational performance

Variable name	**Custumer**		**Internal process**		**Learn and growth**		**Finance**	
	β	*R Square*	*β*	*R Square*	*β*	*R Square*	*β*	*R Square*
Managerial autonomy	0.052*	0.63	0.376***	0.62	0.114*	0.67	0.281**	0.72
Policy autonomy	0.036*	0.51	0.255**	0.66	0.402***	0.65	0.201**	0.54
Structural autonomy	-0.065*	0.53	0.342***	0.67	0.137*	0.68	0.154*	0.58

Financial autonomy	0.198	0.67	0.166	0.63	0.241	0.65	0.308	0.84
*Note: *p<0.05, **p<0.01 and ***p<0.001*								

Source: Survey results of the author's team

Overall, each aspect of autonomy has a different impact on organizational performance. The analysis of the impact of the factors of autonomy on operational results and different levels of impact will be the basis for building autonomy policies for science and technology non-business units to improve efficiency. unit performance.

4.2. Discussion

Research results show that autonomy has a positive impact on the performance of public science and technology non-business units. Current operating practices show that units that have implemented autonomy are often more diverse in activities; have reasonable policies to mobilize capital and use capital more efficiently. In essence, autonomy in the organization allows the head of that organization to have the ability to make his own decisions about activities to maintain and develop the organization. Public non-business units of science and technology are also no exception. The autonomy in management, policy formulation and setting, in the organization of the management apparatus and finance has a great influence on the performance of the units.

Based on the research model of Lorsuwannarat, (2014)[1] and Verzulli et al., (2017)[3], we assessed the impact of autonomy on the performance of public science and technology non - business units. Inheriting and developing the scale of Verhoest et al., (2004)[10] to measure the degree of autonomy and the Balanced Scorecard BSC of Kaplan, (2010)[22] to evaluate the performance of the public non-business unit of science and technology, we have the following general comments:

All four aspects of autonomy have a positive impact on the performance of the units. The β values of the variables of managerial autonomy, policy autonomy, structural autonomy and financial autonomy are respectively 0.292; 0.153; 0.147 and 0.366. That means that the higher the autonomy of public science and technology non-business units (full autonomy), the higher their performance will be. Besides, financial autonomy has the most impact on the organizational performance. Next is managerial autonomy, policy autonomy and structural autonomy. That means financial autonomy is the first and key factor for science and technology units to improve their operational efficiency. Financial autonomy is the basis for units to be able to exercise other aspects of autonomy. This encourages public science and technology non-business units to actively build a roadmap for their own autonomy, moving towards full autonomy. However, it should be emphasized that autonomy and self-responsibility for public science and technology non-business units is the right direction, but much depends on the actual capacity of the units. Units must have a clear roadmap for autonomy, and must ensure sufficient resources to be autonomous. If the resources are not guaranteed, the autonomy will make the units face many difficulties in the operation process.

The results of the linear model regression also show that the level of impact of each autonomy on aspects of performance. Customers are the factor where the variables of autonomy have the lowest impact. Financial autonomy has the highest impact on customers (β is 0.198); followed by managerial autonomy (β is 0.052); policy autonomy with β is 0.036 has the third level of impact. Finally, structural autonomy has a negative impact on customers (customer satisfaction, ratio of old customers, new customers...). For the internal process aspect, managerial autonomy also has the most impact with β is 0.376; next is the structural autonomy with β is 0.342. Policy autonomy has the third level of impact with β is 0.255 and finally financial autonomy has an impact is 0.166. For the learn and growth aspect, the highest impact policy autonomy has β is 0.402; followed by financial autonomy with β is 0.241; the third is structural autonomy with β is 0.137 and managerial autonomy with β is 0.114. For the aspect of financial performance, financial autonomy has the most impact with β is 0.308; the second is managerial autonomy with β is 0.281; policy autonomy with β is 0.241 has the third level of impact. Finally, structural autonomy with β is 0.154. Analyzing the impact of autonomy on performance so that appropriate management solutions and policies can be developed for public science and technology non-business units; help units promote their full capacity to fulfill their assigned functions and tasks.

5. Conclusion

The self-determination capacity of public science and technology non-business units on autonomy of management, policy, apparatus and finance depends on the degree of autonomy of the unit and the State's autonomy policy. The analysis results above show the need to promote the type of full autonomy in the public science and technology non-business units. Fully autonomous science and technology non-business units have greater autonomy in managing and setting target groups, policies and tools to implement policies. In particular, the different degree of autonomy between fully autonomous and partially autonomous units is evident in the aspect of autonomy in organizational apparatus and finance. These two aspects are related to the management leadership apparatus and the degree of autonomy the unit. The performance of a number of public science and technology non-business units implementing full autonomy show that autonomy has a positive impact on improving the quality and efficiency of science and technology products, and enhancing technology transfer into the business. These are the initial successes, motivating other units to be more proactive in building their autonomy roadmap.

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WORK LIFE BALANCE OF NON-ACADEMIC STAFF WORKING IN A PUBLIC UNIVERSITY

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ABSTRACT

This study identifies the factors which affect on work-life balance to help employees to reduce pressure in life-work, in order for employees to achieve personal goals and organizational goals. The article examines elements affecting work-life balance for service employees in service sector by studying ideas and empirical evidence on the topic from a variety of sources. These factors include work-life conflict and work-life enrichment. Work-life balance is also linked to positive outcomes in both work and life. The research model construction cannot fully represent the explanatory variables due to time and research capacity constraints, but it serves as a foundation for future studies that can be completed, as well as research on work-life balance solutions for employees in the business.

Keywords: Employees; Work-life balance; Work-life Conflict, Work-life enrichment, University.

1. Introduction

As the economy grows and the work pressure increases, employees always face an imbalance between work and life, employees always suffer an imbalance between work and life. Since then, health, spirit, and life, as well as work quality, have deteriorated. Despite the fact that the issue of work-life balance (WLB) is personal and concerns the employees' sentiments, its effects have a direct impact on the university. Work, family, relationships, and obstacles are all issues that workers must deal with on a daily basis and come up with solutions to. As a result, we sometimes give up, as if we have forgotten ourselves, that life requires rest periods, times when we may live for ourselves.

Therefore, creating WLB is an inevitable part of many other important things in the lives of employees and the interest of the University. WLB is a topic that has received a lot of attention in recent years in the field of labor relations. This is not only a problem for employees, but also a problem that managers and companies must address. Imbalance not only disrupts employees' lifestyles but also has an impact on labor relations; this is a difficult problem for the business to solve if an appropriate solution cannot be found. Employees have a significant role in developing competitive advantages for firms throughout the integration stage, when competition is becoming increasingly harsh. As a result, the University's current needs for sustaining, retaining, and developing staff are critical.

The aim of this study is to examine the level of implementation of work-life balance practices in the higher education institutions in Vietnam. The research objectives presented in this study are as follows: (1) to explore a framework that provides a linking mechanism to explaining WLB; (2) to evaluate and assess WLB as perceived from staff working in higher education institutions in Viet Nam with investigation and interpretation of the results during the assessment. Generally, this research focuses on operationalizing the concept of WLB and to test the conceptual framework by conducting empirical studies in the higher education institutions.

This research will develop a model of WLB and identify specific elements that influence it. The findings of the study will serve as a foundation for future research and organizations seeking WLB solutions for non-academic staff. With the above reasons, the author introduces the article about “Work life balance of non-academic staff working in a public university”.

2. Theoretical framework

2.1. Basic theory for WLB

Although there are numerous definitions for WLB, we can describe it in the context of this study as the harmony or balance between work and life (Clarke, Koch and Hill, 2004). We divide the material of WLB into two categories based on our research: WLB is evaluated based on levels of satisfaction - that is, job and life contentment or unhappiness with work and life (Greenhaus et al., 2003). Furthermore, WLB content can be viewed as a belief — that is, work-life balance is governed by people emotions (Guest, 2002). As a result, subjective judgments are used to assess the balance in their lives, which are based on their views and feelings.

According to Peters et al. (2005), pressure from work and family often conflict, leading to an imbalance between work and life. WLB is understood as a positive state in which people can organize and manage their time effectively to fulfill their responsibilities at work, in the family, and in the community. WLB is about people having autonomy over when, where, and how they work (International Conference on Issues and Challenges in Global Business Advancement (ICGAB, 2016)). Balance in life, according to Susan M.Heathfield (2018), is a way of adjusting life's fluctuations to the goals you establish for yourself. WLB is the reunification of life's relationships so that you can feel glad, pleased, and forget about your troubles and concerns. Life balance is about reducing pressure in life, doing things that make you feel satisfied with your own life. WLB is a concept that encompasses a sensible preference between "work" (career and ambition) and "lifestyle" (health, joy, leisure, family, and spiritual growth/meditation). "Calm lifestyle balance" and "lifestyle choices" are more widely connected terms.

In research, the term "work-life balance" is employed, which refers to more than only family and life. Work life, family life, social life, and private life are all referred to as "life" in this study. WLB can be understood as balance, harmony, and the result of work-family conflict (WLC), according to Carlson et al., (2009), as well as the reciprocal support between work and family (WLE). Furthermore, in a research titled "Work-life balance: A review of the meaning of the balance construct," Kalliath and Brough (2008) identified five main characteristics that might be addressed in the idea of life balance: (1) As a concept that reflects personal orientation in various life roles; (2) The extent to which an individual participates in both the work and family roles and is equally satisfied in both; (3) Achieving a satisfying experience in all areas of life by skillfully distributing personal resources such as energy, time, and other resources across all areas; (4) An individual's level of effectiveness and satisfaction in work and family roles corresponds to the individual's priorities at a given time; (5) It's about people who have a measure of control over when, where, and how they work. Therefore, it can be understood that WLB is a multi-structural concept that includes WLC and WLE.

Employees in the service sector at the Univesity of Economic- Danang University: Vietnamese citizens are hired by job position, work in public non-business units under a working contract system, and are paid from the university's salary fund as required by law, public non-business units. The staff of the service department of the University of Economics include: experts, engineers, accountants, librarians, medical staff, nurses and service staff working in departments, centers and offices. equivalent; assigned to perform a part of a job or a professional issue of the unit according to his/her title. The standards of professionalism and expertise for each specific title of the staff of the service department shall comply with the regulations of the State and other regulations of the Danang University.

The total number of employees in the service sector at UEB-UD is 108 as of the beginning of 2020, which is mainly distributed in departments, centers and secretaries at faculties according to Table 1. Duties and positions The functions, rights and interests of service workers are clearly defined in: *(1) Regulations on organization and operation; (2) Functions and duties of the units; (3) Regulations on internal spending*. (access 20/08/2020 website: https://due.udn.vn). The implementation of activities at the School is determined according to the strategic direction of the school's development. General profiles of 108 service workers, analyzed in Table 1 below:

Table 1. Structure of service workers divided by job function

Job function	Percentage (%)
(1) Secretaries of Faculty (12)	11,1%
(2) Infrastructure Department (8)	7,4%
(3) Student Affairs Department (4)	3,7%
(4) Academic Affairs Department (8)	7,4%
(5) Research and international Cooperation Department (7)	6,5%
(6) testing and quality assurance of education Department (5)	4,6%
(7) Financial Plan Department (6)	5,6%
(8) Organization-Administration Department (28)	25,9%
(9) Inspection and Legal Affairs Department (2)	1,9%
(10) Library (9)	8,3%
(11) Center for Information Technology and Communication (7)	6,5%
(12) Center for student support & enterprise relationship (8)	7,4%
(13) Office Staff (4)	3,7%

Job characteristics and characteristics of service workers at University of Economics - Danang University affect WLB:

- Job characteristics: (1) Seasonality in work: The University's service department mostly performs service activities, and the University's activities are seasonal due to the impact of many different causes. Seasonality has certain impacts on the operations of the departments, which will affect the WLB of employees. Seasonality is the repetitive fluctuations in the job demand of activities, occurring under the influence of certain factors. Job seasonality is, in fact, a collection and interplay of demand swings in various job kinds within each department. The capacity to reserve capacity of the serving sector is difficult to assess, and managers are always concerned about meeting employment demand as best they can under the allowed conditions. The division and management of work is quite complicated due to the seasonal nature of the jobs. It is tough to meet work demand at its peak, but when demand is low, it will result in idleness; (2) Interdependence between departments, divisions, centers: The majority of work at the University necessitates collaboration between departments, divisions, and centers, rather than individually. As a result, the interdependence in the work of the interested parties should be taken into account when implementing WLB.

- Characteristics of employees in the service sector at the University: (1) Female employees make up a bigger percentage of the workforce than male employees (females (71) account for 65.74 percent, while males (37) account for 34.26 percent). The percentage of female employees is frequently larger than that of male employees due to the unique character of the university's service sector, which necessitates the care and ingenuity of women. Due to cultural peculiarities, Women are frequently burdened with household duties in addition to organizational work, which has an impact on WLB. (2) Unequal structure of professional qualifications: There is an unequal distribution of professional qualifications structure among departments. (3) The number of employees fluctuates little over time: The number of service workers has remained relatively constant throughout time due to the peculiarities of the University's mechanism and operation (long-term salaried employees).

2.2. Factors affecting WLB for service workers at the University of Economics - Danang University

WLB is widely study documented in both theoretical and practical sense. From a theoretical point of view, WLB can be seen as a way to create a healthy balance for personal life and work tasks (Lingard et al., 2009). WLB, on the other hand, is defined by Zheng et al. (2015) as the fit between the needs of multiple roles and the availability of individual resources. WLB can be seen as a balance, harmony and result of work-family conflict or work-family enrichment (Clark, 2004). As a result, we can anticipate that two significant factors can influence WLB: work-life conflict and work-life enrichment. In view of the relationship between WLB and job performance (OUT), previous research have shown that higher WLB levels can contribute to higher quality of life and job satisfaction, increase job satisfaction, as well as reduce employee turnover (Bradley et al., 2010; Brough et al., 2014). This relationship has also been extensively investigated from previous studies across different disciplines (Grzywacz & Carlson, 2007; Rantanen et al., 2010). As a result, we consider this link in our study utilizing a sample of DUE-UD service workers.

Greenhaus & Beutell (1985), WLC is "a type of role conflict in which work and family roles are incompatible". According to Carlson et al. (2009), WLC is an important source of stress in our lives. They also mentioned that the level of WLC is dependent on work demand (WD) and life demand (LD). In other words, WLC levels are bidirectionally influenced and produce negative effects from one side to another. This is consistent with the findings of Michel et al (2010). Furthermore, in this study, we can measure WLC based on three aspects: time-based conflict, strain-based conflict and behavior-based conflict, in the spirit of Greenhaus & Beutell (1985) and Carlson (2000) research results on the structure of WLC. In the next section, we turn to the concept of work-life enrichment (WLE). Preliminary work on WLE is due to Carlson (2006), he emphasize that WLE is the positive side of the work-life balance equation. he also claimed that WLE would provide resources to help to increase the life satisfaction levels. WLE can be captured in this study by four categories of resources, according to Carlson (2006) and Mcmillan et al (2010). Furthermore, from the spirits of the Greenhaus & Beutell (1985) and Carlson et al. (2000) research results on the structure of WLC, in this study, we can measure WLC base on three dimensions: time-based conflict, strain-based conflict and behavior-based conflict. In the next section, we move to the concept of WLE. Preliminary work on WLE was undertaken by Carlson et al. (2006). They indicate that WLE is the positive side of the relationship between work and life domains. They also argue that WLE will provide the resources to help them increase the level of satisfaction in the life domain. Following Carlson et al. (2006) and Mcmillan et al. (2010), in this study, WLE can be captured by four types of resources such as developmental, efficiency, affective and capital gains. A considerable amount of literature has been published on WLC and WLE relative to the WLB concepts. The result from demands and resources would directly affect WLB through the appraisal of WLC and WLE. Detailed examination of WLC, WLE and WLB by Frone (2003) and Haddon & Hede (2010) showed that low level of WLC and high level of WLE leads to WLB. The level of WLC is positively associated with an individual's ability to meet the demands whereas the level of WLE is positively associated with the amount of resources that an individual possesses to meet the demands and personal performance (Haddon et al., 2009; Haddon & Hede, 2010).

Through theoretical research and empirical studies from many sources, authors and a combination of qualitative research methods (expert interview method) thereby identifying groups of factors that help WLB for employees to recover. service at DUE-UD. Expert interview methods will be introduced in the study design chapter). The purpose of this research model is to examine the level of implementation of WLB methods for service workers at DUE-UD. The following are the research objectives presented in this study: (1) Explore a theoretical framework underpinning the interpretation and clarification of WLB; (2) Predict and evaluate WLB based on service workers' perceptions through investigation and interpretation of results during the evaluation process. In summary, the goal of this research is to operationalize the WLB concept and to put the conceptual framework to the test by conducting empirical studies in practice. WLB can be viewed as a means of striking a balance between personal and professional life (Lingard et al., 2009). Greenhaus et al. (2003) have also shown that WLB is achieved when employees are able to strike the right balance between work and personal responsibilities. On the other hand, Zheng et al., (2015) define WLB as the match between the needs and availability of individual resources. WLB can also be viewed as a balance, harmony and result of work-life conflict and work-life enrichment (Clark, 2004). Therefore, from a WLB perspective, WLB can be influenced by WLC and WLE.

Given the link between WLB and Outcomes of Work–Life Balance (OUT), prior research have shown that high WLB levels can improve quality of life and job satisfaction while also reducing change and employee turnover (Greenhaus et al., 2003; Bradley et al., 2010; Brough et al., 2014). This relationship has been studied extensively in previous studies (Grzywacz and Carlson, 2007; Rantanen et al., 2010). Therefore, the following sections present an analysis of the main components of the WLB model in the context of WLC, WLE, as well as OUT.

Greenhaus & Beutell (1985) show that WLC is "a form of inter-role conflict in which role pressures from work and family domains are mutually incompatible". According to Carlson et al. (2009), WLC is an critical source of stress in our life. They also mention that the level of WLC is dependent on the work demand (WD) and life demand (LD). In other word, the level of WLC is driven by the bidirectional in nature and produce negative effects from one domain to another. This is consistent with the findings of Michel et al. (2010). Furthermore, from the spirits of the Greenhaus & Beutell (1985) and Carlson et al. (2000) research results on the structure of WLC, in this study, we can measure WLC base on three dimensions: time-based conflict, strain-based conflict and behavior-based conflict.

In the next section, we move to the concept of WLE. Preliminary work on WLE was undertaken by Carlson et al. (2006). They indicate that WLE is the positive side of the relationship between work and life domains. They also argue that WLE will provide the resources to help them increase the level of satisfaction in the life domain. Following Carlson et al. (2006) and Mcmillan et al. (2010), in this study, WLE can be captured by four types of resources such as developmental, efficiency, affective and capital gains.

A considerable amount of literature has been published on WLC and WLE relative to the WLB concepts. The result from demands and resources would directly affect WLB through the appraisal of WLC and WLE. Detailed examination of WLC, WLE and WLB by Frone (2003) and Haddon & Hede (2010) showed that low level of WLC and high level of WLE leads to WLB. The level of WLC is positively associated with an individual's ability to meet the demands whereas the level of WLE is positively associated with the amount of resources that an individual possesses to meet the demands and personal performance (Haddon et al., 2009; Haddon & Hede, 2010).

Based on the hypotheses presented below, WLE and WLC are positively associated with resources and demands respectively. An individual may engage in strategies that can help alter the outcome of WLC or WLE in order to achieve WLB. This led to the formulation of the following hypotheses. WLB is considered to be a set of more measurable structures than a unidimensional construct (Rantanen et al., 2010). In oder to interpret an individual's WLB structure, the previous study reveal that WLC and WLE are considered two important indicators acting as linkage mechanisms to interpret WLB (Grzywacz & Carlson, 2007). Furthermore, it has been observed that high WLE and/or low WLC lead to the attainment of WLB (Frone, 2003). In addition to WLC and WLE, which link to WLB, the CS has been identified as the third way for an individual to achieve WLB. It means that WLE, WLC, and CS are critical domains to in interpreting WLB concept. This led to the formulation of the following hypotheses by Figure 1:

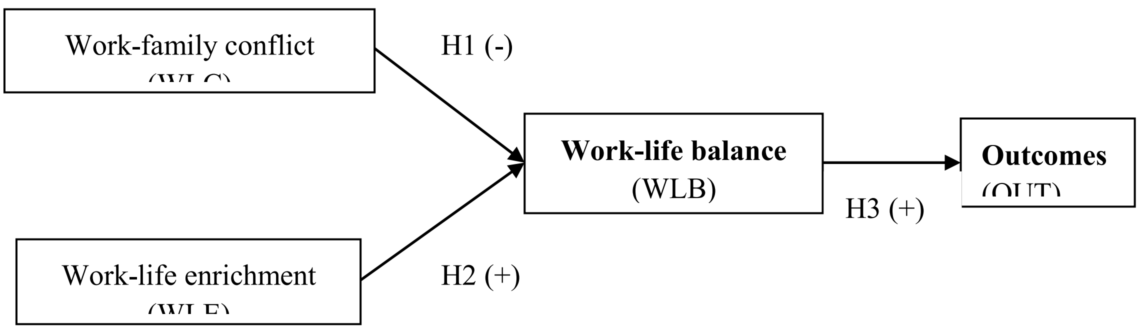

Figure 1. Proposed research model

The following table presents the sub-indicators, theoretical sources and measured item sources. All variables were measured using a 5-point Likert scale.

Table 2. Specification of the sub-indicators and measurement items

Sub-indicators	Author
Work-life conflict (WLC)	
Time-based (WLC1)	
Strain-based (WLC2)	Carlson và cộng sự (2000)
Behavior-based (WLC3)	
Work-life enrichment (WLE)	
Work-life Development (WLE1)	
Affect (WLE2)	Carlson và cộng sự (2000);
Capital (WLE3)	
Colleagues and employer support (WLE4)	
Work-life balance (WLB)	
I very well meet the expectations of important people in my work and home life. (WLB1)	
It is clear to me, based on feedback from colleagues and family members, that I am fulfilling both work and family responsibilities well . (WLB2)	
Outcomes (OUT)	
Work satisfaction (OUT1)	Balfour và Wechsler (1996);
Organization commitment (OUT2)	Seashore và cộng sự (1982);
Life satisfaction (OUT3)	Zabriskie và Ward (2013)

The model's hypothesis:

- Hypothesis H1: WLC is negatively correlated with WLB.
- Hypothesis H2: WLE is positively correlated with WLB.

WLB and OUT: It is important to investigate the WLB results to understand the benefits or adverse effects of the balance (imbalance) in work and life relation. Carlson et al. (2009) show that WLB contributes to the interpretation of both work and life results. In terms of performance, WLB is designed to improve job satisfaction, organizational commitment and enterprise change intentions (Carlson et al., 2000; Carlson et al., 2009). In terms of life outcomes, WLB is designed to improve life satisfaction, family satisfaction and psychological health (Carlson et al., 2006). Thus, this leads to the following hypothesis:

Hypothesis H3: WLB is positively correlated with OUT.

In general, based on the relationship between indicators in previous studies, the hypotheses in this study were built to test their correlation to explain WLB. Figure 1 depicts the theoretical model of this study.

3. Research method

Research Question and Hypothesis: The objective of this study is to answer the question of how WLB is described and measured for service workers. We utilized the following fundamental approaches to create the above-mentioned suggested model: Synthetic material method, expert interview method. The first method, we synthesized scientific articles from many prestigious journals related to work-life balance assessment from 1986 to 2018. Through this method, we can introduce potential factors that have been used in previous studies, thereby forming an evaluation model. The second method, we use expert interview method. We must pick interviewers who are specialists in the field of human resource management for this method. We chose 25 people with whom to conduct interviews. To conduct interviews, we compiled a list of potential interviewees from a variety of organizations working in a variety of disciplines. The duration of the interviews ranged from 55 minutes to 1 hour. After completing the interview, we synthesize the above criteria as well as other factors. Through these steps, we can adjust, add, and remove duplicate, non-representative variables, thereby building a better model with higher reliability, more suitable for specific research conditions.

The study will introduce the content related to testing the proposed theoretical model through two-step approach in building a linear structural model (SEM) (Anderson and Gerbing, 1988; Hair et al. , 2010). Using AMOS software, a covariance-based SEM method (CB-SEM) was used. CB-SEM is used to verify (or refute) the model's validity (measurement and structure), assumptions, variable correlations, statistical significance, and grouping of similarity variables. There are two main steps: the first is to assess the validity of the suggested measurement model, and the second is to assess the structural model's validity. SPSS V.20 and AMOS V.20. were used to analyze the data.

4. Results and discussion

4.1. Validity and reliability evaluation

To evaluate the accuracy of the scales in the research model, the study will calculate the accuracy value following each individual scale and be evaluated by analyzing the convergence or divergence of the scales, and overall fit.

First, the reliability of the factors is measured to ensure that the observed variables in the same factor are related to each other. Statistically, two basic reliability metrics are used: the item-total correlation and the Cronbach's alpha, which the item-total correlation must be greater than 0.05, while the Cronbach's alpha must be greater than 0.7 (Hair et al, 2010). Table 3 summarizes the final results:

Table 3. Summary of the path coefficient, t-value and p values

Factors	Observed variables	The item-total correlation (>0.05)	The Cronbach's alpha (>0.7)	AVE (>0.05)
Work-life conflict			0.881	0.605
(WLC)	WLC1	0.617		
	WLC2	0.818		
	WLC3	0.732		
Work-life Enrichment			0.943	0.768
(WLE)	WLE1	0.800		
	WLE2	0.867		
	WLE3	0.868		
	WLE4	0.806		
Work-life balance			0.915	0.730
	WLB1	0.815		
	WLB2	0.806		

Work-life Outcomes			0.909	0.719
(OUT)	OUT1	0.725		
	OUT2	0.818		
	OUT3	0.819		

Note: * The bolded part is the group of factos consist of: WLB is work-life balance; WLC is work-life conflict; WLE is work-life enrichment; OUT is the work-life outcomes.

According to the results in Table 3, the total number of eligible variables is 16 observed variables belonging to 4 groups of factors. Firstly, in the group of WLC factors, there are 3 observed variables WLC1, WLC2, WLC3 corresponding to the observed variables that are conflicts stemming from time factors, conflicts stemming from stress in work and life, and conflicts stemming from behavior. The item-total correlation of all variables is greater than 0.05, specifically WLC1 is 0.617; WLC2 is 0.818; WLC3 is 0.732. Correspondingly, the study also achieved the Cronbach's alpha at 0.881 (>0.7). This indicates that the WLC factor is reliable enough to carry out further studies.

Secondly, in the group of WLE factors, there are 4 observed variables WLE1, WLE2, WLE3, WLE4 corresponding to the item-total correlation of all variables greater than 0.05, specifically WLE1 is 0.800; WLE2 is 0.867; WLE3 is 0.868, WLE4 is 0.806 . Correspondingly, the study also achieved the Cronbach's alpha at 0.915 (>0.7). This indicates that the WLE factor is reliable enough to carry out further studies.

Thirdly, with the factors in WLB group, there are 2 observed variables: WLB1, WLB2 corresponding to the item-total correlation of all variables is greater than 0.05, specifically WLB1 is 0.815; WLB2 is 0.806. Correspondingly, the study also achieved the Cronbach's alpha 0.915 (>0.7). This indicates that the WLB factor is reliable enough to carry out further studies.

Finally, with the factor OUT, there are 3 observed variables OUT1, OUT2, OUT3 corresponding to the item-total correlation of all variables greater than 0.05, specifically OUT1 is 0.725; OUT2 is 0.818; OUT3 is 0.819. Correspondingly, the study also achieved the Cronbach's alpha at 0.909 (>0.7). This indicates that the OUT factor is reliable enough to carry out further studies.

Thus, the factors serving the research model have achieved statistical reliability so that they can be conducted for further studies.

Next, the study will evaluate the convergence value of the observed variables by each factor group, this means that we will consider the degree of correlation of the variables in a factor group and expressed through extracted average (AVE) and reliability (Hair et al., 2010).

Table 3 summarizes the research findings, which demonstrate that all of the observed variables achieve the convergent value in each factor. Furthermore, Composite Reliability (CR) are higher than the 0.7 criterion (Nunnally and Bernstein, 1994). The AVE value of the constructs exceeded 0.5 (Hair et al., 2010). As a consequence of the findings, we may deduce that all observed variables are reliable and have appropriate convergence values.

Discriminant validity shows the differences in correlation between different factors. A high discriminant validity that the measured factor is unique and that the observed variables can generalize about the content contained in that factor. In this study, based on the results in Table 4, the discriminant validity for all observed variables is satisfactory, because the square root of the AVE values for the two constructs is larger than the item-total correlation (Hair et al., 2010).

Table 4. Square root value of AVE and correlation between factors

	WLC	WLE	WLB	OUT
WLC	0.778			
WLE	-0.420	0.876		
WLB	-0.382	0.261	0.854	
OUT	-0.558	0.262	0.519	0.848

Note: * The bolded part is the square root value of AVE; WLB is work-life balance; WLC is work-life conflict; WLE is work-life enrichment; OUT is the work-life outcomes.

Essentially, the Goodness-of-fit (GOF) metric indicates which model reflects the theory that best represents the data. Evaluation of model fit is one of the most important steps in the analysis of a linear structural model (Yuan, 2006). The statistics showing the Goodness-of-fit of the model are presented in Table 5.

Table 5. Statistical value of model fit

Model fit	
CMIN = 252.84	CFI = 0.976
Df = 108	RMSEA = 0.05
CMIN/df = 1.96	PCLOSE = 0.435
***p*-value = 0.00**	

Statistical indicators show the fit of the research model. The CMIN/df index of 1.96 is almost at the value of 2. The RMSEA at 0.05 is well below the upper limit of 0.07 and the PCLOSE at 0.435 is much larger than the threshold of 0.07 (Steiger, 2007). RMSEA at 0.05, satisfactory level. The CFI at 0.976 is higher than 0.90 (Hu and Bentler, 1999).

5. Structural model evaluation

After the validity and reliability of the measurement model were established, the structural model was addressed. The structural model was used to determine the model's capabilities in predicting the relationships between the constructs as well as to test the hypotheses formulated for the research. the significance and relevancy of the structural model relationships were assessed based on Path Coefficient and t-statistics. To evaluate the path coefficients, the PLS-SEM algorithms are used and the results are presented in **Table 6.** To next assess whether all the relationships between constructs were significant, the Bootstrapping interface was run. Bootstrapping is a nonparametric procedure where subsamples are randomly and automatically drawn from the data. This allows testing of the statistical significance of the path coefficients (Hair et al., 2017). When using the Bootstrapping interface, one has to note that the results of the t-statistics or other data would be different as it uses different subsamples for generating results.

Table 6. Hypothesis Test of model

Hypothesis	Coefficient	**Effect**	***P value* (<0.05)**	**Accept**
H1: WLC negative correlation WLB	-0.35	-	0.00	Yes
H2: WLE positive correlation WLB	0.15	+	0.00	Yes
H3: WLB positive correlation OUT	0.25	+	0.00	Yes

As we can see that, at the 5% significance level, it could be seen that all the relationships in the structural model were significant Based on the result, only H1, H2, H3 are accepted as the t-value is significant at $p<0.05$. Increasing WLE or reducing WLC were significant in explaining WLB.

The next evaluation of the effect size of f^2 was the next step in assessing the structural model. The results of the f^2 effect size are presented in **Table 7.** Hair et al. (2017) indicated that the f^2 values is as follows: 0.02 = small effects; 0.15 = medium effects; 0.35 = large effects; less than 0.02 = no effect.

Table 7. Summary of f^2 effect size

	OUT	**WLB**	**WLC**	**WLE**
OUT		0.407		
WLB	0.481			
WLC		0.031		
WLE	0,581	0.001		

From the **Table 6** results, we can conclusion that : WLB has large effect on OUT (0.481); WLE has no effect on WLB (0.001); WLE has large effect on OUT (0.581); WLC has small effect on WLB (0.031), OUT has large effect on WLB (0.407).

Next, we evaluate the predictive relevance of Q^2 value by using the Blindfolding interface (Hair et al., 2017). The Construct Cross-validated Redundancy estimates are presented in **Table 8.**

Table 8. Summary of Q^2 value

	SSO	**SSE**	**Q^2=(1-SEE/SSO)**
OUT	165.00	138.12	0.163
WLB	41.00	32.89	0.198
WLC	176.00	126.71	0.280
WLE	185.00	115.25	0.377

It could be seen that all five endogenous constructs have Q^2 value above zero (Outcome = 0.163, WLB = 0.198, WLC = 0.280 and WLE = 0.377). The results clearly supported the model's predictive relevancy regarding the endogenous latent variables.

The final step in evaluating the structural mode, the effect size of q^2 is used to evaluate where it assessed an exogenous latent variable's contribution to an endogenous construct's Q^2 value (Hair et al., 2017). The results are presented in **Table 9.**

Table 9. Summary of the $Q^2_{excluded}$ and q^2 effect size

	$Q^2_{excluded}$	**$Q^2_{included}$**	**q^2**	**Predictive relevance**
WLC → WLB	0.287	0.2244	-0.088	Small
WLE → OUT	-0.041	0.2855	0.314	Large
WLE → WLB	0.25	0.2244	-0.034	Small

Following Hair et al. (2017) method, we can conclusion that the q^2 effect size for all the relationship between variables could be considered as small predictive relevance, except WLE → OUT. In other word, this result imply that there is a small effect on the change in the R^2 value after the omission of one of its linked exogenous construct .We also can see that the the q^2 effect size for the relationship between WLE → OUT could be considered as close to large predictive relevance.

6. Discussion

This study shows that WLC and WLE both have an impact on the level of work-life balance - WLB, and WLB has a positive impact on work outcomes. Overall, the theoretical model developed in this study explained 25% of the variance in work-life balance.

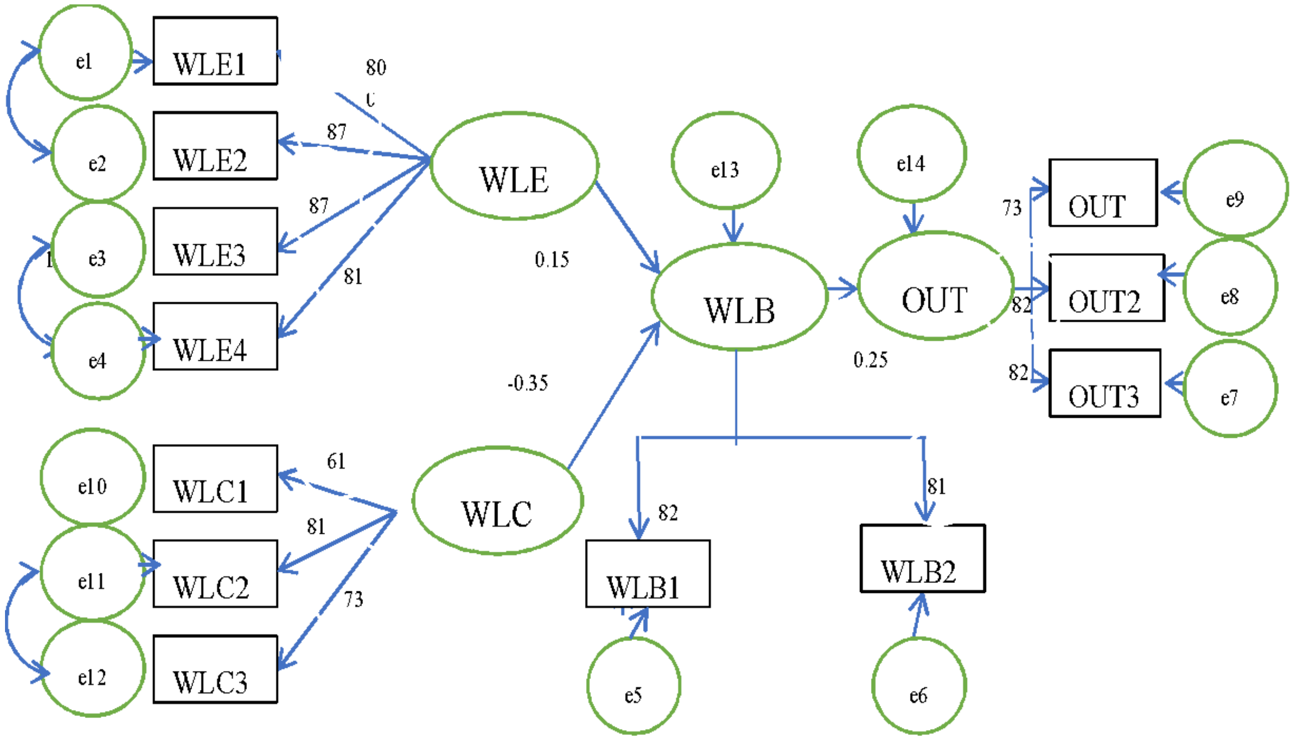

Figure 2. Evaluation results according to the linear structural model

Structural analysis indicated that WLE and WLB had a positive association, in contrast, WLC had a negative association with WLB. As shown in Figure 2, we can see that the better the reciprocal support between work and life, the higher the level of work outcome of those working in the service sector at the Univerisity. The findings of this study are similar to those of earlier studies such as Frone's (2003). As a consequence of the findings, we can conclude that the degree of work-life balance in the service sector at the school may be measured using two basic elements, WLE and WLC, as indicated in the model. Work-life balance also has an impact on work outcomes.

Thus, the research results show that WLC has an inverse relationship with WLB (beta coefficient = -0.35, p = 0.00). Therefore, hypothesis H1 was supported. The results support the model developed by Voydanoff (2005a) and Carlson et al. (2000) in which Work-life conflict is an assessment based on the perception of the impact of Work-life conflict.

Almost employees with more than 10 years of experience in the survey agreed that work conflict plays an important role in explaining Work-Life, specifically:

They have been working at this university for more than 10 years. *"My work pressure requirements also increased. My scope of work has increased and I have to take care of more people and activities. That means I can't have time to work even when I'm home. The more jobs I take on, the more stressed I am*". This is where the conflict comes in.

Workers' work conflict has grown considerably as a result of their expanded job duties as a result of their high-level classification. *"Work is always the major cause of troubles, no matter how beautiful your life is"* according to one employee. Without a doubt, the work demands bring work and life into conflict.

Thus, employees find that in work demands are more likely to cause work-life conflict and reduce work-life balance.

Hypothesis H3 suggests that there is a positive relationship between WLB and OUT. From the research results, hypothesis H3 is positive and significant (beta = 0.25, p = 0.00). Therefore, hypothesis H3 was supported. This significant result is consistent with many previous studies: WLB will yield positive results in WLB (Carlson et al., 2009; Grzywacz & Carlson, 2007; Haddon & Hede, 2010).

7. Conclusion

This study was conducted to assess the level of WLB for employees in the service sector at UDE-UD. To achieve the research objective, the study first reviewed related theories and developed a conceptual framework that can estimate the WLB level. The results of this study have academic and practical value. First, this study estimates the observed variables that measure WLC and WLE, which are two basic aspects in measuring WLB. Second, the study provides empirical evidence on the relationship between WLC and WLE on WLB for the service sector working at UDE-UD. Finally, research reveals that WLB and OUT have significant positive relationship. This means that greater WLB levels are linked to increased job and life satisfaction, as well as improved work performance.

The outcomes of this study have major significance for companies and managers from a practical implications perspective. In addition, the findings of this study can assist managers in implementing effective and strategic policies and procedures to promote WLB inside their organizations. The findings also suggest that WLC has a greater effect on WLB than WLE. This means that limiting conflicts in work-life relationships is also a way to increase WLB levels.

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ORGANIZATIONAL CITIZENSHIP BEHAVIOR – A CROSS-CULTURAL PERSPECTIVE

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ABSTRACT

Within the field of Organizational Behavior, Organizational citizenship behavior (OCB) has attracted a lot of concerns from researchers since 1988 because of its positive relationship with unit performance. Research has shown that OCB helps maximize the organizational performance of companies; therefore, it is beneficial for managers to understand how various variables affect OCB. However, scholars argued that OCB may vary across contexts because of cultural differences. Based on an inductive approach comprising 50 qualitative semi-structured interviews in public and private organizations in Vietnam, the findings reveal various perspectives of OCB in a different culture with four dimensions of OCB that appear to be common to both context, but others are specific to one or the other of the two contexts. This research provides exploratory results on the perception of OCB in Vietnamese cultural context that make a theoretical contribution to academic research and to develop better intercultural sensitivity among local and foreign managers working in Vietnamese companies, more generally in the Far East.

Key words: Organizational citizenship behavior; Vietnamese culture; semi-structured interviews; thematic analysis.

1. Introduction

Since 1964, Katz has brought to light a set of individual behaviors that are discretionary (i.e. apart from a job description) and spontaneous (i.e. without pecuniary and immediate consideration, and without having been requested) which help to maximize the organizational performance of companies (Katz, 1964). Since then, in an empirical research on the nature and antecedents of these behaviors, the notion of "organizational citizenship behaviors" has developed (Smith et al., 1983). The first definition of the concept was published by Organ, according to which, OCB are "individual behaviors which are discretionary, not recognized directly or explicitly by the formal reward system and which, on the whole, promote the efficient functioning of the organization. organization" (Organ, 1988). The importance of such behaviors for the proper functioning of organizations has been, and still is, fairly unanimously recognized, and much research has been published in the decades since these seminal texts. Thus, several related concepts of OCBs have been proposed and discussed, including extra-role behavior (Van Dyne et al., 1995; Van Dyne and LePine, 1998) civic citizenship (Graham, 1991; Van Dyne et al., 1994), prosocial behavior (Brief and Motowidlo, 1986)), organizational spontaneity (George and Jones, 1997) and contextual performance (Van Scotter and Motowidlo, 1996). The definition of OCB is still the subject of discussion today and there is no consensus on the dimensionality of OCB (Law et al., 2005; Neves et al., 2014). Most of the research results in the field of OCBs have been generated in the context of Western cultures and primarily in the United States. Researchers have argued that OCBs can vary from context to context due to cultural differences (Earley and Calic, 2018; Lai et al., 2013; Paine and Organ, 2000). A more precise explanation of OCBs and their dimensions is therefore necessary. To be considered as a different perspective compared with western context, Vietnamese cultural context is characterized by a semi-reformed market economy that remains under relatively strong government control, an emerging legal and commercial infrastructure, collectivist thinking and a strong hierarchical distance (Hofstede, 1984). Hence, the research aims to explore dimensions of OCBs in Vietnamese culture, an eastern context. The research question seeks to determine to what extent the dimensions of organizational citizenship behaviors vary in a new cultural context.

2. Theoretical framework

2.1. The dimensions of organizational citizenship behaviors across cultures

In the decades since Organ (1988) defined OCBs, much research has been published on this concept. Increasingly, researchers have become interested in these behaviors, as well as their antecedents (such as gender and personal characteristics) (Allen, 2018; Chiaburu et al., 2018, 2014) and their consequences in terms of organizational and individual performance (Mackenzie et al., 2018; Podsakoff et al., 2009; Whiting and Maynes, 2016). The concept of OCB has given rise to relatively numerous contributions, but all situated in relatively close contexts. There is currently a lack of research on this concept located in different cultural contexts, especially in Asia. Another key question concerning OCB is whether staff perceive OCB as an integral part of their role at work, in other words as a way of carrying out their functions, or else, as discretionary behaviors distinct from their role and their responsibilities. functions. In the Western literature, it is this second meaning that is used (Farh et al., 2004; Organ, 1988; Podsakoff et al., 2000). However, several studies have suggested that the less precise the job descriptions, the more staff consider OCB to be an integral part of their role at work, and the more they demonstrate it (Morrison, 1994). These studies indicate that intra-role perception of OCBs, as well as recognition of OCBs at work, increases non-financial organizational performance (Kaplan and Norton, 2005; Podsakoff et al., 2009; Whiting and Maynes, 2016).

A research on the dimension of OCB in China showed a significant relationship between the nationality of employees and the definition of OCBs at work (Farh et al., 2004). Chinese employees were more likely to perceive OCB as part of their role and. For this reason, they were more likely to adopt OCB in the absence of other predictors of OCBs such as job satisfaction and organizational commitment. One reason is that a collectivist society is characterized by citizens who seek to support the goals of the group or protect the well-being of the group (Moorman et al., 2018; Moorman and Blakely, 1995). Another reason why OCB are seen in China as part of the role might be that it is a culture with a high hierarchical distance (Farh et al., 2004; Hofstede, 1984). Because of the high hierarchical distance, Chinese employees are less likely to challenge their leaders and are more likely to act as the organization expects. Individuals do exactly as they are told, which limits the individual margins of interpretation of OCBs by the person. Farh et al. (2004) confirmed that there is no distinction between the intra-role and extra-role nature of OCBs in the Chinese context. In addition, a study conducted among 349 employees of Chinese companies by Zhao et al. (2012) showed that the older the employees and the higher the position they occupy in the organization, the more they perceive CBOs as an intra-role in nature. In addition, women had, on average, higher OCB, especially for certain dimensions such as altruism and interpersonal harmony (Zhao et al., 2012).

In their meta-analysis of OCBs, LePine et al. (2002) discuss the need to move away from the antecedents and effects of CBOs to focus on a more precise explanation of the very concept of CBOs and its dimensions (LePine et al., 2002). Van Dyne et al. (1994) have pointed out that unless we pay more attention to the theoretical analysis of concepts and then to their measurements, we run the risk of undertaking a number of studies that may prove of little use in the long term. This research therefore focuses on the dimensions of CBOs to fully understand their nature, and how they are likely to vary according to cultural contexts.

Since the founding work of Organ (1988), five dimensions of OCBs have been accepted and four others have been developed by Van Dyne et al. (1994): altruism, conscience, sportsmanship, civility, civic virtue, functional participation, participation in advocacy, loyalty and "voice" (Organ, 1988; Van Dyne et al., 1995). "Selflessness," or helping behavior, has been identified as a crucial form of citizenship behavior. Altruism includes all types of voluntary actions by workers that aim to help co-workers to accomplish their jobs and to overcome work-related problems within the organization (Organ, 1990, 1988; Podsakoff et al., 2000). "Conscience" is considered to be the discretionary behavior of an employee that goes beyond the minimum requirements of his role in the organization, and includes obedience to standards and regulations on absences or break time. "Sportsmanship" is defined as refraining from actions that may lead to unfavorable tensions in the workplace and maintaining a synergistic atmosphere within the organization (Organ, 1988 and 1990; Podsakoff et al., 2000). "Courtesy" covers a set of behaviors to prevent relational problems: avoidance of conflicts, consultation of the opinions of colleagues and supervisors, reflection on the consequences of one's action. "Citizen virtue" in this context means a high level of employee interest in participating responsibly in the life of the organization. "Altruism" and "courtesy" have been grouped together within individual OCB behaviors (OCB-I), while the other three dimensions combine into organizational OCB behaviors (OCB-O) (Williams and Anderson, 1991). “Functional participation” refers to a participatory contribution in which individuals focus on themselves rather than on others within their organization, for example working more or volunteering for additional tasks. “Advocacy” is defined as a willingness to act as a negotiator among members of a community, for example by encouraging colleagues to find compromises and to express their opinion. “Loyalty” refers to allegiance to an organization and the promotion of its image in the community. Finally, “voice” is promotional behavior that emphasizes constructive expression aimed at rather than criticizing others. Table 1 below shows the dimensions of OCBs in Western literature.

Table 1. The dimensions of OCBs in Western literature

Dimensions	Authors
Altruism	Organ 1988, Podsakoff *et al.* 2000
Conscience	Organ 1988, Podsakoff *et al.* 2000
Sportsmanship	Organ 1988, Podsakoff *et al.* 2000
Courtesy	Organ 1988, Podsakoff *et al.* 2000
Citizen Virtue	Organ 1988, Podsakoff *et al.* 2000
Functional participation	Van Dyne *et al.*1994
Advocacy	Van Dyne *et al.*1994
Loyalty	Van Dyne *et al.*1994
Voice	Van Dyne *et al.* 1995, Van Dyne et LePine 1998

2.2. Vietnamese cultural context

Located in Southeast Asia, on the border of China, Laos and Cambodia, Vietnam is one of the emerging economies. Since 1986, Vietnam has transformed into a semi-reformed market economy (socialist market economy), where the administrative and economic function of the state is clearly differentiated from that of production and control of enterprises. The 6th National Congress of the Vietnamese Communist Party has renovated economic thinking by recognizing a multisector economy, by abolishing the economic management regime based on centralized planning and subsidies, by building a new management mechanism compatible with the rules of the economy. modern. In addition, production is defined according to the market and must protect the legitimate interests of workers. The Vietnamese economy is clearly different from liberal economies like that of the United States.

Organizational theorists like Daft (1992) have emphasized two ways of measuring organizational effectiveness, either through external or systemic resources, or through internal systems. The external approach takes into account the inputs into the organizational system and reflects how the organization manages its external environment, while the internal approach focuses on the technical dimension of efficiency or on innovation, or both (Daft, 1992). It is obvious that all companies, whether in the United States or in Vietnam, care about these two criteria. The question is the convergence or divergence of these two approaches between each context. It seems that in Vietnam, the internal systems approach is considered less by organizations than in the United States. In the American context, most interactions between the company and its environment take place under very elaborate legal and regulatory guidelines. In contrast, in Vietnam, the relative lack of legal and business infrastructure can influence organizational performance and how an employee participates in the workplace.

Moreover, Vietnamese culture differs greatly from Western culture. Besides its endogenous nature by its origin in the Red River civilization, Vietnamese culture has been strongly influenced by Chinese culture after a very long occupation in history, and by the feudal regime in force for more than 2000 years. Among the external ideologies that have marked Vietnam, we must retain Confucianism and Buddhism are characterized by respect for ancestors, the domination of men over women, hierarchy in the family, the value of relationships, responsibility and obligations (Nguyen, 2009). Confucianism has been defined as a worldview, an ethical system, a political ideology, and a learned tradition developed from the teachings of the Chinese philosopher Confucius (Goldin, 2014). According to Confucianism, the individual is not a detached entity but an integral part of his relationships (Yao and Yao, 2000). Therefore, the author has retained Confucianism with its two main dimensions, hierarchical relations and collectivism (Hofstede, 1991), as factors influencing OCBs in the context of Vietnamese culture.

3. Research method

Qualitative research was conducted to study various dimensions of OCBs in Vietnamese cultural context, using an inductive approach because there are few theories existing on the specific forms of OCBs in Vietnam (Hinkin, 1995), while there is a fairly rich literature in the western context. Moreover, this approach permits to examine deeply the impact of experiences, behavior and individual interactions on business operations (Myers, 2019). Semi-structured interview techniques in a qualitative approach allow discussing several predetermined topics that were inspired by previous literature but permits also an emergence of new issues to explore (Creswell, 2014). For this reason, 50 semi-structured interviews were conducted in a continuous back and forth process between theory and field to explore the perception of people towards OCB. Interviewees come from both public and private sectors in the economy. Interviews took place in person (n=40, 80%) and by telephone (n=10, 20%) Before starting data collection, a presentation of the definition of CBOs and its 9 dimensions was translated into Vietnamese and emailed to 60 respondents. 50 of them agreed to participate in this research. Next, three experts were hired to help the author adjust the questions prepared for the semi-structured interviews. Due to the differences between organizations as well as the specific job characteristics of respondents in their professional context, it was important to fully understand their work before interviewing them. The final sample consisted of 50 Vietnamese participants occupying various functions.

Then a thematic analysis was used to carry out the data analysis. Thematic Analysis permits researchers to associate an analysis of the frequency of a theme with one part of the whole content in order to explore an issue in a new context by using data interpretations. Because Thematic Analysis enables researchers to detect and identify factors or variables that influence any issue generated by the participants, the behavior, actions and thoughts of participants could be significantly explained and interpreted (Creswell, 2003). In addition, Thematic Analysis provides the opportunity to code and categorize data into themes according to its similarities and differences (Myers and Huberman, 1994). In order to achieve the above, the process should include familiarizing yourself with your data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing reports (Braun and Clarke, 2006).

The six phases of thematic analysis that Braun and Clarke (2006) suggest were applied, including familiarizing yourself with your data, generating initial code, searching for themes, reviewing themes, defining and naming themes, and producing a report. This steps were conducted with six main phase:

Phase 1: Transcribing 50 interviews into separate Word documents

Phase 2: Generating initial codes

Phase 3: Searching for themes.

Phase 4: Reviewing Themes

Phase 5: Defining and Naming themes

Phase 6: Producing the Report

The interviews were carried out in Vietnamese, on a one-to-one basis. Each interview was between 60 and 90 minutes' duration and was audio recorded. Appendix B presents a profile of the 50 interviewees for this study.

4. Results and discussion

4.1. Data structure

By thematic analysis, each of the 8 themes were defined and named. Each theme evidences a dimension introduced in the literature review; some disappear and some appear.

Dimension 1: Altruism

This theme presents the employee's behaviors of helping another colleague or interpersonal assistance with related-work problems as well as of preventing problems relating to work.

Dimension 2: Conscientiousness

This theme looks at the voluntary behaviors that are beyond minimally required or generally expected levels. It also includes a person's internalization and acceptance of the organization's rules, regulations and procedures

Dimension 3: Civic Virtue

This theme addresses a macro level interest in or commitment to the organization as a whole. An employee is considered as a part of a whole in the same way that citizens are members of a country, city or village and accept the responsibilities there including organizational participation and protecting and saving organizational resources.

Dimension 4: Interpersonal Harmony

This theme encapsulates the spirit of "Dĩ hòa vi quí" in order to keep peace in relationships between employees in case of conflict.

Dimension 5: Loyalty

This theme incorporates two sub-themes, namely long-life dedication and promoting an organizational image.

Dimension 6: Continuous Learning

This theme incorporates two sub-themes including self-development and sharing knowledge. Perceived as a key dimension of OCB, this theme presents voluntary behaviors of improving an employee's capacity to keep up with the latest developments in the field as well as willingness to share knowledge and create a continuous learning environment at the workplace.

Dimension 7: Environmentally Friendly Workplace

This theme identifies behaviors of keeping the workplace clean as well as creates an environmentally friendly space at the workplace

During the iterative process, a Vietnamese-English translator was hired to ensure the accuracy of language transformation. Most of the codes are well translated into English. However, there are certain expressions that were found to be difficult to correctly translate into the right meaning and interpretation in English, so the researcher decided to keep their original Vietnamese words, such as "dĩ hòa vi quí"and "kính trên nhường dưới".

4.2. Confirmed cross-cultural dimensions

Conscientiousness is the first dimension of OCB that was also found in the Vietnamese context. Conscientiousness is defined as one's willingness to take on additional responsibilities such as working overtime voluntarily, practicing extra-role duties and sharing work-related information with others. This dimension is similar to conscientiousness as defined in Organ's work in 1988. The following are examples of verbatim from interviews that address conscientiousness:

"Sometimes, my boss asks me to do something outside my job description, but I feel that this is not a problem because I can gain a lot of new experience that my responsibilities in the job description could not give me, like celebrating a party for newcomers. Normally, it's the task of the secretary but on that day she was ill and I was asked to do this. I think it was a beautiful chance for me to train and practice my organization skills."

"I am a doctor and you can see there are always unexpected problems around our work and a job description is not enough for us. We are always in the state of flexibility to do a lot of extra roles."

"We would like to see that our colleagues are always ready to share information with each other because we work in a university; it is necessary to continuously update our knowledge as well as pedagogical skills for the lectures. I would like to build a sharing community in my faculty, and I would be a part of this active team."

"I need to update the information for my lecture, and the others would like it too. In the period where information and technology is rapidly evolving, I couldn't catch up with scientific development by myself; the best solution is sharing information actively and we can gain from each other. I wish my colleagues would share with me, so I need to be the first one."

"In our domain, lack of information means rejecting our work. International medical development requires us to read regularly to get the most modern and efficient ways of treatment, especially for serious diseases. We are very busy with our clinic activities at the hospital with a lot of patients, so sharing information in our forum or at the workplace is the best way for us to learn more in our work."

Conscientiousness refers also to job dedication: "No matter how many years I work here, my thoroughness for my job is the measure for my conscientiousness."

This dimension is similar to "taking initiative" in the definition of Podsakoff (2000). In this case, the theme of "organizational compliance" identified by Podsakoff as a dimension of OCB is grouped in this dimension with the agreement of the three researchers. Organizational compliance concerns the punctuality of employees at the workplace as well as the obedience of the organizational rules and procedure of the break time, vacation and absent ratio. The answers from the participants provide the rationale for this conclusion:

"To be punctual is the first expression of self-conscientiousness."

"Everyone loves to have a tranquil job with many breaks, but if you were a boss, would you want to pay for someone for doing nothing? Just follow the rules of the organization, that's the conscientiousness of one employee in the organization."

"Do not be absent often from the workplace with any unreasonable reason because you would not capture the progress of the work and it will show the boss that you are an unconscientious employee."

"Doing your individual tasks during the working time is not good behavior. I always take a self-consciousness that I'm here for my job, not for another individual reason."

Conscientiousness also focuses on the employee's dedication for the job: "It is evident that the time you spent on a job at a workplace shows your patience, but it does not mean that you are a kind of person who loves stability. You don't want to change your work just because you are familiar with it and you would like to remain in this stable situation. That is not enough to show loyalty. I highly appreciate enthusiasm and commitment in the work of an employee even if he/she just works for several months."

The second common dimension is altruism or helping coworkers. That means the willingness to help other people at the workplace in both work-related and non-work related issues. This construct resembles altruism (Smith, Organ, & Near, 1983) or helping (Van Dyne et al., 1994) and is reflected in the following statements from our interviewees:

"We must work in a team and the willingness to help others will accelerate our performance."

"I always help my colleagues, especially female ones in the period of breastfeeding, to get night shifts so that she could go back home with her babies."

"I don't know how I could manage to be myself until now without help from my colleagues. They told me how to work efficiently in my very first days at the workplace and were always beside me to give me a hand to overcome all my troubles in my task. I know that they do not need me to requite, but I think the best way for me to thank them is by helping others who confront difficulties like me."

“Even when my colleagues are confronted with other non-work-related problems such as their child’s illness, we could give a hand to help him/her feel free to concentrate on our task.”

“I always want to help people whenever I can just because I like to do this and it makes me feel happy and meaningful.”

“Nobody can work without any troubles. In these cases, we need to be helped by others to find out the best solution, so why don’t we help others in need like us whenever we can?”

“I would like that people always think of me as a nice colleague who is always ready to help others not only in work but in their life.”

In this case, the dimension of “courtesy” is also classified because courtesy is understood by Organ (1988) as helping colleagues even with non-related task problems and helping them to prevent the creation of problems in their work. This behavior generally also reflects the behavior of “helping.”

The third common dimension is civic virtue or group activity participation that refers to participating in activities organized by the enterprise or the union. This dimension is similar to civic virtue in Western literature.

“I really want to participate in all activities that are organized by my University. This makes me feel as an important part in my organization like a member in the family”.

“I always wait for these activities because they are so funny and we are well connected after this”.

“I love to organize activities for my faculty like a party on the international women's day, a gala dinner for a New Year eve because I would like to see all my subordinates in connection like a community, like a family”.

“We work hard and activities make us liberate our energy and they like a reward for all our efforts”. “I love to take part in our badminton team in the hospital. We practice together and join in festivals organized by leaders of our sector. The feeling of taking medals for the university is really cool”.

“I love music festivals in my hospital because I can show my talent as a singer”.

The last common dimension is building and promoting the organization’s image that is similar to loyalty in OCB western literature. It is also classified in the loyalty dimension in Vietnam. Therefore, this dimension consists of two main parts including “building and promoting organization’s image and long-life dedication. Firstly, Vietnamese employees think that the image of organization is also their image in the society.

“We always bring a beautiful image of our university to our clients through product quality and customer service.”

“The reputation of my school is like a pearl on my neck, so I always want to promote its image in the academic and professional world by trying to work hard with as many scientific articles as possible and train a lot of skillful students.”

“I wish that when every pupil in high school thinks about a university of economics and management, my faculty will come first in their thinking.”

“When someone is ill, the best place for them is a hospital with well-trained medical staff and gentle nurses in all departments; the staff image reflects the image of the hospital. Therefore, each doctor or nurse should follow the social norms to keep a good image in the mind of the patient.”

Secondly, in the meaning of loyalty, participants also give the evidence of job dedication as a part of the loyalty.

“Dedicating a long time for a job is a good example of loyalty.”

“Seniority shows the loyalty of an employee in an organization.”

“It is very easy to go together on sunny days, but those who are beside me also during the rainy days will be my loyal partners.”

“In the difficult situations of the organization such as the damage of private universities, a public university like us really needs the attempts from all teachers to promote the university image.”

"Staying and helping organizations to overcome adverse problems is a behavior of loyalty."

Therefore, the dimension of loyalty consists of two sub themes namely building and promoting organizational image and long-life dedication.

4.3. New dimensions of OCB that emerged from the Vietnamese context

The first dimension that emerged in the Vietnamese context is protecting and saving organizational resources, including saving organizational resources such as money, information and image and protecting the organization from disasters such as flood or fire. This dimension is missing in the Western literature (Podsakoff et al., 2000).

"Funds for our activities are limited so we try to save the paper by reading on the computer or printing the important articles on both sides."

"I always turn off all the electrical equipment before leaving my department." "I always turn off the air-conditioner before leaving."

"We never turn on the two-way air conditioner in the winter to warm up."

This dimension is classified in the group of the civic virtue dimension.

The second extended dimension is an environmentally friendly workplace. The first component of this dimension is keeping the workplace clean. Although Organ (1998) and Van Dyne et al. (1994) suggest this dimension in their work, it finally hasn't been considered as a dimension in the Western literature (Podsakoff et al., 2000).

"Keeping our companies clean is our responsibility, because that is a way to respect others and especially respect ourselves."

"I consider my office as my room at home. I always arrange and clean up my room, so why don't I do this with my office? I spent a lot of time at my workplace, so I would like to keep it clean. That makes me feel comfortable and work efficiently."

"Hygiene is an evident requirement in my work."

"The environment around the patients' needs cleaning to avoid cross-contamination. So we always try to keep the hospital as clean as possible."

"Every year, our city is devastated by a lot of typhoons causing heavy rain, floods and other losses. After the typhoon, we actively cleaned up our workplace without the demand from our boss."

The second component of this dimension is an environmentally friendly workplace.

"A clean workplace is not enough. I think about a green workplace with the program of making the workplace greener."

"It is useful to stop using plastic straws at the workplace to protect the environment."

"Encourage the campaign of using recyclable material at the workplace."

"I try to use natural and organic products to clean the floor of the workplace."

The third extended dimension is continuous learning, including self-studying and sharing knowledge. Self-studying refers to the willingness to improve one' knowledge, skills and abilities for the strategic target of the organization. All of the respondents in both the University of Economics and Hospital would like to be trained.

"I would like to be trained regularly, not only in my professional field but also my skills to work effectively."

"The reputation of a university depends on the quality of their lecturers. Therefore, we try to teach ourselves and organize some teams to share the information."

"A reading-group is established for lecturers to improve their reading skills and to share the knowledge together."

"I always join in workshops organized by the hospital in Danang or even in other cities to keep up with new methods of treatment."

"Beside the training courses proposed by my university, I always find online courses to get more new knowledge and skills concerning my work. Nobody trains us officially so we try to learn what we need by ourselves."

"Today's hard work and studying will be responsible for my future growth." Sharing knowledge refers to the creation of a learning environment at the workplace."

"It will be effective if we can learn by ourselves and from others."

"In many cases I could not learn by myself, it's the sharing of colleagues that helps me a lot."

The last extended dimension is interpersonal harmony which refers to employees' actions at the workplace to preserve harmonious relations between coworkers. This dimension is neglected in the Western literature (Podsakoff et al., 2000) although Organ (1998) once considered "peace-making" as a form of OCB. In dimension examines behaviors of evaluating the performance of coworkers, not their characteristics, not using offensive language while discussing a related-task problem, and keeping a harmonic atmosphere at the workplace.

"I don't want to have any conflicts with my colleagues. If I misunderstand somebody or if I am misunderstood by someone, I will try to talk to them to explain and find a solution."

"I find it hard to work in an aggressive atmosphere. And I am sure that others think this, too. So we try to keep peace at the workplace."

"It's evident that to harmonize and to work with many different people in a team is not easy, but if everyone tries to keep peace, our team will be at peace and the productivity will be increased."

"There is always a story behind every person. There is a reason why they are the way they are. Think about that and respect them for who they are."

"Evaluate one employee based on his/her performance, not his/her characteristics.

4.4. Dimensions which are not consistent in Vietnamese cultural context

Compared with dimensions in the Western literature review, some new ones emerge while some dimensions are classified in an adequate group. One dimension "sportsmanship" disappears. "Sportsmanship" in the Western context is understood as a behavior of adaptation to difficult working conditions without complaining. For Vietnamese, not complaining is the norm and people overcome difficult working conditions without verbalizing them. Even in the case of difficulty, complaining is not criteria to evaluate someone's performance. The importing issue is the way people react and overcome their troubles. "I don't think sportsmanship is important to be seen as a dimension of OCB because I have a lot of colleagues who always complain but they also achieve good performance. That is the way they solve the problem will make sense". "I usually complain. But it does not mean that I have a negative attitude. That is just a way to reduce my stress. I always try to find how to overcome these difficulties".

The table below presents results after carrying out the thematic analysis. The dimensions in italics in the first column are those that appear in Western literature and that also appear in Vietnam but where they cannot be considered as a solid dimension. Therefore, they are considered as a sub-theme and integrated into other solid dimensions.

Table 2. Results after carrying out the thematic analysis

Dimensions in Western Literature		Dimensions in Vietnamese cultural context	
Altruism	Helping behavior (Organ, 1988) Interpersonal helping (Graham,1991) Interpersonal facilitation (Van Scotter & Motowidlo, 1996) Helping and cooperating with others (Borman & Motowidlo, 1993, 1997)	Altruism	Helping coworkers with related work problems ***Courtesy***
Civic Virtue	Employee's deep concern and active interest in the life of the organization (Organ,1988;Podsakoff,2000) Organizational participation (Graham, 1991)	Civic virtue	Organizational participation Protecting and saving organizational resources
Conscientiousness	A pattern of going well beyond minimally required levels of attendance, punctuality, housekeeping, conserving resources, and related matters of internal maintenance (Organ,1988) Individual Initiative (Podsakoff, 2000; Gramham, 1989)	Conscientiousness	Taking initiative ***Organizational Compliance***
Courtesy	Discretionary behaviors that aim at preventing work-related conflicts with others (Organ,1988)		
Sportsmanship	To tolerate the inevitable inconveniences and impositions of work without whining and grievances (Organ, 1988; Podsakoff, 2000)	*Invalid*	*Invalid*
Organizational Compliance	Generalized Compliance Smith, Organ & Near (1983) Organizational Compliance Podsakoff (2000) Organizational Obedience Graham (1991)		
Loyalty		Loyalty	Long-life dedication

	Organizational Loyalty (Podsakoff, 2000; Graham, 1991) Loyalty Boosterism (Graham (1989); Moorman & Blakely (1995)		Promoting organization's image
Self-development	Self-development (Podsakoff, 2000) Developing oneself (George&Brief,1992)	Continuous learning	*Self-development*
			Knowledge sharing
	<u>*Invalid*</u>	Environmentally friendly workplace	Keeping the workplace clean
			Environmental Sustainability
	<u>*Invalid*</u>	Interpersonal harmony	Interpersonal harmony

5. Conclusion

Firstly, sportsmanship did not appear as a dimension in the Vietnamese culture context. In the literature, sportsmanship refers to the willingness of employees to "tolerate less-than–ideal organizational situations without complaining and sacrificing one's own personal interest" (Organ, 1988). This statement includes two components. The first component is "tolerate less-than–ideal organizational situations without complaining." This behavior was not focused on by any participant. Even while the researcher had an intention to question: "Do you think that do not complain in inconvenient is a good example of OCB?", the answers received were that "Complaining or not complaining is not important; what is important is the action of the employee in reality", "Sometimes I complained when I could not find the book I need in the library of the university. I feel angry because this is an inconvenient condition of my university, but it does not mean that I do not display my citizenship behavior. That is because, after that, I founded a fund to help my school to have a better library for teachers", "I usually complain, you see, in a highly stressful environment with numerous patients and pressure from their family. But I still do my best as a good citizen in my hospital. Patients love me and the leader highly appreciates me. You see, complaining is just a way to liberate our stress. That could not be a measure to say someone is more effective, more loyal or something like that." The second component is "one's own personal interest." This is similar to items in the dimension of interpersonal harmony. Therefore, sportsmanship is not considered as an independent dimension in the Vietnamese context.

Secondly, the study found 7 Vietnamese OCB dimensions with their sub-themes that had not been explicitly measured or studied in the Western literature. However, they are not necessarily unique to Vietnam. In particular, self-learning and keeping the workplace clean are obviously not unique to Vietnam. They have been mentioned by Organ (1988) but have not received much attention in the Western OCB literature. We suspect that the differential salience of these dimensions in Vietnam relative to the West may be related to the different stages of economic development. Since Vietnam is at an early stage of economic development, organizational support for training and development and maintenance of a clean work environment is fairly limited due to resource scarcity. Employee's willingness to invest in self-studying and to maintain a clean workplace voluntarily is thus considered salient forms of OCB in Vietnam. Both of the dimensions of "keeping the workplace clean" and self-studying are dimensions that Farh and Organ (2000) discovered in the Chinese context. It can be seen clearly that they are still appropriate in the Vietnamese context, but they are insufficient at the moment. Along with climate change and rapid development, and without emphasizing on environment protection resulting from Doi Moi, Vietnam has become one of the most polluted countries in Asia and the most influenced by climate change. The mindset changes to be friendly with the environment and aim for sustainable development step-by-step is arriving in Vietnamese organizations, making building an environmentally friendly workplace become a citizenship behavior of employees. This dimension is significantly consistent thanks to a study by (Jackson et al., 2019) that proposed the term of so-called green behaviors of employees. According to these authors, the environmental concern still remains a high attention from the governments, businesses and citizens worldwide. From this perspective, they conducted a survey based on data from 1,117 individuals organized in 263 work teams in 17 firms and 8 industries and located in 5 countries (Austria, Brazil, China, India, and Germany). The results indicate that moral attentiveness, firm environmental practices and social cues from leaders and work team members all have an impact on the discretionary green behaviors of employees working in firms, with the influence of social cues being stronger for employees in firms with more collectivistic cultures (Jackson et al., 2019). Vietnamese culture with the high collectivism therefore also shows evidently this environmental behavior and suggest the value of leader authenticity in firms seeking to improve their environmental performance.

In addition, going hand in hand with the technology and communication development in the period of industry 4.0, knowledge accelerates and requires a regular update to keep up with the development; self-studying is a necessary condition but insufficient. Knowledge should be shared to be enriched in each employee's competence. Therefore, the creation of a long-life learning space with self-learning and non-stop knowledge sharing is considered as a citizenship behavior contributing to the individual performance and then organizational performance. Future researchers should investigate the relative importance of these two OCB dimensions across countries of different stages of development.

Beyond self-learning and keeping the workplace clean, protecting and saving company resources is another dimension that has been mentioned, but never empirically investigated in the West. Katz and Kahn (1978) considered actions protective of organization as one form of innovative and spontaneous behavior (cited in Farh, Chen-Bo Zhong, & Organ, 2000). George and Brief (1992) considered protecting the organizations as a key dimension of organizational spontaneity. Jiing-Lih Farh, Earley and Shu-Chi Lin (1997) found this same dimension in their study of OCB in Taiwan. Future research could pay more attention to this aspect of OCB.

Interpersonal harmony as a dimension of OCB has not been formally proposed in the Western literature. This dimension of OCB, however, was also found in Taiwan by Farh et al. (1997). The importance of interpersonal harmony is particularly important in a collective culture like Vietnam as the literature review analyzed. Trompenaars (1966) has pointed out that conflict in collective cultures often fails to be confined within a narrow context and sometimes even develops into in-group versus out-group conflict (Farh et al., 2000). The influence of Confucianism focusing on the collectivist spirit and the impact of village culture characterized by the community logic leads to the perception of interpersonal harmony as a salient OCB dimension in the Vietnamese cultural context. It is therefore not surprising that Vietnamese stress the importance of interpersonal harmony and consider it to be a major form of OCB.

6. Conclusion

In terms of theoretical contribution, this article helps to understand OCB dimensions in Vietnamese culture, one of a dynamic economy in Asia in the globalization process. Clearly, OCB dimensions may vary across boundaries. From a practical perspective, the results of this research could be used as guidelines for managers, especially foreign managers to well understand the perception of employees in Vietnamese cultural context so that they could adapt suitable managerial implications to assess employees and motivate them in order to create valuable contributions for organizations.

Although a number of 50 respondents is acceptable, it may not be representative of the working population in Vietnam. Furthermore, the results of this paper are exploratory in nature and need to be done with deeper research. Finally, some constructs of OCB dimensions may be obligated by the nature of the work in which the respondents do. Self-training is an example because it is relevant to respondents who are lecturers in universities.

In the future, it is necessary to conduct a quantitative approach with the consideration of other contextual factors influencing the perception of OCB. Original status, positions, firm strategy… could be also examined in further research.

7. Appendix

Appendix A. Data structure

1st order concept	2nd Order Themes	Aggregate Dimensions
Helps others voluntarily who have heavy workloads or during their absence or with their new tasks. Helping others by taking steps to prevent the creation of problems for them Provide innovation to improve the productivity of members of the teamwork	Helping coworkers with related and non-related work problems	Altruism
Actively finish tasks before deadline Taking extra time to work to ensure the performance regardless of compensation Ready to do extra responsibilities that are beyond those minimally required but beneficial for organizations even when that is not mandatory	Taking initiative	Conscientiousness
Following organizational rules and procedures Job dedication	Organizational compliance	
Willingness to take part in organizational governance including attending meetings and engaging in policy debate Expressing ideas about the future of the organization Participating, organizing, innovating, encouraging others and finding sponsors for organizational festivals/ activities.	Organizational Participation	Civic Virtue
Mentors economic environment for threats and opportunities by keeping up with changes in the industry that might affect the organization Securing organization Saving organizational resources	Protecting and saving organizational resources	
Evaluating the performance of coworkers, not their characteristics Win-win solutions Actively making peace during conflict at the workplace "*Dĩ hòa vi quí*" Keeping silent if what you are going to say will negatively influence others *Kính trên nhường dưới*		Interpersonal harmony

Remaining committed to the organization even under adverse conditions Finding solutions to overcome difficulties that the organization must face	Long-life dedication	Loyalty
Following social norms to keep your image in front of partners because your image represents the organizational image outside Promoting the organization to outsiders by external cooperation. Protecting and defending the organization against external threats	Promoting organization image	
Actively self-training with new tasks to expand contribution Having a career objective and path Actively self-training to improve knowledge, skills and abilities in order to adapt with the latest development in your field	Self-Development	Continuous learning
Not criticizing others because of their lack of knowledge Helping other colleagues to learn and to develop themselves Creating an environment of sharing knowledge at the workplace	Knowledge sharing	
Keeping the workplace clean is my responsibility at the workplace Hiring a worker to clean the workplace	Keeping the workplace clean	Environmentally friendly workplace
Making the workplace green with plants, trees and flowers Using recyclable products at workplace (for example, bamboo straws) Classifying rubbish at workplace Promoting campaign for an environmentally friendly workplace	Environmental Sustainability	

Appendix B. Profile of informants

No	Age	Gender	Educational Background	Experience in the current position	Sector
Participant 1	30	Male	Doctor	5 years	Private
Participant 2	35	Female	PhD	5 years	Private
Participant 3	40	Female	Master	10 years	Public
Participant 4	25	Female	Non-degree	3 years	Private
Participant 5	45	Male	Master	20 years	Public

Participant 6	28	Female	Master	5 years	Private
Participant 7	27	Female	Bachelor	5 years	Private
Participant 8	37	Male	Doctor	9 years	Private
Participant 9	32	Male	Doctor	7 years	Private
Participant 10	35	Male	PhD	12 years	Public
Participant 11	34	Female	Master	6 years	Private
Participant 12	25	Male	Engineer	3 years	Public
Participant 13	26	Female	Non-degree	2 years	Private
Participant 14	28	Female	Master	5 years	Public
Participant 15	29	Male	Bachelor	6 years	Private
Participant 16	31	Male	Doctor	7 years	Public
Participant 17	33	Female	Doctor	8 years	Public
Participant 18	34	Female	Master	5 years	Public
Participant 19	38	Male	PhD	8 years	Private
Participant 20	29	Male	Bachelor	4 years	Public
Participant 21	27	Female	Master	2 years	Public
Participant 22	28	Female	Bachelor	5 years	Public
Participant 23	29	Male	Master	6 years	Public
Participant 24	34	Female	PhD	10 years	Public
Participant 25	35	Male	Master	12 years	Public
Participant 26	36	Female	Doctor	10 years	Public
Participant 27	25	Male	Engineer	3 years	Public
Participant 28	24	Female	Non-degree	2 years	Public
Participant 29	25	Female	Master	2 years	Private
Participant 30	26	Male	Non- degree	3 years	Public
Participant 31	27	Male	Master	4 years	Public
Participant 32	29	Female	Bachelor	5 years	Private
Participant 33	33	Female	Doctor	8 years	Private
Participant 34	28	Male	Doctor	3 years	Private
Participant 35	36	Male	Doctor	5 years	Public
Participant 36	44	Male	PhD	10 years	Public
Participant 37	43	Male	PhD	15 years	Private
Participant 38	44	Female	PhD	20 years	Private
Participant 39	45	Female	PhD	22 years	Private
Participant 40	47	Female	Master	20 years	Private
Participant 41	29	Female	Doctor	4 years	Private
Participant 42	54	Female	Master	25 years	Private

Participant 43	46	Female	Master	10 years	Private
Participant 44	47	Male	PhD	20 years	Public
Participant 45	49	Male	PhD	27 years	Public
Participant 46	35	Female	Master	10 years	Public
Participant 47	36	Female	Master	12 years	Private
Participant 48	38	Male	Doctor	14 years	Private
Participant 49	37	Female	PhD	5 years	Private
Participant 50	28	Male	Master	2 years	Public

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RETAINING HIGHLY-SKILLED RETURNEES THROUGH HOME-COUNTRY EMBEDDEDNESS AND REVERSE CULTURAL SHOCK

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ABSTRACT

Reverse cultural shock is an obvious experience for returnees on re-entry to their home country, but the way in which returnees respond to reverse culture shock is not the same for all returnees. This study tested hypotheses based on a sample of 445 Vietnamese returnees and found that home-country satisfaction partially mediated the link of reverse cultural shock on returnees' re-expatriation intentions. Specifically, the findings of this study indicated that home-country community embeddedness, but not career embeddedness, helped reduce the impact of reverse cultural shock on home country satisfaction. The findings of this study had important theoretical and practical implications for retaining talented retureees.

Keywords: reverse cultural shock, home country embeddedness, returnees, Vietnam, re-expatriation intentions.

1. Introduction

Prior studies have traditionally focused on corporate-sponsored expatriates who are sent abroad by headquarters to execute organisational tasks in subsidiaries in the host country. Scholars recently have shifted their attention to other forms of expatriates (SIE), who develop their career overseas without organisational sponsorship, due to the increasing global workforces with boundaryless career aspects (Baruch et al., 2016). However, research on SIE (e.g. Thorn, 2009, Zweig, 1997, Biemann and Andresen, 2010, Carr et al., 2005, Shaffer et al., 2012, Richardson and Mallon, 2005, Doherty et al., 2011, Thorn et al., 2013, Tharenou, 2010) have focused on examining the motivations of going abroad to live and work (expatriation) or the reasons why people return to their country of birth (re-expatriation). Studies on the third stage of re-expatriation, referring to why people go abroad to live one more time, are still scant.

The aim of this study is to examine highly skilled returnees' intentions to re-expatriate. Highlyskilled returnees are people who had at least one year of studying abroad at the tertiary level. They are currently professionals working for the different sectors and have come back to their home country within five years. These returnees share similar aspects to SIE as their rationale of going abroad originally not or less comes from organizational motives (Ho et al., 2016).

In fact, the re-expatriation stage has received more attention recently (e.g. Tharenou and Seet, 2014, Ho et al., 2018a, Ho et al., 2018b, Ho et al., 2016, Abdel-Rahman et al., 2017). These studies indicated that the re-expatriation motives are different from what causes an individual expatriate for the first time. While the re-entry experiences are major reasons why people intend to re-expatriate, they are not applicable and therefore are not examined by research on initial expatriation. Ho et al. (2016) found that reverse cultural shock (RCS) and home-country dissatisfaction have stronger impacts on re-expatriation intentions than host-country pull forces (e.g. better quality of life, better education for children… in the host country). Similarly, Ho et al. (2018b) proved that other re-entry experiences, such as the lack of career or community embeddedness in the home country and poor repatriation adjustment prompt returnees to consider re-expatriating.

Although prior studies found the significant role of RCS, home-country satisfaction, and home-country embeddedness in predicting returnees' re-expatriation intentions, they have not examined the associations between these factors in explaining re-expatriation intentions. In particular, we argue that the association between RCS and their subsequent responses (e.g. home-country satisfaction and re-expatriation intentions) are not uniform for all returnees. Returnees who are highly embedded in their home country may interpret RCS differently from their counterparts. In other words, home-country embeddedness may buffer the effects of RCS on home-country satisfaction and re-expatriation intentions.

This study also had a contribution to managerial practices for Vietnamese governments and organizations when it comes to developing and implementing proper policies to retain highly skilled returnees in Vietnam and in their organization. With enriched international experiences, knowledge, skills, and foreign language proficiency equipped from overseas studying or/and working from more developed countries, these returnees are crucial for Vietnam's continued economic growth (Gribble, 2011, Pham, 2010). Therefore, understanding the reasons why these returnees are not happy with re-entry and intend to go back abroad become significant to help to attract and retain these valuabe human resources.

This study was conducted in Vietnam because of two main factors. First, although there are no available official data, prior studies have indicated that Vietnam has witnessed an increase in the number of returnees who had overseas tertiary qualifications and also has seen a significant number of them returning abroad one more time (Ho et al., 2018b). Second, this study is significant as the Vietnam Government has recently assigned the Ministry of Home Affairs to preside over the national strategic project on attracting and employing talents both at home and abroad. In the past decades, the Vietnam government had some policies to attract back talented returnees and retain them in Vietnam; however, it had been less successful in practice (Pham, 2013, VGP, 2021). These policies mainly focused on facilitating immigration, citizenship, housing, income... For example, Vietnamese who have overseas residents have the right to own a house in Vietnam according to Decree No. 90/2006/ND-CP (The Vietnamese Government, 2006) and they also can have dual citizenships since July 1 2009 according to Vietnamese Nationality Law (Vietnamese National Assembly, 2008). Recent policies have focused more on creating professional working environments for talented returnees. For example, the Government issued a decree to establish the National Innovation Center in October 2019 with preferential mechanisms to create a favorable academic and working environment for scientists and intellectuals to contribute to their careers and for the country's science and technology (VGP, 2019). In March 2020, the Government issued Decree No. 27/2020/ND-CP on attracting overseas Vietnamese in science and technology activities and foreign experts to participate in science and technology activities in Vietnam (VGP, 2021). However, these policies are not strong enough to encourage Vietnamese scientists and intellectuals to return home and settle in Vietnam (VGP, 2021).

2. Literature review and hypothesis development

2.1. Reverse cultural shock

RCS infers to the emotional and psychological experiences of returnees upon to their home country (Gullahorn and Gullahorn, 1963, Szkudlarek, 2010). Alienation, unhappiness, discomfort, and isolation are frequent terms used to describe RCS (Gaw, 2000, Szkudlarek, 2010). While people normally predict unfamiliar cultures and lifestyles in the host country, they may not have such predictions since returning home. They may think that they do not adjust back to their home country because it is their home. In fact, their home country's culture and relationships might be changed during their time abroad. Returnees' lifestyles and cultural values are also changed to adapt to life in the host country which may conflict with that in the home country. This leads to unexpected difficulties that make returnees feel shocked about the re-entry process (Sreeleakha, 2014).

Ho et al. (2016) provided evidence that RCS has a stronger impact on the intention to re-expatriate than other factors (such as pull-push factors). The Unfolding Model of Voluntary Employee Turnover of Lee and Mitchell (1994) indicated that "a shock to the system, causes the person to pause and think about the meaning or implication of the event in relation to his or her job…. and this process may (or may not) lead to the idea that leaving the job is an alternative to consider" (p.60). The unfolding model explains that a shock cause employees' affective reactions toward their job and subsequently their withdrawal intentions. Similarly, RCS is negative and surprised events (Gaw, 2000, Seiter and Waddell, 1989); it provides meaning about returnees' life in the home country and affects their attitudes and behavior. Thus, once returnees experience RCS, they may negatively reevaluate their life in the home country, and think of leaving their home country returnees to reduce their negative affective responses (e.g. RCS). Hence, we expect the following relationship.

H1: RCS is negatively related to home-country satisfaction

H2: RCS is positively related to re-expatriation intentions

2.2. Home-country satisfaction

Home-country satisfaction refers to pleasant feelings that returnees receive what they need in their life in the home country. With international educations and degrees, returnees usually expect they can gain better career and life benefits when they return home (e.g. career advancement, friendship, and family ties) (Labrianidis and Vogiatzis, 2012, De Cieri et al., 2009). This can be push forces that prompt returnees' thought of leaving if their expectations are not meet on re-entry (Selmer and Lauring, 2012; Ho et al., 2016). It is because the unmet expectation can result in a negative evaluation of home country, and they are more inclined to re-expatriate if their wellbeing in the home country is not achieved (Tharenou, 2010, Begley et al., 2008). Thus, we developed the following hypothesis.

H3: Home-country satisfaction mediate the link of RCS and re-expatriation intentions

2.3. The buffering effect of home-country embeddedness on RCS

Home/host country embeddedness (Tharenou and Caulfield, 2010) was originally developed from the job embeddedness theory of Mitchell et al. (2001). The job embeddedness theory suggests that employees are less likely to leave their job when they are strongly embedded on- and off-the-job (Mitchell et al., 2001). On- or off-the-job embeddedness includes three dimensions: (i) links that refer to "formal or informal connections between a person and institutions or other people"; (ii) fit that refers to "an employee's perceived compatibility or comfort with an organisation and with his or her environment"; and (iii) sacrifice that refers to "the perceived cost of material or psychological benefits that may be forfeited by leaving a job" (Mitchell et al., 2001, pp. 1104–1105).

Tharenou and Caulfield (2010) extent the theory of job embeddedness to explain professionals' repatriation intentions by building a new concept of host country embeddedness. This study argued that professionals have less intention to leave a country if they are embedded in their career and community in the country. Similar to job embeddedness, host country embeddedness also has two dimensions, namely career embeddedness and community embeddedness. Career embeddedness implies that if SIEs repatriate, they will lose their career opportunities, career benefits and relationships with their colleagues and organization in the host country (Tharenou and Caulfield, 2010). Whereas, community embeddedness proposes that SIEs will sacrifice social ties and relationships, and their community fit in the host country (Tharenou and Caulfield, 2010).

Tharenou and Caulfield (2010) found the significant role of host country embeddedness in predicting repatriation intentions. Ho et al. (2016) extent this concept into examing the impacts of home country embeddedness as independent variables on returnees' re-expatriation intentions. However, these studies have not examined the moderating effect of home-country embeddedness on the association between RCS and home-country satisfaction, resulting in intentions to re-expatriate.

The impact of RCS on returnees' attitudes can vary between returnees with different home-country embeddedness levels. Prior studies argued that the attitudes of one toward a shock depend on one's interpret that shock (Burton et al., 2010). The higher embedded in a situation enable the individual interpret the shock in a positive way (Sherif et al., 1965, Johnson and Eagly, 1989). In contrast, people who experience less sense of fit, for example, are more sensitive to the jarring events (Holtom and Inderrieden, 2006). People who have fewer links to their community or organization will have less social support as the mentor and feel more isolated in dualing with the shock (Holtom and Inderrieden, 2006). RCS is also a jarring event or shock that returnees experience when they return to their home culture. It presents the negative responses of returnees, such as depression, alienation, and isolation, which lead to their dissatisfaction with their home country (Ho et al., 2016). Therefore, returnees may react more strongly to RCS if they have less bond to their home country; the high home-country embeddedness, in contrast, can lessen the negative impacts of RCS on their home-country satisfaction.

Hypothesis 4: Home-country embeddedness (career embeddedness and community embeddedness) moderates the relationship between RCS and home-country satisfaction. As such the negative relationship between RCS and home-country satisfaction is stronger for returnees with less home-country embeddedness than for returnees with low home-country embeddedness.

Based on the above hypotheses, I developed the following research model. In which, the independent variable is re-expatriation intentions, the independent variable is RCS, the mediator is home-country satisfaction, and the moderators are career embeddedness and community embeddedness.

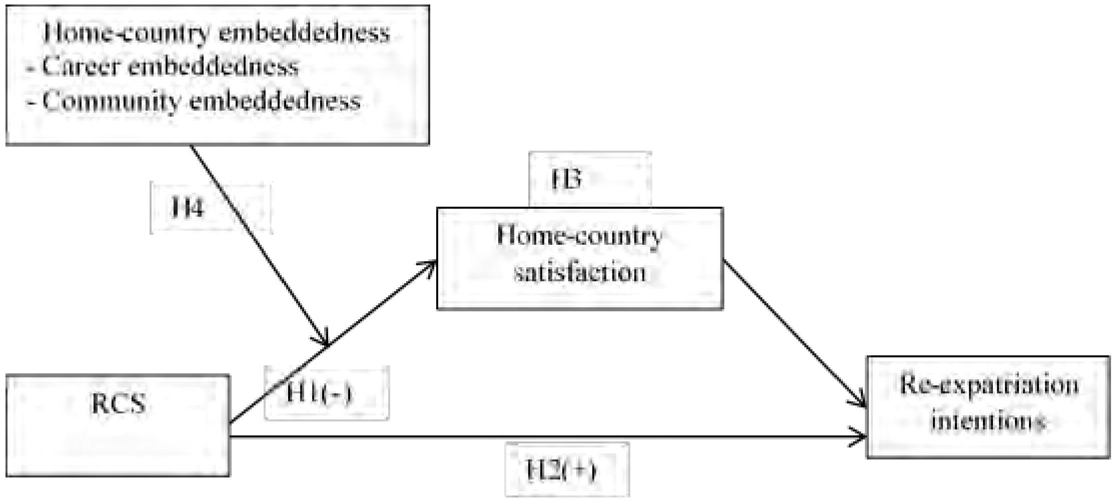

Figure 1. Research model

3. Research methodolody

3.1. Sample and procedures

The respondents in this study include Vietnamese returnees who went abroad for tertiary study for at least one year and then have came back to Vietnam within five years to the surveyed day. They were professionals working in different professions in Vietnam. I surveyed these respondents via overseas graduated Vietnameses' alumni associations and some universities and large foreign companies who were hiring a high number of returnees. After excluding unusable questionnaires, we had 445 samples used for further analysis.

Of 445 returnees, 51.5% were female, and 48.5% were male, and 83.3 % them were from 26 to 40 years old. Regarding the highest overseas degrees, 18% obtained bachelor degrees, 54.6% had master degrees, and 17.4% had Ph.D qualifications. About a third (32.6) studied in Australian continent, 27.0% studied in Europe countries, 17.3% studied in Asia and 14.2% studied in North America.

3.2. Data analysis

The study used SPSS software to process descriptive statistics, test scales, and run linear regression models. This study used the test of Baron and Kenny (1986) to evaluate the impact of the mediation effects and uses Hair et al. (2010)'s method to test the moderation effects. To establish mediation, four conditions must be met (Baron and Kenny, 1986): (1) the independent variable significantly affected dependent variable; (2) the independent and mediator variable are significantly related together; (3) the mediator variable is significantly associated with the dependent variable; and (4) the relationship between the independent and dependent variables should be weaker or non-significant when both the independent and mediator variables are included in the regression model. To establish a moderation, the following conditions must be met (Hair et al., 2010): (1) the independent variable significantly affects dependent variable; (2) the interaction effect between independent and moderation variables significantly influences dependent variables.

3.3. Measures

Home-country career embeddedness was measured by nine-item scales adapted from Tharenou and Caulfield (2010). Examples of these items include "My career needs fit with the opportunities available in Vietnam" and "My professional growth and development fit with what is happening in Vietnam".

Community embeddedness had 12 items adapted from Tharenou and Caulfield. Examples of these items include "The community I live in is a good match for me"; "My close friends live nearby" and "My family roots are in the community I live in".

RCS was measured by 16 items were adapted from Seiter and Waddell (1989). Examples of these items include "When I returned, people did not seem that much interested in my experiences abroad" and "When I returned home, I felt really depressed".

Home-country satisfaction had 5 adopted from Diener et al. (2007). Exapmles of these items include "In most ways, my life after returning to Vietnam is close to my ideal" and "So far I have achieved the important things I want in my life after returning to Vietnam".

Re-expatriation intentions include 5 items adapted from Ho et al. (2016). Examples of these items include "I intend to return abroad to live for a long period" and "If the opportunity arises, I will return abroad to live".

All of the above variables were measured by seven Likert scales from 1 (strongly disagree) to 7 (strongly agree), excepting career/community sacrifices (dimensions of embeddedness) were measure from 1 (No loss at all) to 7 (A very great loss).

This study controlled for gender, age, years abroad, and years since return as these variables may have impacts on re-expatriation intentions (Ho et al., 2016). This study used the natural logarithm of age, years abroad and years since return to dual with the issue of skewness data.

4. Results

Table 1 shows the mean, standard deviation, Cronbach's alphas, and correlation coefficients between the variables. All correlation coefficients in this study were below 0.70, indicating that all scales are suitable for further analysis (Tabachnick & Fidell , 1996). In addition, all the variance exaggeration factors (VIFs) in the regression model were lower than 2, indicating that multicollinearity was not an issue in this study.

Table 2 shows the standardised coefficients. This study had 7 regressions to test the hypotheses. Model 1 and 2 had re-expatriation intentions as a dependent variable; home-country satisfaction was added to model 2. Home-country satisfaction was the dependent variable in Model 3 to 6.

Hypothesis 1 states that RCS is negatively related to home-country satisfaction. Model 3 shows that RCS had a significant impact on home-country satisfaction ($\beta = -0.39$, $p < 0.01$), supporting hypothesis 1. Hypothesis 2 mentions the positive relationship between RCS and re-expatriation intentions. The results of Model 1 indicated that RCS significantly affected re-expatriation intentions ($\beta = 0.55$, $p < 0.01$), thus hypothesis 2 was supported.

Hypothesis 3 states the mediation linkage between RCS and re-expatriations via home-country satisfaction. I followed Baron and Kenny (1986)'s approach to test the mediation. First, Model 1 indicates that the independent variable (RCS) significantly affected the dependent variable (re-expatriation intentions), thus condition 1 was meet. Model 3 also shows that the dependent variable was also significantly related to the mediation variable (home-country satisfaction), supporting condition 2. Finally, when home-country satisfaction was entered to Model 2, the impact of home-country satisfaction on re-expatriation intentions was significant, and the impact of RCS on re-expatriation intentions was weaker although it was still significant (from $\beta = 0.55$ to 0.40, $p < 0.01$), supporting conditions 3 and 4. Therefore, hypothesis 3 was supported and home-country satisfaction partially mediated the link of RCS on re-expatriation intentions.

Hypothesis 4 reveals that home-country embeddedness moderates the association between RCS and home-country embeddedness. This study used Hair et al. (2010)'s approach to test moderation. Model 3 shows that the independent variable (RCS) significantly affect the independent variable (home-country satisfaction), thus condition 1 was supported. Model 4 demonstrates that the moderator of community embeddedness was significantly related to home-country satisfaction ($\beta = 0.34$, $p < 0.01$), and Model 5 indicates the interaction between this moderation and dependent variable (RCS) was also significant ($\beta = 0.07$, $p < 0.1$), supporting the moderation effect of community embeddedness. Career embeddedness was added to Model 6 and it was significantly associated with home-country satisfaction ($\beta = 0.41$, $p < 0.01$); however, its interaction effect with RCS in Model 7 was not significant ($\beta = 0.02$, $p > 0.1$), not supporting the moderation role of career embeddedness.

Table 1. Descriptive statistics

No		Mean	Std. Deviation	1	2	3	4	5	6	7	8	9
1	Gender	0.57	0.50	na								
2	LN (Age)	1.25	0.28	-0.033	na							
3	Ln (Years abroad)	0.92	0.59	-0.162**	-0.003	na						
4	Ln (Years since return)	0.91	0.79	-0.007	0.467**	0.104*	na					
5	RCS	3.68	1.30	.0140**	-0.03	0.033	-0.111*	**0.85**				
6	Career embeddedness	4.45	1.04	0.011	0.120*	-0.099*	0.253**	-0.261**	**0.76**			
7	Community embeddedness	4.86	0.99	-0.092	0.017	-0.094	0.104*	-0.332**	0.482**	**0.77**		
8	Home-country satisfaction	4.33	1.36	-0.017	0.015	-0.020	0.210**	-0.507**	0.528**	0.475**	**0.92**	
9	Re-expatriation intentions	3.61	1.31	0.058	-0.114*	0.009	-0.072	0.548**	-0.297**	-0.420**	-0.491**	**0.82**

Note: ** $p < 0.01$. The conbach's alphas were bold in the diagonal line

Table 2. Coefficient estimates

	Re-expatriation intentions		**Home-country satisfaction**				
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**	**Model 7**
Gender	-0.03	-0.01	0.05	0.07	0.07	0.04	0.04
Ln (Age)	-0.12^{***}	-0.15^{***}	-0.09^{**}	-0.07^{*}	-0.07^{*}	-0.09^{**}	-0.09^{**}
Ln (Years abroad)	-0.02	-0.02	0.02	0.02	0.03	0.03	0.03
Ln (Years since return)	0.05	0.11^{**}	0.20^{***}	0.17^{***}	0.16^{***}	0.10^{***}	0.10^{***}
RCS	0.55^{***}	0.40^{***}	-0.49^{***}	-0.39^{***}	-0.38^{***}	-0.40^{***}	-0.40^{***}
Home-country satisfaction		0.31***					
Community embeddedness				0.34^{***}	0.33^{***}		
RCSxCommunity embeddedness					0.07^{*}		
Career embeddedness						0.41^{***}	0.41^{***}
RCSxCareer embeddedness							0.02
F	38.81^{***}	43.53^{***}	35.04^{***}	45.44^{***}	39.51^{***}	55.33^{***}	47.36^{***}
R^2	0.32	0.38	0.29	0.39	0.39	0.44	0.44
Adjusted R^2	0.31	0.37	0.28	0.38	0.38	0.43	0.43

Note: $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$

Figure 2 indicates the graphical presentations of the moderating effect of community embeddedness on the relationships between RCS and home-country satisfaction. RCS was significantly negatively associated with home-country embeddedness when community embeddedness was low (Simple slope = -0.44, t = -0.9284; $p < 0.01$), and was still significant but weaker when community embeddedness was (Simple slope = -0.32, t=-5.463; $p < 0.01$), partially supporting hypothesis 4.

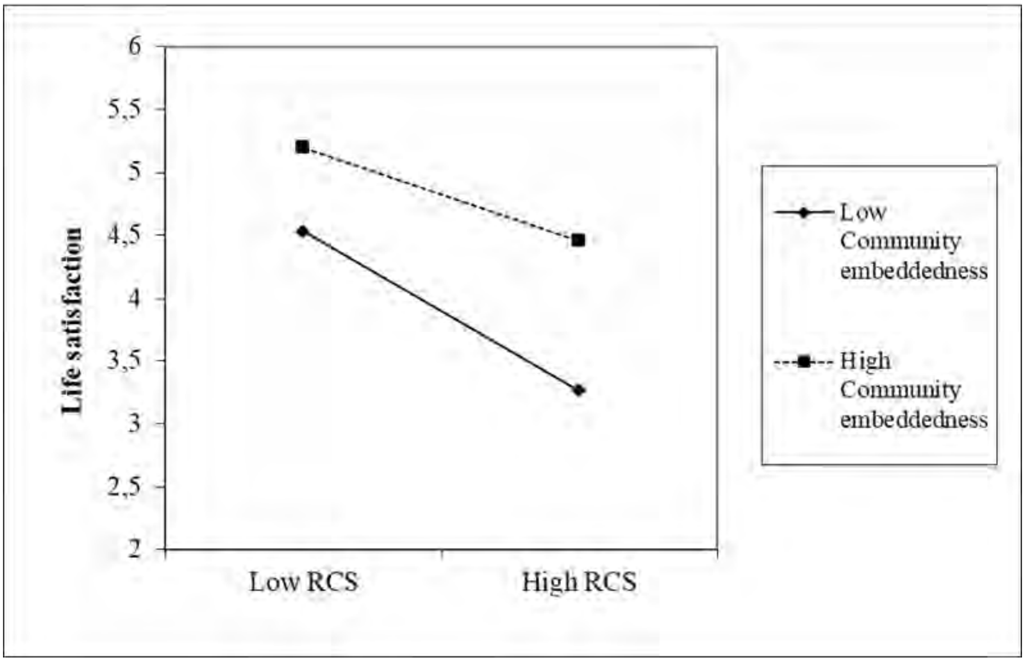

Figure 2. Moderation effect of community embeddedness

5. Discussion and limitations

Prior studies found the significant role of RCS, home-country satisfaction, and home-country embeddedness in predicting returnees' re-expatriation intentions; however, they have not examined the association between these factors in explaining re-expatriation intentions. This is the first study examining the buffering effect of home-country embeddedness on the association between RCS and home-country satisfaction.

The results of this study indicated that RCS had both significantly direct and indirect impacts on re-expatriation intentions via home-country satisfaction on re-expatriation intentions. The findings were in line with the prior study of Ho et al. (2016). Returnees usually expect that they will not have any difficulties in adjusting back to their home country's culture because that is their home and not new to them. During the time abroad, both returnees and their home country; however, may have changed. For instance, returnees may change their lifestyle to integrate into the host country's culture while their home country may also experience political and economic changes (Ellis *et al.*, 2020, Thompson and Christofi, 2006). Returnees may not realise these changes and may not expect re-adjusting difficulties, resulting in feelings of shock. These shocks include feelings of alienation, frustration, stress, and isolation. Therefore, RCS lessens their home country satisfaction and increases re-expatriation intentions.

The results of this study showed that community embeddedness, but not career embeddedness, moderated the link of RCS on home-country satisfaction. The findings of this study suggested that the degree to which a returnee is embedded in their community is likely to affect her/his interprets to revere culture shock. Prior studies (Sherif et al., 1965, Johnson and Eagly, 1989) suggested that those who are more involved in a situation are more more closed-minded and less reactive to unexpected events, and resistant to outside influences. The high embedded individual also has fair judgments about negative experiences (Burton et al., 2010). Therefore, if returnees are highly embedded in their community, they are more likely to interpret RCS in a more positive way, resulting in less negative evaluation about their home country. In contrast, career embeddedness did not buffer the association between RCS and home-country satisfaction because career embeddedness is more related to the career aspects which is only one part of returnees' life while RCS is more related to home-country culture.

This study also provides managerial implications to the Vietnamese government and managers that they should focus on enhancing the home-country community embeddedness for returnees. This can undertake through repatriation programs or policies that include providing more opportunities for returnees to develop their social network or links in Vietnam. These programs also provide more social support for local communities' activities and events and facilitate returnees' involvement in those communities. This will help returnees feel more attachment to their community and perceive a greater sacrifice if they leave. Once returnees become more bond to their community, they will perceive RCS in a more positive way, have more positive evaluations toward their home country, and have less intention to re-expatriate.

This study has some limitations. It did not examine the individual cultural orientations of returnees that may also have a moderation effect on the role of home-country embeddedness on predicting re-expatriation intentions. Returnees who are highly collectivist value social networks and community thus they may place more value on home-country community embeddedness than those who follow individualism. Furthermore, it undertook in one country with cross-sectional data, future research should extend to different cultures and longitudinal data.

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DOES PAY AND DEMOGRAPHIC CHARACTERISTICS REALLY IMPACT ON JOB SATISFACTION?

A CASE OF EMPLOYEES WORKING IN DANANG

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ABSTRACT

Job satisfaction is one of the important contents of human resource management in an organization. Therefore, organizations are increasingly focusing on policies that contribute to improving the level of job satisfaction for employees in order to create and maintain the organization's human resources, and to consolidate the employee’s commitment with the organization. This study aims to explore the relationship between Pay and job satisfaction. The proposed research model is surveyed through quantitative method with 285 responses from employees in Da Nang city. Research results show that there is a positive relationship between Pay and job satisfaction. In addition, the author also found that there’s no difference between men and women, the level of education of employees in job satisfaction level. Meanwhile, age and marital status have an significant on job satisfaction.

Keywords: Pay, Job satisfaction, demographic.

1. Introduction

Currently, by the development of the technology era, everything can be operated and managed by advanced machines and technology. But the human element is an irreplaceable asset which is the fundamental and decisive factor for the survival of an organization. The human resource of an organization is one of the best competitive resources in economic circumstance. To continue to exist and develop, building and developing human resources should be considered as the primary concern of every organization. In other words, human elements make up the difference between organizations. It is often said that “A happy employee is a productive employee”. Indeed, when employees are satisfied with their work, they will feel happy with their work, the job motivation factors are increased as well as the organizational commitment. There is no need to argue much about the impact of job satisfaction on employees in particular and business organizations in general. Unsatisfied employees will easily bring about poor work performance such as low productivity, lack of dedication, and low creativity. Thus, leaders of enterprises and organizations focus on this issue. The study of the impact of job satisfaction on organizations has important implications in both academic and practical ways. Thus, the author wants to clarify the job satisfaction of employees in the Vietnam labour market.

Besides, the author found that pay is one of the sensitive and important factors for employees. Most people think that pay will have a direct impact on job satisfaction. However, when researching in the US, specifically according to Robbin's organization behavior book, he concluded that there is no relationship between pay and job satisfaction. That is, the author must find out if it is correct in the Vietnamese context. Therefore, the author wants to clarify the relationship between pay and employee satisfaction. Does pay have an impact on employee job satisfaction at work? At the same time, the author also aims to exploit the differences in personal characteristics (demographic) of job satisfaction.

2. Theoretical framework

2.1. Job satisfaction

The study of job satisfaction has been a topic of great concern, with more and more research on the subject being published in previous centuries. It has been a valuable material contributing to the sustainable development of the organization since job satisfaction is closely related to many practical issues in the organization, such as motivation, efficiency, leadership, attitudes, conflicts, ethics... The researchers tried to identify the different factors of job satisfaction, measure the relative importance of each component in job satisfaction, and examine whether these components affected productivity and the work quality of employees.

Since the 20th century, the topic of job satisfaction has been interested in and carried out by researchers. However, the concept of job satisfaction remains controversial so far as there is no consensus among researchers on this topic. Some common concepts that are often mentioned in job satisfaction research: One of the first people to introduce the concept of job satisfaction, Robert Hoppock (1935) mentioned that Job satisfaction is a combination of satisfaction from three factors: psychological, physiological and environmental that make employees feel satisfied with their work. By approach based on behavioral theory, Weiss (1967) believes that job satisfaction is one of the main attitudes in the organization, so the definition of job satisfaction is the attitude towards work expressed by the feelings, beliefs and behaviors of employees according to Weiss's approach. On the other hand, approaching by the Two-factor theory, Herzberg (1959) defines job satisfaction through two positive and negative aspects of the job in which the employee enjoys or strives to maintain the job. In terms of the need theory, the need theories of Maslow (1943), Adam (1963), and McClelland (1988) all claim that employees achieve job satisfaction when the value they receive is equal to or greater than their expected value. A new perspective on job satisfaction in recent by Kreitner and Kinicki (2007), the level of job satisfaction is assessed through factors such as pay, promotion opportunities, co-worker relations and other factors that employees expect. He also mentioned that job satisfaction only partly reflects the attitude towards the work that employees enjoy to do. From many perspectives on job satisfaction mentioned above, it can be seen that there are many studies on job satisfaction that come with many different definitions and those studies are approached and evaluated by many different perspectives and criteria of researchers. Each of the different approaches shows a separate explanation of the factors that make up the job satisfaction and satisfaction level. In general, job satisfaction can be said to be the level of emotions, attitudes or behaviors towards the process of work experience, the correspondence between the employees' expectations and rewards in the job. That satisfaction can come from a variety of factors: coworkers, pay and bonus, supervisor, the work itself, working environment, promotion, recognized capacity... Once these factors have not reached the desired level, they easily lead to job dissatisfaction.

The topic of job satisfaction has been interested in for a long time and has been published many times by researchers all around the world. These studies cover many aspects in order to clarify concepts related to employee satisfaction and to provide appropriate measurement for this concept. At the same time, the researchers also explain the importance of factors influencing the job satisfaction of employees. Early on, job satisfaction studies have been interested in academia, a typical example is Hoppock's research from 1935. After that, this topic received the attention of many researchers worldwide. Research by Weiss, Dawis, England & Lofquist has built a measurement of job satisfaction which is widely used, the MSQ (Minnesota Satisfaction Questionnaire) model. This model has two versions: the 1967 version with 20 items and the longer 1977 version with 100 items. A fairly well-known study by Smith, Kendall and Hulin, Cornell University has established a job description measurement through 5 facets affecting satisfaction which is valid, reliable, appreciated and inherited widely. The authors have studied the job satisfaction of people, built the Job Descriptive Index (JDI) and are highly appreciated theoretically and practically. This model consists of five facets: (1) The work itself, (2) Opportunities for training and promotion, (3) Supervision, (4) Co-workers, (5) Pay. Up to now, this measurement has been inherited and widely used for research for studies of employee satisfaction. Using the JDI model, the research results of Onukwube (2012) shows that job satisfaction is based on five dimensions: pay, promotion, supervision, co-workers and the work itself. Research by Hackman, Oldham (1976) also measures employee satisfaction through 5 main job characteristics, Job Diagnostic Survey (JDS) including skill variety, task identity, task significance, autonomy, and feedback.

Among the study models of job satisfaction, the MSQ model has the advantage of being highly detailed, but too long, causing difficulties in the research process. The JDI model, even if it doesn't cover all the factors affecting satisfaction and doesn't have the overall measurement, however, this is a model that can be easily applied to many research objects, and applicable to many different countries and regions, so there are many researches highly appreciated for their value and reliability by using this model as described above. This is also the foundation for building a research model for this topic.

2.2. Pay affects to Job satisfaction

There are many different definitions of pay: Pay is a regular income that employees receive from work, in agreement with the employer and regulated by labor law. Pay is also understood as the amount of money that the employer pays to the employees which is managed by the legal system and based on the agreement of the two parties, the pay is paid when the employee successfully completes the work according to functions and duties as agreed in the labor contract.

Money is an essential and important tool to meet basic human needs. Additionally, some employees see money as medium to measure the management and business's interest in them. At the same time, pay also considered as a symbol of achievement at work because for some types of jobs, a higher salary reflects a higher level of contribution and performance of the employee to the organization. that's why pay plays an important role in influencing job satisfaction.

Pay is one of the motivational tools for employees. To ensure the production development, increase the employee's commitment to the organization as well as maintain a team of highly qualified technical employees with a sense of discipline and a good level of commitment, pay is an effective leverage tool for businesses. A fair and reasonable pay mechanism will bring unity and cohesion of employees in the organization. According to Chung (1997), low pays will not create competition and lead to discontent and dissatisfaction. Organizations should try as much as possible to offer competitive amount of pay to encourage employees to work hard and enjoy their jobs. Luthans (2011) described pay as "the amount of financial remuneration that can received and the extent to which this is considered fair compare to others in the organization". Research has shown that employees' perceptions regarding the importance of their contribution to the organization can be explained by the pay they receive, helping to achieve higher-level of needs.

Although money is important to individuals, research has shown that individuals earning more does not mean they feel satisfied with their job (Spector, 2008). High pay is necessary; however, the more important factor is pay fairness which is strongly correlated with job satisfaction and employee motivation. Besides, according to the behavioral theory of Robbin (2013), it mentioned the relationship between pay and job satisfaction: "When an individual reaches a pay above a certain level, the relationship between pay and job satisfaction no longer exists". Because of the diversity of views on this relationship, the authors want to clarify whether pay affects employee satisfaction in the context of Danang city?

2.3. Demographics have an impact on job satisfaction

Personal characteristics (demographic variables) are regarded as the primary determinants of job satisfaction, along with job characteristics and organizational characteristics (Gosnell, 2000). In this context, correlation analysis is used to find differences in the level of satisfaction across various individual factors. There are also numerous publications about the impact of demographic factors on job satisfaction. According to DeVaney and Chen (2003), demographic factors such as age, gender, race, and education have an impact on job satisfaction. Malik (2011) discovered that demographic factors such as age, work position, level of work, and years of experience were all connected to overall job satisfaction among university lecturers. Noordin and Jusoff (2009) found that demographic factors such as current employment status, marital status, age, and pay appear to have a considerable impact on respondents' satisfaction levels. Therefore, the authors of this study want to see if demographic factors such as gender, age, education level, and marital status have an impact on job satisfaction office workers in Vietnam.

The goal of this study is to look into factors that are related to job satisfaction while also investigating if there are any differences in job satisfaction based on demographic factors. As a result, to achieve this goal, a series of hypotheses have been developed. The purpose of these hypotheses was to look at the negative and positive correlations between the factors and job satisfaction. The following is a list of hypotheses:

Table 1. Hypotheses for the study

H1	Pay has positive relationship with job satisfaction of employees in Danang.
H2	Gender affects job satisfaction of employees in Danang.
H3	Age affects job satisfaction of employees in Danang.
H4	Education level affects job satisfaction of employees in Danang.
H5	Marital status affects job satisfaction of employees in Danang.

3. Research method

The quantitative research method was carried out using detailed questionnaires created after an overview of models from previous studies. The author employs the Brayfield and Rothe (1951) model to measure job satisfaction and measures pay factors built on the JDI (Job Descriptive Index) model of Smith, Kendall and Hulin (1969).

Non-probability sampling with convenient random sampling has been used and is considered reasonable to conduct research on this topic. The questionnaire will be distributed to employees until the required number of responses is collected. The initial expected sample size was 300. However, after the survey period ended, the number of samples collected was 285.

The data from the questionnaire is coded and processed by SPSS software to determine the correlation between pay and job satisfaction, as well as the differences in individual characteristics in the job satisfaction of workers in Da Nang City.

4. Results and discussion

4.1. Survey data

The survey results obtained 285 valid responses, of which males account for 123. Employees aged over 45 accoun for only 2.4%, which shows that the majority of employees are in the young and active age group. According to statistics, the number of married employees accounts for 39.5%. Employees with university degrees account for 68.2%, indicating a high-quality and consistent human resource. 62.7% of employees have worked for 5 years or more.

4.2. Exploratory factor analysis – EFA

An Exploratory Factor Analysis (EFA) was conducted to assess the scale. The results of the KMO and Bartlett's test show that the data is relevant. The KMO test shows that there is a significant relationship between the factors affecting job satisfaction because the measure of satisfaction sampling level of KMO is 0.743 > 0.5. It means that the factor analysis is consistent with the research data. Bartlett's global test with sig=000 < 0.05 has statistical significance, showing that observed factors are correlated with each other in each factor.

4.3. Model testing

The results prove Cronbach's Alpha values for the measurement items of the independent and dependent variables, all the above Cronbach's Alpha values are equal or greater than 0.6, indicating that the measures of all items are accepted, showing the question has a relatively high internal consistency.

Correlation analysis is used to measure the linear relationship between the pay variable and the job satisfaction variable. The results show that the correlation coefficient between the independent variable and the dependent variable is quite high, ranging from 0.373. Sig coefficient (2-tailed) of the variable “Job satisfaction” is 0.000 < 0.05. This shows that: there is a correlation between the variable: "Job Satisfaction" and the variable: "Pay".

Table 2. Result of regression analysic

Model				*T*	*Sig,*
	B	*Std. Error*	*Beta*		
Constant	.640	.260		2.459	.015
Pay	.168	.060	.156	2.805	.005
Dependent variable: job satisfaction					

A regression analysis is conducted in order to test whether pay really impact on job satisfaction. From the table 4.1, it can be seen that pay has an influence on job satisfaction, with Sig valueis .005. Therefore, H1 is accepted.

Anova analysis was used to find out if demographic factors have any influence on job satisfaction. The results show that:

Table 3. ANOVA results

Factors	**F**	**Sig**
Gender	1.657	.199
Age	3.292	.021
Marital status	5.085	.025
Education level	.648	.629

Two demographic factors have a significant influence on job satisfaction: age and marital status. Age was found to have a significant impact on job satisfaction with its significant level at F = 3,292. There was a definite impact in terms of marital status, with the corresponding variable having a significance level of .025. Thus, these demographic factors are appropriate to determine the impact on job satisfaction. Therefore, H3 and H5 are accepted.

5. Conclusion

This paper examined the relationship between pay and job satisfaction. According to results, pay has a positive relationship with job satisfaction. This is completely different from the conclusion of Robbin's study in US. In fact, pay plays a vital role for all workers because, after all, it is the ultimate goal for which they seek a particular job. In addition, age and marital status are two demographic factors that have a considerable impact on job satisfaction. This study also found that there was no difference in the level of job satisfaction between men and women as well as between people with different levels of education. Based on the results and discussion, there are key implications that can be made. First, job satisfaction and pay have a favorable relationship. Therefore, organizations should take into account the nature of the work, the workload, and the difficulty of the work when determining a reasonable and market-competitive pay to keep, retain, and attract employees. Second, age affects job satisfaction. Different ages of people will have different thoughts, feelings, emotions, and desires. Finally, job satisfaction is influenced by marital status. Employees who are not married and those who are married will have extremely distinct points.

Based on the results and discussion, there are key implications that can be made. Job satisfaction and pay have a positive relationship with each other. Therefore, organizations should consider the pay policy to develop an appropriate salary mechanism to maintain and retain the organization's quality workforce. Besides, age affects job satisfaction. At different ages, thoughts, feelings, emotions, and desires will also be different. Therefore, when the organization develops work plans, it is also advisable to assign work appropriate to the age.Moreover, marital status affects job satisfaction. Unmarried and married employees will have very different points. Married people will need to balance work and family, so the time and effort for work will be affected. Therefore, the organization also needs to consider this factor to assign appropriate jobs to improve job satisfaction in the company.

There are some significant limitations in the conduct of this study. As a developing country, but Vietnam is still in the early stages of development. Therefore, Vietnam has not yet developed strongly in terms of data, and the sources of search data are still limited. Most of the data are foreign documents, so the process of searching and translating documents takes a lot of time. Sometimes it is not possible to fully understand the meaning in the words of the researchers. The number of surveys is not much and uneven across the fields, so it also partly affects the results. Besides, with the limitation of time, the author just investigated the relationship between pay and job satisfaction while there are still many factors.

We have some suggestions for further research and investigation after looking into the influence of pay and demographic factors in this study. At the same time, I want to study more closely about the difference of each demographic factor with the level of income that brings job satisfaction. To begin with, the author has only learnt about the impact of pay on job satisfaction, so future research can focus on other factors. From there, further research can be extended by examining many variables that may influence job satisfaction.

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COMPARATIVE ACADEMIC PERFORMANCE AND PERCEIVED EMPLOYABILITY OF MALE VS FEMALE HRM STUDENTS

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ABSTRACT

Employability, especially perceived employability of graduates has increasingly become topic of interest in literature. This study goes beyond typical causal relationships between academic performance and perceived employability by investigating the myth of feminization in HRM profession. Particularly, this research propose and examine the impact of academic performance on perceived employability of HRM graduates and differences between male and female HRM graduates in academic performance and perceived employability. To achieve these research objectives, a quantitative survey was conducted with HRM graduates from a prestigious university in Vietnam. The mixed result emerging from survey responses provides interesting theoretical and practical implications for academic and practitioners in the field.

Keywords: academic performance, gender differences, HRM graduates, perceived employability.

1. Introduction

The importance of employability has been established by both scholars and practitioners. It is expected that employers, higher education institutions and graduates themselves should actively engage in developing employability of graduates. In spite of the inconsistency in defining employability, perceived employability is founded to lead to critical consequences at work. As outcomes of perceived employability had received a lot of attention by previous scholars, we emphasize on determinants of perceived employability including academic performance and gender. Especially, we select female-dominated program and profession – human resource management – to enable us counter the myth of feminization and employability in this profession.

By taking into account feminization in a female-dominated profession, our research may provide fresh nuances to gender equality at the workplace (Betterwork Vietnam, 2020). Particularly, we are the pioneers in Vietnam to propose and examine the effect of academic performance on perceived employability (PE) and differences between male and female HRM students in their academic performance and perceived employability. In fact, a quantitative survey was conducted with HRM graduates in a well-known university to investigate the research phenomena. The theoretical framework and research method will be discussed in the next sections to lay the foundation for our further interpretation.

2. Theoretical framework

2.1. Perceived employability

Employability is a multiple faceted concept that has been studied in various disciplines, including business, psychology or human resource development (Van Der Heijde & Van Der Heijden, 2006). As its wide range of application, there are controversies on how it is defined (Álvarez-González et al., 2017). Rothwell (2015) contends that employability has been studied in four different viewpoints. The first perspective concerns concepts of employability relevant to macro labor market adopted by the governments (Tymon, 2013) while the second one focuses on an individual's approach, which emphasizes on one's ability to obtain and develop a career (Vargas et al., 2018). The other two perspectives emphasize the roles of education and employers in enhancing employability (Pegg et al., 2012).

Regarding individual perspective, the main approaches that take prominence in recent years are competence-based employability, perceived employability, and trait-based individual employability. The approach of competence emphasizes on the skills and knowledge needed to help students find a job in the competitive labor market (Vos et al., 2011) while the trait approach focuses on how positive, proactive attitudes can help individuals go far in their career path (Mel Fugate & Kinicki, 2008). Regarding perceived employability approach, scholars look for more insights into both internal factors, which relate to skills and abilities to obtain a job, and external factors, including individuals' perspectives towards the trends, the significance of their major, and the labor market conditions (Vargas et al., 2018). As a consequence of its comprehensive approach, perceived employability has been well-documented and widely applied in multidisciplinary fields.

In the perspectives of self-reflection, perceived employability is seen as self- belief of an individual about his/her abilities to attain and pursuing a career, and gain a new one if necessary (Kim et al., 2015). Besides, Rothwell & Arnold (2007) define employability as a many-sided construct that consists of both external and internal elements. The internal dimensions include professional skills and job search skills (Hillage & Pollard, 1998) while external factor mentioned is the situation of the labor market or the demand of an occupation (Rajan et al., 2000). Therefore, the perception of contemporary state of the labor market is one of the main dimensions in employability scales developed (Pitan & Muller, 2019).

It is advocated among scholars that perceived employability plays a crucial role for individuals in their career pursuit after graduation (Qenani et al., 2014; Turner, 2014). When students are more confident and aware of the labour market outside as well as their own capabilities, they will be able to seize ample opportunities and give good decisions for their career paths (Qenani et al., 2014). Especially in turbulent times, employability helps graduates to get through work transitions or other difficulties (M Fugate et al., 2004). Moreover, scholars and practitioners also prove that the higher the level of employability an individual perceives, a higher possibility that he/she would feel happy and positive in their job (Bakari & Hunjra, 2018), and have better mental health situation (Jackson & Wilton, 2017). This study, nevertheless, does not focus on outcomes of perceive employability but on two predictors of perceived employability: academic performance and gender.

2.2. Academic performance and perceived employability

Academic performance has been reported by a variety of methods, including: university grade point, teachers' assessment, students' self-assessment, etc. Among such approaches, grade point average (GPA) has played a prominent role in measuring academic results (Imose & Barber, 2015) as its subjectiveness. Werbel & Looney (1994) also define GPA as a measure of academic performance or the indicator of achievement level of students at college. GPA has been widely adopted by organizations to assess applicants' resume (Thoms et al., 1999).

Longstanding empirical evidence indicates that academic performance is a determinant of job performance (Hogan et al., 2007). Moreover, McKinney et al. (2003) contend that employees with better academic performance are likely to get higher salary and a better career. It can be explained that academic achievement is a reflection of graduates' logical thinking and communication skills (Brown & Campion, 1994) and also an indicator of motivation and intelligence (Imose & Barber, 2015), which can help candidates to achieve better in their job.

In recent years, substantial attention has been paid to understanding the relationship between academic achievement and graduates' capabilities to be successful in the labor market. Kuncel et al. (2004) highlight that academic performance is positively related to graduate's ability in labor market transition and the chance to get good job with good performance. Pinto and Ramalheira (2017) imply that a combination of high GPA and participation in extracurricular activities results in highly perceived employability while people with an average GPA and participation in extracurricular activities are likely to have high level of personal organization and learning skills. In light with that, Pan & Lee (2011) also figure out that employability skills, namely, foreign language ability, IT skills, theory application to work, and ability to adapt to pressure, are significantly related to academic performance. To sum up, there is a consensus among researchers on the close relationship between academic performance and perceived employability (Pinto & Ramalheira, 2017; Tymon & Batistic, 2016). Therefore, the following hypothesis is proposed:

H1: Academic performance is positively related to perceived employability.

2.3. Gender, academic performance & perceived employability

Apart from the internal and external factors mentioned above, there are also some viewpoints that the impact of demographic factors, namely, gender, major of study, age, on PE should not be neglected (Moreau & Leathwood, 2006; Pitan & Muller, 2019). However, there are still some paradoxical findings regarding this topic. On the one hand, some scholars imply that there is no significant effect of gender on perceived employability (Pinto & Ramalheira, 2017). In this research, it is proved that academic performance and extracurricular activities are positively correlated to employability skills while the connection between gender and PE are not found. On the contrary, gender has been considered as a critical factor in discussing employability issues. For example, Morley (2001) concludes that gender is a crucial factor that influences students' employability perception. In light with that, Monteiro et al. (2016) point out that male graduates seem to be more positive about their chance to be successful than female ones. A possible rationale for those findings is that female graduates are aware of gender discrimination in the majority of occupations (Monteiro et al., 2016). In such as female-dominated profession as HRM (Reichel et al., 2013), the impact of gender on academic performance and perceived employability is more likely to be occurred. However, Perera & Weerasinghe, (2019) reported no significant differences between male and females students in terms of their career drivers. Our study enters into this research convention by proposing and testing the following hypotheses:

H2: There are significant differences between male and female graduates in terms of perceived employability.

H3: There are significant differences between male and female graduates in terms of academic performance.

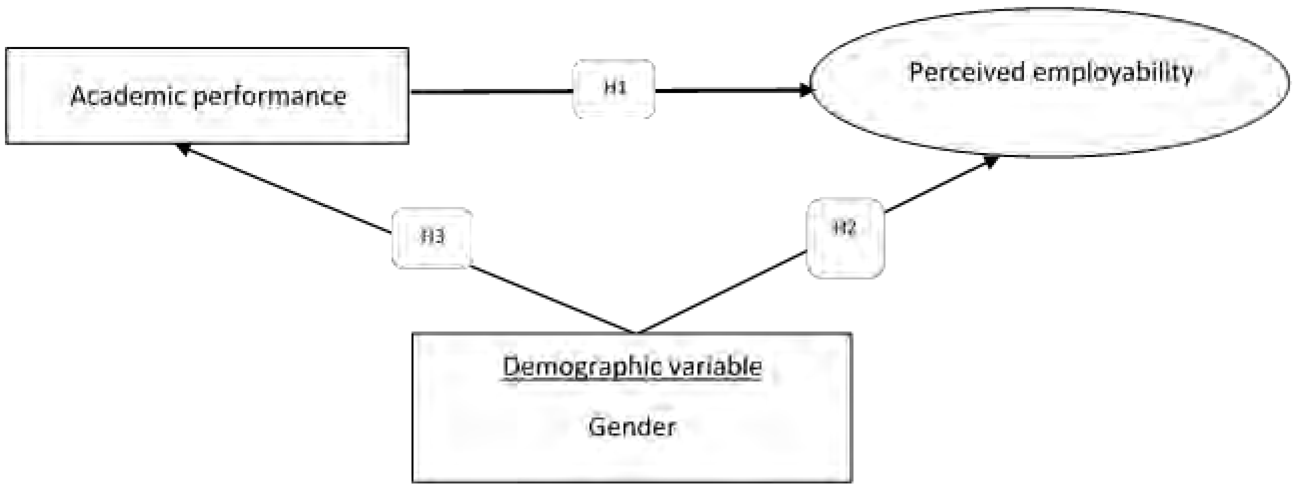

Figure 1. Research model

3. Research method

3.1. Data collection

A quantitative survey has been conducted among students majoring in Human Resource Management at the Da Nang University of Economics. We used a non-probability sampling method, focus on students who have just completed an internship in the academic year 2019-2020 and 2020-2021, and rely on convenience to collect data. The sampling frame and contact information were provided by the internship program secretary. The research team used an existing student email list to submit an online survey on the Jotform platform, as well as the possible merits and limitations of this method (Malhotra et al., 2017).

In the list of 138 interns (13.86% male and 76.14% female), there were 135 emails available. There were 111 students' responses, 80.4% of the list. Among these, five answer sheets were rejected after data cleaning.

A sample size of 105 guarantees a minimum sample size when the sample frame is known (Yamane, 1967), and in regression analysis (Green & Salkind, 2004). It is sufficient to perform basic statistics to ensure the purpose of this study.

There is a significant difference in the gender ratio in the sampling frame, thus leading to a large difference between the number of students and female students. Among them, the number of female students is outstanding (84.8%). We accept this in our sample analysis because The HRM occupation is "an ideal job for women" (Gooch & Ledwith, 1996).

Table 1. Sample description

Classification variable		Frequency	Percentage
Gender	Male	16	15.2
	Female	89	84.8

Source: Author's compilation (2021)

The questionnaire examined Students' perceived employability through five-point Likert scale questions (where 1: Strongly disagree; 5: Strongly agree). It also included some classification questions on gender, GPA. The research team ensured that the student's participation in answering the questionnaire was completely voluntary. All respondent information is kept confidential and only for research purposes. Data were entered into an excel spreadsheet and then processed using the SPSS 26 software.

3.2. Measurement

This study inherits the PE scales in previous studies such as Jackson & Wilton (2017) and Pitan & Muller (2019). These are scales adapted and developed by Rothwell et al. (2008) and Berntson & Marklund's (2007). The observed variables of the scale need to ensure reliability (Allen & Yen, 1979) and consistency (Nunnally, 1978). Besides, the relevance of the content needs to be evaluated before testing the proposed theoretical model (Hair et al., 2010). A pilot test was preliminarily conducted with a sample size of 30 to collect respondents' opinions in order to check and adjust the scales. The results from the reliability test with the Cronbach alpha value of the factor are all greater than 0.7, so the scale has high reliability (Nunnally, 1978).

The questionnaire was used according to the back translation method used in translating the scales (English-Vietnamese-English). On a five-point Likert rating scale questionnaire ranging from "1 strongly disagree" to "5 strongly agree," final-year students were asked to judge themselves on how employable they thought they were. "I am confident that through my personal qualities it will be easy for me to get a graduate-level job," "I feel confident that I will be able to find appropriate work after leaving the university," "I feel confident about making applications to organizations of interest," "I am aware of the employment opportunities open to me," "I have good knowledge about the requirements of my future career," and "I am generally confident of success in job interviews" were the six items used to measure PE in this study.

3.3. Data analysis

In this study, we employed single regression analysis to examine the impact of academic performance on PE (H1) and ANOVA tests to examine the impact of gender on academic performance (H3) and students' perceived employability (H2). Gender is divided into two categories of male and female. The sample sizes are not gender-balanced, which may affect the results when analyzing ANOVA. However, according to Grace (2020) and Keppel (1991) "the only problem is if we have unequal variances and unequal sample sizes". The results section of this study shows that unequal sample sizes are not an issue in ANOVA. Academic performance is calculated based on GPA.

4. Results and discussion

4.1. Results

The results of the survey on Students' perceived employability show that students agree with the content "I am confident that through my personal qualities it will be easy for me to get a graduate-level job" and "I have good knowledge about the requirements of my future career." Students quite agree with the ideas "I am confident that through my personal qualities it will be easy for me to get a graduate-level job," and "I have good knowledge about the requirements of my future career," respectively. With an average score of 3.86, it indicates that students quite agree with Students' perceived employability.

Table 2. Descriptive statistics

	Mean	SD
Students' perceived employability α = 0.849	3.86	
I am confident that through my personal qualities it will be easy for me to get a graduate-level job	4.07	0.624
I feel confident that I will be able to find appropriate work after leaving the university"	3.93	0.609
I feel confident about making applications to organizations of interest"	3.70	0.678
I am aware of the employment opportunities open to me"	3.60	0.715
I have good knowledge about the requirements of my future career	4.02	0.554
I am generally confident of success in job interviews".	3.87	0.538

Source: Author's compilation (2021)

The results of Simple Linear Regression show that Regression model is suitable because of the p-value for the F test is 0.000 < 0.05. Academic performance has an impact on perceived employability with the neighboring Durbin-Watson = 2.102, This value is in the range of 1.5 - 2.5, so first order series autocorrelation does not occur (Qiao, 2011). VIF coefficient is higher than 2, so no multicollinearity occurs**.** Sig t-test of the regression coefficient of the independent variable is less than 0.05. The adjusted squared value = 0.289 shows that the academic performance variable included in the regression analysis affects 28.9% of the variation of the dependent variable, the remaining 71.1% is due to out-of-model variables and random errors. Therefore, the academic performance variable has an explanatory meaning for SPE. Standardized coefficient beta = 0.544 > 0, this means that the higher the student's academic performance, the higher the positive contribution to perceived employability.

Table 3: Summary of regression analysis results

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.544[a]	.296	.289	.39667	2.102

Coefficients

	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	1.303	.392		3.326	.001		
GPA	.912	.139	.544	6.573	.000	1.000	1.000

Source: Author's compilation (2021)

The study performed a One-way ANOVA test of gender variable with PE and GPA. For the PE variable, Sig test Levene = 0.693 > 0.05, there is no difference in variance between men and women. The results of the F test in the ANOVA table have sig = 0.053 > 0.05, which means there is no difference in the SPE between men and women.

For academic performance, the results show that gender has a significant effect on PE at F = 8.389, Sig tests ANOVA equal to 0.005<0.05, that is, there is a difference between gender and academic performance. In fact, Table 4 shows that the mean score of male students is 2,6300, lower than that of female students is 2.8431. This means that women have higher academic performance than men.

Table 4. One-Way ANOVA

GENDER		**PE**	**GPA**
Mean	Male	3.6562	2.6300
	Female	3.9026	2.8431
Test of Homogeneity of Variances	Levene Statistic - Sig.	.693	.526
ANOVA	F	3.822	8.389
	Sig.	.053	.005

Source: Author's compilation (2021)

5. Discussion

According to Qenani et al (2014), perceived employability can help students seize many opportunities and make the right decision for their career path. Fortunately, both male and female students in this survey reported that they were reasonably confident in their personal qualities and understanding of future industry requirements in despite of forthcoming critical employment landscape. In addition, their perceived employability is significantly affected by their academic performance. However, the academic performance – perceived employability linkages and the feminization in human resource profession (Legge, 1987) are complicatedly reflected in this research. Regardless of the dominance of female students in HRM programs, and higher performance of female students, we found no gender difference in perceived employability, which contradicts Morley's (2001) but reinforces the findings of scholars Pinto & Ramalheira (2017), Moreau & Leathwood (2006), and Pitan & Muller (2019). Possibly, perceived employability of HRM students is affected by not only academic performance but also other factors in which male students have more advantages, compensating for their lower academic performance.

These key findings may be a good source of reference for policy makers, educators, managers, and future HR professions themselves. To foster diversity in the field of HRM, balancing feminism and masculinism in job design of HRM professions should be concerned. Furthermore, integrated effort of enhancing graduates' employability should be devoted by higher education institutions, industries, and other key stakeholders.

Our above-mentioned theoretical and practical implications are insightful but we suggest future research to address some limitation to add new knowledge to this topic. Firstly, the self-reported measurement of employability fails to cover objective assessment of HRM graduates' employability. Academic supervisors' and internships supervisors' assessment should be included to offer comprehensive view of HRM graduates' employability. Secondly, the larger sample size the better for future survey. Thirdly, in-depth or semi-structure interviews may provide detail explanation for feminization in the profession, making the case for similar phenomena in other professions.

6. Conclusion

While perceived employability of graduates has received increasingly attention in recent years, this study add on to this research convention by counterbalancing the myth of feminization and perceived employability in HRM program and/ or profession. Our research, hence, is the first to document about the effect of academic performance on perceived employability of and gender differences in academic performance and perceived employability of HRM graduates in Vietnam. The linkage between academic performance and perceived employability of HRM graduates is confirmed. Academic performance of female students is higher than that of male students. Unexpectedly, difference experience of male and female HRM graduates in terms of perceived employability are not supported. Educators, managers, policy makers and HRM graduates themselves may take further action from these interesting findings.

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DETERMINANTS OF TOURISTS' INTENTION TO USE TOURISM MOBILE APPLICATION – AN EFFECTIVE TOOL FOR SMART TOURISM DEVELOPMENT

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ABSTRACT

Nowadays, mobile applications play a crucial role in developing tourism, which is viewed as an effective tool to contribute to the development of smart tourism. Although the use of tourism mobile applications to find information or booking services has increased in recent years and achieved some success, there is little academic research written about this field in Vietnam. This article aims to understand tourists' intention to use tourism mobile applications and to explore its prospects for supporting relaunch of the tourism sector post-COVID-19. The Unified Theory of Acceptance and Use of Technology model (UTAUT2) was applied as a fundamental theory to develop the research model. The data was collected from 617 respondents using a structured questionnaire. After testing the reliability of the scale Cronbach's Alpha, analyzing exploratory factors, and confirmatory factor analysis, the structural equation modeling method was used in this study to analyze the data. The results indicated that price value was the most significant antecedent of tourists' behavioral intentions to use and use behavior of tourism mobile applications. Facilitating conditions had no significant effects on tourists' behavioral intentions to use and use behavior of tourism mobile applications. Additionally, this study had also investigated the moderating effects of gender, age, and experience on all the paths in the research model.

Keywords: intention to use, mobile application, tourism mobile application, unified Theory of Acceptance and Use of Technology, use behavioral, UTAUT2.

1. Introduction

The new era of Information & Communication Technologies (ICT) has opened numerous new tools for the tourism industry. Since this is one of the well-suited areas where ICT is used extensively from operational and business perspectives, so the idea of smart tourism has developed fairly quickly (Dorcic et al., 2019). Smart tourism is defined as an integrated platform between tourism resources and information technology to provide information regarding tourism services clearly to tourists (Boes et al., 2016). Recently, the outbreak of corona virus disease (COVID-19) is causing havoc all across the globe with its impact spread across all aspects of life (Haleem et al., 2020). The tourism industry is expected to be the hardest-hit industry in this pandemic (UNWTO, 2020a). Despite this scenario, the tourism industry is gearing up for a sustainable and strong recovery under the aegis of the UNWTO, which is the apex body of global tourism (UNWTO, 2020b). In this context, ICT such as tourism mobile applications, augmented reality (AR) can not only improve tourist experience but also offers the potential to contribute significantly to restarting safe and sustainable post-COVID-19 tourism (Mohanty et al., 2020; Saragih & Suyoto, 2020). Indeed, the development of smart technologies from the basic to advanced and multifarious features has brought unprecedented opportunities for the tourism industry (Gupta & Dogra, 2017) as well as led to fundamental changes in the tourists' behaviors and demands (Buhalis & Law, 2008; Gretzel, 2011). Among the technologies adopted, tourism mobile applications play an important role (Tan et al., 2017).

The use of tourism mobile applications is very popular based on the simplification and convenience of mobile devices. Some tousim mobile applications such as Google Maps, Grab, Uber, TipHunter, AloTrip and local travel mobile applications, etc., appear simultaneously and attract many users. Mobile applications are considered the one of useful tools for smart tourism development (Dorcic et al., 2019). It can be seen that tourism mobile applications have provided numerous benefits not only for tourists but also for the organizations related to tourism sector. By using these tools, tourists are convenient to search all information according to their best match before or during their trip on mobile devices themselves (Tan et al., 2017). In addition, they can book tourism services directly on the applications easily and receive attractive promotional offers (Kennedy-Eden & Gretzel, 2012). For enterprises operating in the field of tourism, mobile application is one of an effective channels to interact with tourists, improve their competitive advantage as well as contribute to sustainable tourism development (Gretzel et al., 2015). According to the World Advertising Research Center's announcement, by 2025, about 72.6% of users in the world will access the Internet via mobile devices, and in Vietnam, there will be 96% of users. Regarding tourism mobile applications, Visa's survey shows that 90% of users use these applications to find out information and book tourism services.

In Vietnam context, the application of information technology in tourism development has been implemented since 2013. According to the tourism development strategy to 2030, the government has the following orientation: "... developing tourism in the direction of professionalism, modernity, focus, and sustainability with a high content of intellectual gray matter and modern technology...". Therefore, Vietnam's tourism industry has invested in methods of interacting with tourists through multi-channels such as mobile applications, websites, etc. to increase attraction, prolong their stay, and experience tourism services (extracted from the master plan and development of Vietnam's tourism to 2020, vision to 2030). Although a number of studies in the existing literature have examined to determine the behavioral intention to use new technology and use behavior, it is observed that the published article examining the tourists' intention to use tourism mobile applications is very limited, especially under the context of Vietnam. Indeed, there is a lack of empirical research understanding the impact of factors on tourists' intention to use tourism mobile application in Viet Nam. Hence, this study can be considered as one of the first studies using UTAUT2 to find out the factors influencing Vietnamese tourists' intention to use and use behavioral of tourism mobile applications.

Building upon the research gaps above, the study aims to understand tourists' behavioral intention to use tourism mobile applications and to explore its prospects for supporting relaunch of the tourism sector post-COVID-19. To achieve this purpose, the study focuses on the following specific objectives: (1) Researching the theoretical basis of behavioral intention to use and use tourism mobile applications; (2) Determine the factors affecting behavioral intention to use and use tourism mobile applications; (3) Proposing a research model to predict behavioral intention to use and use tourism mobile applications. Finally, the article proposes some solutions for enterprises operating in tourism in attracting and increasing tourists' intention to use tourism mobile applications.

2. Theoretical framework

2.1. Tourism mobile application

Mobile application, commonly known as an app, is the software designed for use on smartphones, tablets, and other mobile devices (Islam et al., 2010). Applications are generally available through application distribution platforms that appeared in 2008, that are usually run by owners of mobile operating systems, such as the Apple App Store, Google Play, etc. In terms of tourism mobile applications, these are all applications downloaded and installed on mobile devices that are used to find information or book tourism services (Tan et al., 2009). Tourism mobile applications provide information about tourism destinations, travel routes, hotels, restaurants, means of transportation, etc. Currently, tourism mobile applications not only allow tourists to get information but also book services related to their trip; and this can be considered an effective tool to supply all necessary information before, during, and after the trip according to the needs of tourists (Brown & Chalmers, 2003). Moreover, tourism mobile applications in the COVID-19 pandemic situation in tourism places regularly update the components, data, information, systems, and services, so tourists will receive all important information (Setyadi, 2021).

2.2. Behavioral intention to use and use behavior tourism mobile applications

According to Ajzen (1991), behavioral intention to use refers to the level of conscious effort that an individual will make following his or her behavioral approval. The intention to perform the behavioral, which often precedes the actual behavioral, is a sign of readiness to perform the behavior based on attitudes toward the behavioral, subject norm, and behavioral control (Ajzen, 1991; Kim et al., 2013). In the field of technology, behavioral intention to use is a user's willingness to use technology to perform a specific task (Davis, 1989). Based on previous definition, in the context of tourism mobile applications of this study, intention to use tourism mobile applications refer to the tourist's willingness to use a tourism application on their mobile device to perform a task for travel purpose.

2.3. The unified theory of technology acceptance and use of technology

Many theoretical models were developed to explain technology acceptance and use including Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980), Theory of Planned Behavior (TPB) (Ajzen, 1991), Technology Acceptance Model (TAM) (Davis, 1989), the Unified Theory of Acceptance and Use Technology (UTAUT) (Venkatesh et al., 2003), etc. These theories were originated from psychology, sociology-related theories, and information systems, but all have the same goal of explaining user's behavior (Venkatesh et al., 2012). Due to the different origins, the research on behavioral intention to use technology is a little fragmented in research methods and there are differences in measurement. Research factors are overlapped, and the predictability of each model's behavior is still quite low (Chang, 2012). Therefore, the study of Venkatesh et al. (2003) integrated eight theories to form "Unified Theory of Acceptance and Use Technology (UTAUT)".

The latent variables in UTAUT, which are widely used to determine a user's behavior to use technology (Williams et al., 2015) are moderated by the gender, age and experience, included Performance Expectancy, Performance Expectancy, Social Influence, and Facilitating Conditions (Venkatesh et al., 2003). However, when applied to different technological contexts, it has some certain limitations, so Venkatesh et al. (2012) combined hedonic motivation, price value, and habit factor to extend UTAUT to UTAUT2. UTAUT2 improved significantly in determining user's behavioral (Venkatesh et al., 2012). To deeply understand the factors influencing behavioral intention to use and use behavior to mobile applications in tourism, this study was based on the UTAUT2 as a theoretical foundation for building a research model.

Due to the advantages of integrating factors to explain the behavior, UTAUT2 was used by many researchers to examine users' intention to use technology (Venkatesh et al., 2012; Gupta et al., 2018). However, the use of UTAUT 2 in the research of tourism mobile applications is currently very limited. Some of the most recent studies have been done related to intention to use tourism mobile applications. Among them are the research by Nathan et al. (2020) on tourists' accommodation, by Kamboj & Joshi (2020) on tourist destinations, by Asraar Ahmed & Kranthi (2019) and Castañeda et al. (2019) about travelling. These studies have demonstrated the role of factors such as expected performance, expected effort, favorable conditions, social influence, price value, habit to behavioral intention and actual use behavior. In addition, studies on mobile applications using UTAUT2, specifically, Gupta et al. (2018) conducted empirical research to determine the factors that influence users' adoption of travel mobile applications in India. The study revealed that the research model was proved to be suitable for explaining and predicting the use behavior of tourism mobile applications. The intention to use travel applications was significantly influenced by performance expectancy, social influence, and price value. In the others research, Palau-Saumell et al. (2019) analyzed the customers' behavior of accepting restaurant mobile applications. The conceptual framework was built up based on the UTAUT2 framework of Venkatesh et al. (2012), adding perceived trustworthiness and orientation to saving prices as external factors. This study examined users' behavioral intention towards restaurant mobile applications based on the UTAUT2 model. The empirical research results confirmed that the motivations of using this restaurant application were habits, perceived trustworthiness, hedonic motivation, orientation to saving prices, effort expectancy, performance expectancy, social influence, and facilitating conditions. The usage behavioral of restaurant mobile applications could be predicted via behavioral intention, habits, and facilitating conditions. Paying attention to the intention of adopting map applications for tourists, Gupta & Dogra (2017) conducted research for the case of India, using the extended UTAUT2 as a basic theoretical for their study. The study was based on data collected from 284 surveys conducted for travelers in India. The research results that confirmed that the most important factors determined the intention to use map applications of travelers were habits, facilitating conditions, expected effectiveness, and hedonic motivation.

2.4. Hypothesis and research model

Performance expectancy and effort expectancy were defined by Venkatesh et al. (2003). According to Venkatesh et al. (2003), performance expectancy refers to the degree to which individuals in performing certain activities will experience some benefits as a result of using a technology. On the definition of effort expectancy, this can be defined as the extent of ease from efforts as a result of using new technology (Venkatesh et al., 2003). According to Davis (1989); Venkatesh et al. (2003), and most of the empirical studies showed that the performance expectancy and effort expectancy were positively affected users' intention using new technology. In the studies of Nathan et al. (2020); Prasanta & Sivakumar (2019); Palau-Saumell et al. (2019b); Al-Azizi et al. (2018); Okumus et al. (2018); and Hew et al. (2015) confirmed the strong impact of these two factors on intention to use. In contrast, Gupta et al. (2018); Jeon et al. (2019); Dhiman & Arora (2018) exposed that there were an impact but the level of impact were not significant. Therefore, it can be hypothesized that:

H1: Performance expectancy has positive influence on tourist's behavioral intention to use tourism mobile applications.

H2: Effort expectancy has positive influence on tourist's behavioral intention to use tourism mobile applications.

Venkatesh et al. (2003) defined social influence as the degree to which an individual perceives that important people (e.g., family and friends) believe they should use a new system. He also found that individual's intentions to engage in using technology are influenced by the opinions of others important to them (Venkatesh et al., 2003). Similar results were reported by Nathan et al. (2020), Jeon et al. (2019), Palau-Saumell et al. (2019), Okumus et al. (2018) in case of adoption of Airbnb apps, smartphone apps for flight ticket bookings, mobile apps for restaurant, and smartphone diet apps when ordering food at restaurants respectively. However, in the study on tourism mobile apps in India or mobile commerce apps in Malaysia, Gupta & Dogra (2017) and Hew et al. (2015) concluded that social influence has not considerable effects on users' intention. Therefore, this study forms the following hypothesis:

H3: Social influence has positive influence on tourist's behavioral intention to use tourism mobile applications.

Price value is defined as an individual's cognitive trade-offs analysis to compare the perceived benefits and the monetary cost for using a particular technology and positive price value could affect behavioral intention positively (Venkatesh et al., 2012). Similarly, Morosan & DeFranco (2016) highlighted that price value has a significant influence on users' intention to use technology. Additionally, many others research on mobile apps (e.g., Meuter et al, 2003; Nathan et al, 2020; Palau-Saumell et al, 2019a; Tak & Panwar, 2017; Gupta et al, 2018; Dhiman & Arora, 2018) supported that price value have considerable effects on users' intention to use. Thus, the hypothesis is proposed:

H4: Price value has positive influence on tourist's behavioral intention to use tourism mobile applications.

Facilitating conditions is described as consumers' perceptions of the availability of facilities and support systems to perform a behavioral (Venkatesh et al., 2003). Some facilitating conditions such as financial resources, time, necessary knowledge, and government policies help to increase users' intention and use behavioral toward a technology (Thompson et al., 1991; Venkatesh et al., 2003). The empirical research on mobile applications of Palau-Saumell et al. (2019a), Tak & Panwar (2017), Pedro R. Palos-Sanchez et al. (2019) agreed with above results. Following these, it can be hypothesized that:

H5a: Facilitating conditions have positive influence on tourist's behavioral intention to use tourism mobile applications.

H5b: Facilitating conditions have positive influence on tourist's behavioral intention to use tourism mobile applications.

Hedonic motivation refers to the fun or pleasure that individual derived from using a technology (Venkatesh et al., 2012). Zhang & Li (2004) stated that hedonic motivation is an important predictor of user behavioral toward using a technology. Some existing empirical studies on mobile applications usage intention have confirmed the relationship between hedonic motivation and users' intention to use (Hew et al., 2015b; Gupta & Dogra, 2017; Prasanta & Sivakumar, 2019). If the usage of mobile apps is enjoyable, an individual would have a higher intention to use mobile apps (Gupta & Dogra, 2017). Therefore, in the context of tourism mobile applications, this study forms the following hypothesis:

H6: Hedonic motivation has positive influence on tourist's behavioral intention to use tourism mobile applications.

Habit is defined as the automating behavioral from initial learning to regular use of a technology, and it can also be viewed as a perceptual construct that reflects the results of prior experiences (Venkatesh et al., 2012). Past studies have reflected that habit is not only one of the important predictors of intention to use technology (Tak & Panwar, 2017; Palau-Saumell et al., 2019a), but also influences to use behavior (Hsiao et al., 2016). Therefore, to examine these relationships in the context of tourism mobile apps, the following hypotheses are posited:

H7a: Habit positively influences tourist's behavioral intention to use tourism mobile applications.

H7b: Habit positively influences tourist's use behavior of tourism mobile applications.

According to Ajzen (1991), behavioral intention can be defined as an individual's willingness to engage in a particular use behavior and it is often regarded as the predecessor of use behavior. Intention to use plays an important role in shaping behavioral using technology (Venkatesh et al., 2003). Research on mobile applications in different fields shows that there exists a relationship between behavioral intention to use and use behavior (Gupta & Dogra, 2017; Gupta et al., 2018; Prasanta & Sivakumar, 2019). Thus, we propose the following hypothesis:

H8: Tourist's behavioral intention to use tourism mobile apps will affect tourist's use behavior.

Based on these above hypotheses, the relationships between the constructs are illustrated in the following research model (figure 1):

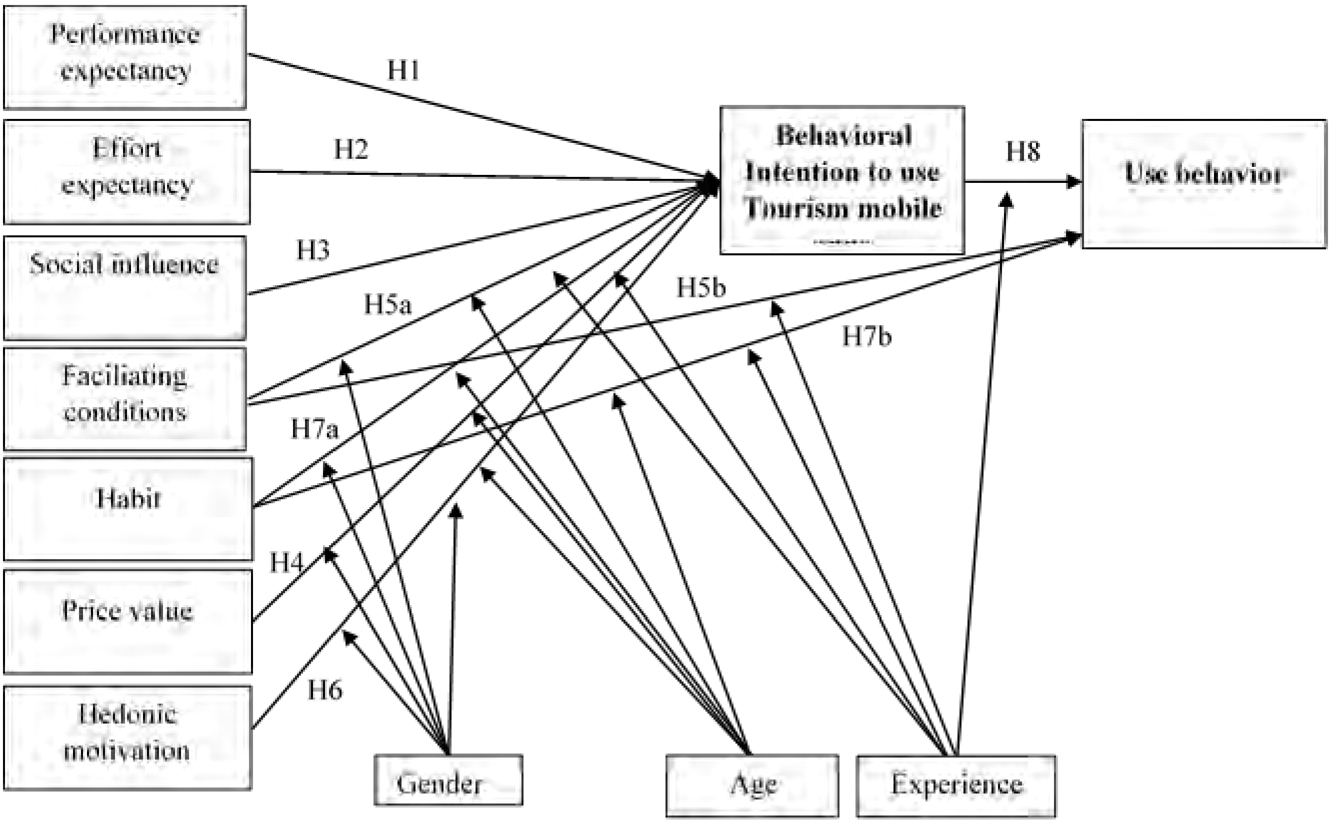

Figure 1. Research Model

3. Research method

3.1. Research sample

The study used a combination of qualitative and quantitative research methods. The qualitative research method was applied by reviewing all the literature, and depth interviews with tourists, who have used tourism mobile applications. In addition, consulting experts were also used to adjust the research model as well as build the scale to satisfy the research conditions in Vietnam. The quantitative research method was expressed through interviewing tourists with questionnaires to test the research model and hypothesis. According to Hair et al. (1998), to do the factor discovery analysis, it was necessary to collect data with a sample size of at least 5 samples per 1 observed variable. According to this standard, the required sample size was n = 125, with 25 observed variables. However, to ensure reliability and obtain the necessary number of valid votes, the study surveyed of tourists (n=300), who have been using tourism mobile applications, by using a questionnaire.

3.2. Data analysis

All the collected data were processed by SPSS 23.0 software using analytical techniques such as Cronbach's Alpha coefficient test and exploratory factor analysis to evaluate the reliability and value of the scales in the model. Next, the SEM linear structural modeling method was used to check the suitability of the research model compared with the actual collected data and to test the proposed hypotheses.

Regarding the scale of research concepts in the model, the authors had built based on results of document research combined with qualitative research. The scale was implemented including twenty observed variables for seven dependent variables and five observed variables for the independent variable (Appendix 1).

4. Results and discussion

This study used primary data gathered from respondents using questionnaire survey and collected in Vietnam from July to December 2019. The items and scales for the questionnaire were adapted from the research results of Venkatesh et al. (2003) and Venkatesh et al. (2012). Based on the sample size calculation of Bolen (1989), the sample size must have at least five observations per estimator (ratio 5:1); total measurement variables in the study are 36, so the minimum sample size is 180. However, the larger the sample size, the higher the reliability of the study. Thus, in this study, a total of 650 questionnaires were distributed but 630 questionnaires were filled and returned. 300 questionnaires were valid for the statistical analysis (Table 1). Survey data was collected online via Facebook, and the respondents knew and used tourism mobile applications before, during or after their trip.

Table 1. Characteristic of respondents

Variable/Category	Frequency	Percentage (%)
Gender		
Male	268	43,4
Female	349	56,6
Total	**617**	**100**
Highest education		
High school	69	11,2
Intermediate degree	42	6,8
College degree	26	4,2
Bachelor degree	131	21,2
Master degree	295	47,8
Others	54	8,8
Total	**617**	**100**
Expenditure for travel (VND)		
Less than 5 million	81	13,1
From 5 to 10 million	109	17,7
From 10 to 15 million	138	22,4
From 15 to 20 million	106	17,2
Over 20 million	183	29,7
Total	**617**	**100**

4.1. Reliability testing and exploratory factor analysis (EFA)

The results of Cronbach's Alpha test shown that the concepts in the scale meet the requirements for reliability. Specifically, each scale has Cronbach's Alpha coefficient greater than 0.6; and if you removed any observed variables in this scale, the alpha coefficient would decrease. The correlation coefficients of all variables were greater than 0.3. Therefore, all variables were retained for EFA analysis.

The results of the EFA analysis (Table 3) shown that the observed variables were grouped into 9 factors and the scales were consistent with market research data (KMO = 0.807 > 0.6 and Bartlett's sig = 0.000), with total variance extracted reached 59.304%. The factor loading weights of the observed variables were all greater than 0.5. Therefore, the observed variables were retained for the confirmatory factor analysis (CFA) analyses.

Table 2. Exploratory factor analysis results

	Factors								
	EE	PE	HM	UB	HA	BI	FC	SI	PV
EE4	.800								
EE2	.796								
EE3	.795								
EE1	.617								
EE5	.583								
PE2		.779							
PE4		.755							
PE3		.746							
PE1		.734							
PE5		.503							
HM2			.886						
HM4			.849						
HM3			.801						
HM1			.675						
UB2				.873					
UB3				.806					
UB1				.759					
UB4				.752					
HA2					.891				
HA1					.849				
HA3					.794				
HA4					.613				
BI3						.794			
BI1						.690			
BI4						.684			
BI2						.676			
FC3							.811		
FC1							.743		
FC4							.672		
FC2							.664		
SI2								.863	
SI1								.801	

SI3								.800	
PV2									.821
PV1									.718
PV3									.678

4.2. Confirmatory factor analysis (CFA)

Performing CFA using AMOS, the results shown that the scales were consistent with the research market data, which yielded the following values: CMIN/Df = 2,663 (<3); AGFI=0.864; IFI = 0.913, TLI = 0.901; CFI = 0.913; RMSEA = 0.052(<0.08). There was no correlation between measurement errors so unidirectional was achieved. The combined reliability (CR) values were all greater than 0.8, so the scales were reliable. The normalized weights were more than 0.5 and the unnormalized weights were all statistically significant (P<0.05), so the observed variables had convergent values. The combined reliability and extracted variance were both satisfactory (>0.5). The results in Table 4 shown that the extracted variance value of the scales was larger than the square of the correlation coefficient between the corresponding concepts, so the components of the scales reached discriminant value.

Table 3. Discriminant validity of constructs

	EE	**PE**	**HM**	**UB**	**HA**	**BI**	**FC**	**SI**	**PV**
EE	**0.724**								
PE	0.219	**0.716**							
HM	0.116	0.104	**0.806**						
UB	0.024	0.018	0.071	**0.800**					
HA	0.202	0.379	0.116	0.378	**0.807**				
BI	0.310	0.341	0.174	0.042	0.405	**0.721**			
FC	0.036	0.089	0.041	0.082	0.089	0.093	**0.722**		
SI	0.353	0.214	0.133	0.014	0.190	0.327	0.022	**0.829**	
PV	0.210	0.201	0.053	0.036	0.271	0.421	0.203	0.258	**0.743**

4.3. Structural model analyses

The initial SEM analysis of structural model results shown that the model fitted the market data quite well, in which the Chi-square statistical value reached 1500.25 with df=563 (p=000); Chi-square/df=2,964 (<3) index. Other conformity measures were on the standard level, such as CFI=0,912 (>0.9); GFI=0.885 (>0.8); TLI=0.901 (>0.9); RMSEA=0.052 (<0.08).

After removing, respectively, the relationships were not statistically significant (p>0.05) in the relationship between FC and BI, FC and UB, the model was significantly improved. The final test model was shown in Figure 3. The final SEM results shown that the SEM model fits the market data because the Chi-square statistical value of the model was 1219,560 with df=441 (p=000), Chi-square/df=2,765 (<3); CFI=0.919 (>0.9); GFI=0.894 (>0.8); TLI=0.901 (>0.9); RMSEA=0.054 (<0.08).

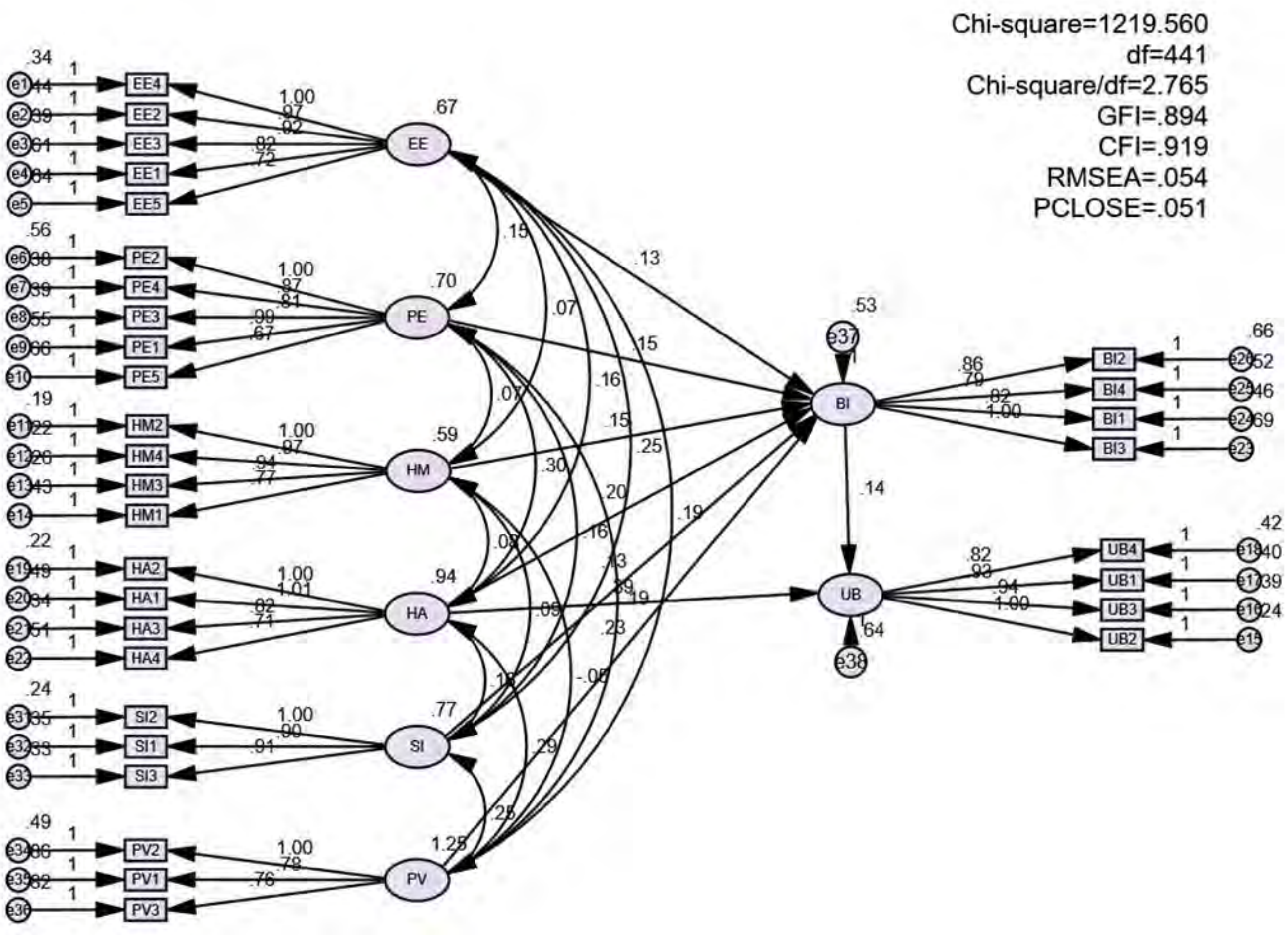

Figure 2. Results of the structural model

4.4. Hypotheses testing results and moderation effect analysis

The process of SEM analysis of the structural model, evaluating the overall fit of the model, both H5a and H5b were not supported, as FC (β = -0.0468, $p > 0.05$) and FC (β = 0.0215, $p > 0.05$) did not play a significant role in influencing intention to use and use behavioral of tourism mobile applications. The theoretical model had 8 accepted hypotheses, the specific results were presented in Table 5 below.

Table 4. Summary of test results for the structural model

Hypothesis	Paths	Standardized Path Coefficient	P-value	Significance level
H1	Performance expectancy → Behavioral intention to use	0,130	0,003	*Significant*
H2	Effort expectancy → Behavioral intention to use	0,150	0,010	*Significant*
H3	Social influence → Behavioral intention to use	0,125	0,008	*Significant*
H4	Price value → Behavioral intention to use	0,160	0,000	*Significant*
H5a	Facilitation conditions → Behavioral intention to use	- 0.0468	0,617	*Not significant*
H5b	Facilitation conditions → Use behavioral	0.0215	0,823	*Not significant*

H6	Hedonic motivation → Behavioral intention to use	0,124	0,003	*Significant*
H7a	Habit → Behavioral intention to use	0,215	0,000	*Significant*
H7b	Habit → Use behavioral	0,430	0,000	*Significant*
H8	Behavioral Intention to use → Use behavioral	0,140	0,003	*Significant*

To investigate the moderating effects of gender, age and experience on all the paths in the research model, this study applied the Bootstrapping technique, which is a popular method recently, by Baron & Kenny (1985). The results shown that the gender did not moderate all the paths ($p>0.05$). Age had a moderating role in the relationships of Price value → Behavioral intention to use, and Habit → Behavioral intention to use, with $p=0.04$ and $p=0,000$ respectively. In terms of user experience, this factor moderated the relationship between Hedonic motivation → Behavioral intention to use, Habit → Behavioral intention to use and Price value → Behavioral intention to use ($p=0.000 < 0.05$)

5. Conclusion

Tourism mobile applications is growing and gradually becoming a trend in the field of tourism. It opens up many opportunities for tourists and enterprises in tourism sector as well as application developers. Because mobile applications have only developed in recent years, there were not many studies on user's behavioral intentions to use and use behavioral, especially in the context of Vietnam. The results of this study contribute to existing literature on technology user behavioral in tourism in Vietnam and in the world.

The study proved that the factors affecting behavioral intention to use and use behavior, including price value, habit, performance expectancy, social influence, hedonic motivation, and effort expectancy (corresponding to the level of impact from high to low); and two factors affecting the behavioral of using tourism mobile apps, which are habit and users' intention to use. This result was consistent with many previous studies in the field of mobile apps, such as the study of Gupta & Dogra, (2017); Gupta et al. (2018); Prasanta & Sivakumar (2019); Pedro Palos-Sanchez et al. (2019). However, the facilitating conditions factor did not affect the intention and behavioral of tourists to use tourism mobile apps. This could be explained that when tourists had the necessary resources and supports, it did not mean that they intended to use mobile applications, this time there might be other devices to use the application with higher conveniences such as better screens, more powerful processors, and better features than mobile devices (Pedro R. Palos-Sanchez et al., 2019). From the research results, some solutions are proposed to attract tourists' intention to use tourism mobile applications. In particular, due to the impact of the Covid-19 pandemic, the application is a tool to help increase tourists' intentions to travel and be more effective in management. The solutions are presented in order of priority as follows:

In terms of price value: To increase tourists' intention to use, mobile application developers and enterprises in tourism sector need to pay attention to advertising strategies. Mobile applications should be designed in the direction of saving prices, encouraging tourists to use services on applications to receive discounts, or enjoy preferential and more economical prices. It is necessary to implement regular promotions to attract tourists. In addition, the program to accumulate points to reduce prices when booking services on applications are also a way to attract tourists to continue using.

Regarding tourist habit: It is necessary to encourage tourists to use tourism mobile applications regularly as a habit based on providing differentiated services, such as more incentives, higher discounts, or give the service with trial, etc. This will make a strong impression when used, leading to more frequent use. To help tourists have a comprehensive view of tourism services, the content of applications should be clear through articles, illustrations, and videos introducing tourism services.

About performance expectations: Enterprises need to evaluate and communicate about the advantages and expected results when using tourism mobile applications compared to previous technologies and traditional services. The better the service, the more benefits it brings, the higher the intention to use it (Susanto et al., 2016). Therefore, in order to increase tourists' intention to use, applications developers need to develop the services with more convenient new features, especially high-speed and stable access to help tourists perform all related tasks faster, more efficiently, and save time. Enterprises can provide package travel services, or attractive promotional packages when booking services directly on the application, and even link different services such as payment services, e-wallets, check-in, etc.

In terms of social influence: Applications should be designed with features so that users can invite friends to use or share travel experiences. Facebook, Zalo, or Instagram are the most popular social networking applications, tourism mobile apps should have the function to integrate sharing information to these sites. Currently, the Covid-19 pandemic is the cause of many impacts on tourists, so the integration of tourism mobile applications with websites, applications for health management, epidemiology, accommodation is necessary and creates more efficiency in management. In addition, it is necessary to conduct regular user exploration surveys to have appropriate innovation directions and create the spread of good information in the user community.

Factors related to hedonic motivation: Human nature has always enjoyed the fun. This is also the driving force that motivates people to perform a particular behavioral. For tourists who use tourism mobile applications are no exception. In order to increase the number of tourists to use, enterprises need to design applications content in a way that creates joy for users. Some special ways can be used flexibly such as combining entertainment elements, which are interactive games on applications, add background music for interactive items, Flash icons, or fun animations, design the feature to accumulate points, etc. To increase tourists' interest in tourism services and destinations on tourism mobile applications, or even more, application developers can incorporate virtual reality (VR) to give tourists a more realistic view of services and destinations.

Effort expectancy: In reality, an application with useful functions and easy to use will easily attract users. Enterprises need to design interfaces, navigation systems, and menus of simple, easy-to-download apps and clear and easy-to-understand instructions. On applications, it is advisable to integrate a manual function and solve common errors in writing. Or you can apply chatboxes based on artificial intelligence (AI) for the most convenient user guidance. For functions and occasional errors, a call center link is required to help tourists receive timely instructions.

Additionally, the results of this study demonstrated the direct effect of behavioral intention to use tourism mobile application on its actual use behavior. It was believed that behavioral intentions to use tourism application was the strongest predictor of actual use behavior. It means that greater the intentions to use tourism mobile application the higher is the probability to actually use of the apps for tourism purpose. Therefore, the developers and managers should try to include more utilitarian features and ensure privacy of the users. Because once users feel secured which further would strengthen the tourists' intentions to use tourism application.

6. Appendix

Appendix A. Measurement items and reliability of the scales

Constructs	Indicators	Scale items	Corrected item – Total correlation	Cronbach's alpha if item deleted	Cronbach's alpha
Performance expectancy (PE)	**PE01**	I find tourism mobile applications useful for searching/booking tourism services	0,673	0,790	0.834
	PE02	I believe the tourism mobile applications makes it easy for me to find information/book tourism services	0,672	0,791	
	PE03	I can search information/book tourism services faster on mobile application than on web or other traditional service	0,655	0,797	
	PE04	Using a mobile applications helps me search for tourist information more quickly	0,679	0,790	
	PE05	Information on tourism mobile applications is easier to access and search than other travel guides	0,511	0,834	
Effort expectancy (EE)	**EE01**	I find tourism mobile apps easy to download and install	0,586	0,825	
	EE02	I can easily understand how to operate applications (find information, order services…) on mobile devices	0,692	0,796	
	EE03	Tourism mobile apps provide (more) detailed information related to	0,692	0,797	

		tourism than traditional tourism guides			
	EE04	Tourism mobile apps are very convenient	0,729	0,786	
	EE05	I think using tourism mobile apps are simple to use	0,535	0,838	0.841
Facilitating conditions (FC)	**FC01**	I have the resources necessary to use mobile apps anytime and anywhere	0,628	0,762	
	FC02	Tourism mobile apps are compatible with traditional service	0,573	0,787	
	FC03	Tourism mobile services have many functions such as direct communication with suppliers, illustrated images, introductory videos about tourism products and services	0,702	0,724	
	FC04	I have the knowledge necessary to use tourism mobile apps for searching information and booking tourism services	0,611	0,770	0.810
Social influence (SI)	**SI01**	People who influence me (parents, siblings, colleague, etc.) think I should use tourism mobile apps	0,731	0,829	
	SI02	People who are important to me (parents, spouse/children) think that using tourism mobile apps helps me	0,778	0,785	
	SI03	I search for information or order through the app because many people use it too	0,734	0,826	0.868
Price value (PV)	**PV01**	It does not cost me anything to download and install the mobile app	0,591	0,734	

	PV02	I can search and compare services with good prices to choose from when using tourism mobile apps	0,680	0,634	
	PV03	I believe the tourism mobile app will suggest (recommend) places with good prices (convenience)	0,588	0,736	0.781
Hedonic motivation (HM)	**HM01**	When using the tourism mobile apps, I feel : Enjoyable	0,630	0,883	
	HM02	Exciting	0,794	0,820	
	HM03	Fun	0,743	0,840	
	HM04	Save the time	0,781	0,825	0.877
Habit (HA)	**HA01**	Using mobile apps while traveling has become my habit	0,740	0,846	
	HA02	Using mobile apps while traveling is what I do without thinking	0,810	0,813	
	HA03	In my opinion, using mobile apps while traveling is essential	0,757	0,837	
	HA04	I used to finding information or booking tourism services, etc.s through mobile application services	0,655	0,873	0.878
Intention to use (BI)	**BI01**	As long as I have a smartphone that can access the internet, I will use apps for finding tourist information	0,641	0,756	
	BI02	I love finding product information from mobile apps, I will definitely continue to use them in the future	0,613	0,767	
	BI03	I am going to continue using tourism mobile apps in the future	0,646	0,754	0.809

	BI04	I am going to continue to use tourism mobile apps regularly	0,618	0,766	
Usage behavioral (UB)	**The frequency of using tourism mobile apps:**				
	UB01	Rarely (less than 2 times per month)	0,715	0,848	0.876
	UB02	Occasionally (2-5 times per month)	0,788	0,818	
	UB03	Regularly (from 5-10 times per month)	0,739	0,838	
	UB04	Regularly (more than 10 times per month)	0,689	0,857	

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YOUTUBE AUDIENCES' PERCEPTION OF OVER-TOURISM: A QUALITATIVE CONTENT ANALYSIS WITH LEXIMANCER

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ABSTRACT

As a negative side effect of mass tourism, over-tourism nowadays is a concerning phenomenon in many destinations worldwide that necessitates immediate actions by DMOs. From a theoretical standpoint, over-tourism is a multifaceted phenomenon that is constantly evolving and requires relevant methodological and theoretical approaches for further elaboration and adaptation. This study examined 4463 textual comments extracted from 20 over-tourism-related YouTube clips to examine how YouTube viewers perceive and respond to this issue. Using content analysis techniques with the assistance of Leximancer software, we found that YouTube audiences' perceptions and responses towards over-tourism concentrated on 14 principal themes. Our empirical findings provide implications for both tourism research and destination management.

Keywords: Over tourism, Content analysis, User-generated-contents, YouTube, Leximancer.

1. Introduction

For decades, global tourism has grown at a rapid pace. International tourist arrivals surpassed one billion U.S. dollars in 2012, and without the impact of the Covid-19 pandemic, this figure could reach nearly double by 2030 (UNWTO, 2017). Along with this unprecedented growth, the issue of "Over-tourism" has received extensive attention in recent years. Over-tourism is, in fact, not a new concept in tourism literature, as various similar concepts for managing visitor numbers and resources at tourism destinations have been discussed since the 1970s (Kuss & Morgan, 1980; Sinden, 1975; Doxey, 1975 cited in Phi, 2020). However, it affects a broader range of destinations in the modern context and requires more profound investigation (Milano, Novelli, & Cheer, 2019; Phi, 2020) of novel approaches and methods.

YouTube is the most popular platform for travel vlogs, and travel vlogs are also the most frequently seen type of video on the site (Henderson, 2018). During the vacation or after returning home from their journey, tourists can use YouTube to share travel-related information, personal experiences, and opinions (Kang and Schuett, 2013; Xiang and Gretzel, 2010). Unlike other social media platforms, YouTube enables viewers to see, hear, and feel a destination via video clips rather than scanning photos. Additionally, it allows viewers to comment on these clips. These communications are referred to as YouTube user-generated content (UGC), and they are viewed as a more neutral and trustworthy source of information for travel planning. YouTube user-generated content can significantly influence future travelers and shape new consumption trends. The empirical findings obtained from YouTube user comments may shed light on emerging social phenomena and tourism trends (Yu et al., 2019; Wen et al., 2019). Rather than conducting face-to-face interviews, which may skew results due to the researcher's presence, analyzing online reviews and comments can be especially helpful for studying sensitive subjects that people may be reluctant to express their opinions (Yu et al., 2019).

With these advantages, this study also utilizes comments extracted from over-tourism-related YouTube clips as a data source to examine YouTube viewers' perceptions and responses towards over-tourism. Our purpose aims at exploring the fundamental perspectives of contemporary over-tourism to open up discussions on future research directions and practical actions.

2. Literature review

Over-tourism is a buzzword, but it is not a new concept. It is a complex phenomenon related to a place's liveability, residents' well-being, tourist experience, and the extent to which stakeholders have direct or indirect involvement in tourism (Milano, Novelli, & Cheer, 2019). Indeed, the impacts of tourism and dependence on it by local communities have been widely examined since the 1970s by Pizam (1978), Boissevain (1979), Butler (1980), and O'Reilly (1986), collectively questioning the limits to tourism growth and destination carrying capacities. Without explicitly mentioning over-tourism, numerous previous theories and conceptualizations have described the disruptive phenomena that stem from tourism, most prominently opposition that arises between residents and tourists (Pizam, 1978), the tourism product life cycle, and destination decline (Butler, 1980), and tourist carrying capacity (O'Reilly, 1986) among others.

Over-tourism is defined differently in tourism literature. Table 1 introduces some of the definitions of over-tourism presented in the literature. Koens et al. (2018) suggest that over-tourism primarily arose from media discourses without a solid theoretical foundation. This concept can be considered "blurred" because it is not well defined, lacks clarity, and is challenging to make operational. That is why over-tourism remains open to multiple interpretations. However, a common point from these definitions is the excessive number of tourists.

Table 1. Definitions of over-tourism in the literature.

Source	Definition
UNWTO (2018)	A situation in which the impact of tourism on a destination, or parts thereof, excessively influences the perceived quality of life of citizens and/or visitors in a negative way.
Peeters et al. (2018)	Over-tourism describes the situation in which the impact of tourism, at certain times and in certain locations, exceeds physical, ecological, social, economic, psychological, and/or political capacity thresholds
Goodwin (2017)	Over-tourism is about destinations where hosts or guests, locals or visitors, feel that there are too many visitors and that the quality of life in the area or the quality of the experience has deteriorated unacceptably.
Milano et al. (2019)	The excessive growth of visitors leading to overcrowding in areas where residents suffer the consequences of temporary and seasonal tourism peaks, which have caused permanent changes to their lifestyles, denied access to amenities and damaged their general well-being.
Cheung and Li (2019)	Over-tourism is a massive and uncoordinated influx of tourists to popular destinations

Milano, Novelli, & Cheer (2019) posit that the causes of over-tourism are rooted in excessive and poorly planned tourism growth, as well as rising demand for mobility, leisure, and extraordinary experiences. All of these variables concurrently contribute to the concentration and overcrowding of visitors in some popular tourist destinations. Therefore, they claim that over-tourism should be associated with both the number of tourists and the management of local resources. Once the balance between optimal and excessive development is breached, over-tourism appears and negatively impacts destinations and their resident communities. Similarly, by the content analysis of 202 over-tourism-related news articles, Phi (2020) found that over-tourism is a multifaceted phenomenon comprising four inter-related themes of tourists, locals, cities, and the travel industry. Over-tourism is further reinforced by modern phenomena such as neoliberal urban change processes, new mobility paradigms, an emerging resurgence of tourism-related urban social movements alongside social unrest driven by media hype, mainstreaming the use of the term at a global level (Milano, Novelli, & Cheer, 2019).

The main consequences of over-tourism are alienation of residents, a worsening of the tourist experience by visitors, an overload of infrastructure, damage to the natural environment, and a threat to culture and heritage (Xiang, Z., Magnini, V. P., & Fesenmaier, D. R., 2015; Szromek, A. R et al., 2019). These consequences lead to the birth of social campaigns against tourism growth, the emergent discontent around overcrowding, and the protests against the massive surge in Chinese tourists in numerous destinations worldwide (Milano, Novelli, & Cheer, 2019).

Suddenly, the COVID-19 pandemic struck the entire world. Calls for curbing tourism growth have become true at the expense of the economic downturn. Over-tourism abruptly transforms into under-tourism. Many people have been laid off. Tourism companies must adapt and innovate their business models, but there is still no light at the end of the tunnel. COVID-19 demonstrates that using a brute solution to stop over-tourism can only result in another social crisis. Hence, before the recovery begins and destinations return to their previous overcrowding condition, the understanding of this phenomenon should be expanded from different perspectives with new theoretical and methodological approaches.

3. Methodology

3.1. Data collection

Following procedures in Wen et al. (2019) and Yu, Wen, & Yang (2020), YouTube video clips were found using the keywords of "over-tourism" and "mass tourism." After manual refining based on their content relevance and popularity (number of views), 20 most appropriate clips were finally chosen. They were published on YouTube from 2015 to 2021 and received 990,048 views in total as of 8 April 2021. Next, 4463 comments were extracted and pre-processed, forming a text corpus of 154,094 words in total for further analysis.

3.2. Data analysis method

Content analysis of textual analysis techniques was applied to understand how over-tourism is described, perceived, and experienced. Using content analysis, researchers can quantify and analyze the presence, meanings, and relationships of certain words, themes, or concepts. Researchers can then make inferences about the messages within the texts, the writer(s), the audience, and even the culture and time surrounding the text (Hsieh HF & Shannon SE, 2005).

Leximancer, a textual processing software, was used to analyze the whole data collection. Leximancer uses different algorithms to analyze the meanings within text passages (Indulska, Hovorka, & Recker, 2011) and generates conceptual maps by clustering concepts according to the relationships between them (Stepchenkova & Morrison, 2006). The creation of visual concept maps and statistical outputs aided in the understanding and comprehension of language (Tseng, C., Wu et al., 2015). Leximancer also allows the researcher to adjust the theme size using a slider, where the slider can shift from a larger scale, resulting in broader themes to the smaller scale, which shows more focused themes.

4. Results and discussion

All collected comments were uploaded to Leximancer. Based on word occurrence and co-occurrence frequency, the software established concepts grounded in the data and weighted the present concepts in a co-occurrence matrix based on their frequencies. According to co-occurrence statistics, a thesaurus was then constructed for each concept of words and phrases highly relevant to the concept within the text, creating semantic meaning around the concept. Both explicit (i.e., directly stated words and phrases) and implicit (i.e., implied, but not directly stated in a set of predefined terms) concepts resulted (Harwood et al., 2015). Themes were extracted using these statistical data to recognize related concepts and automatically named for the most prominent concept (in terms of semantic significance and/or interconnectivity with other concepts) instead of the most frequently occurring concept (Harwood et al., 2015). A "concept map" portraying themes, underlying concepts, and interrelationships was constructed (Campbell, Pitt, Parent, & Berthon, 2011). A table detailing the step-by-step data analysis processes is included (see Table 2).

Table 2. Step-by-step description of Leximancer theme analysis and refinement process

Analysis stage	Analysis description	Action
Semantic extraction	The initial scan of the text corpus is conducted, which identifies concept seeds by generating occurrence and co-occurrence frequencies for words and phrases in the text corpus	• 106 word-like concepts were extracted
Concept cleaning	Researchers review the list of concept seeds. Concepts irrelevant to research questions are removed. Concepts with duplicate and similar meanings are merged under the most intuitive and relevant concept	• 40 concepts were removed and/or merged
Relational Extraction	The corpus is then scanned again based on the cleaned concept list to statistically identify concept counts, concept co-occurrence counts, and relative concept co-occurrence frequency. These statistics allow for mapping concepts in relation to one another and identifying themes	• Analysis of 66 remaining concepts conducted
Optimizing Theme Sensitivity	The theme sensitivity (i.e., size level) of the concept map is changed to increase or decrease the number of themes in the concept map. Based on the literature, researchers determine the appropriate level that best depicts the phenomenon.	• At 38%, 14 primary themes emerged.

4.1. Key themes and concepts of over-tourism

The concept map at 38% theme size (Figure.1) provided 14 key themes (colored spheres) of over-tourism in the perception of YouTube audience, which are Environment, Tourists, Locals, Social media, Destination, Government, Chinese, Planet, Changes, Poor experience, Education, Crowed, Climate, Damage. The small gray dots in each colored sphere are related concepts (i.e., the most pertinent terms in the corpus) in that theme and are presented in Table 3. These concepts are clustered according to the frequency and co-concurrence of words. The more the concepts placed within a theme, the richer the meaning the theme expresses. The hits accordingly reflected the importance of each theme (Wu et al., 2014). We will discuss the meaning of each theme, the key concepts it covers, and the inter-relationships among them.

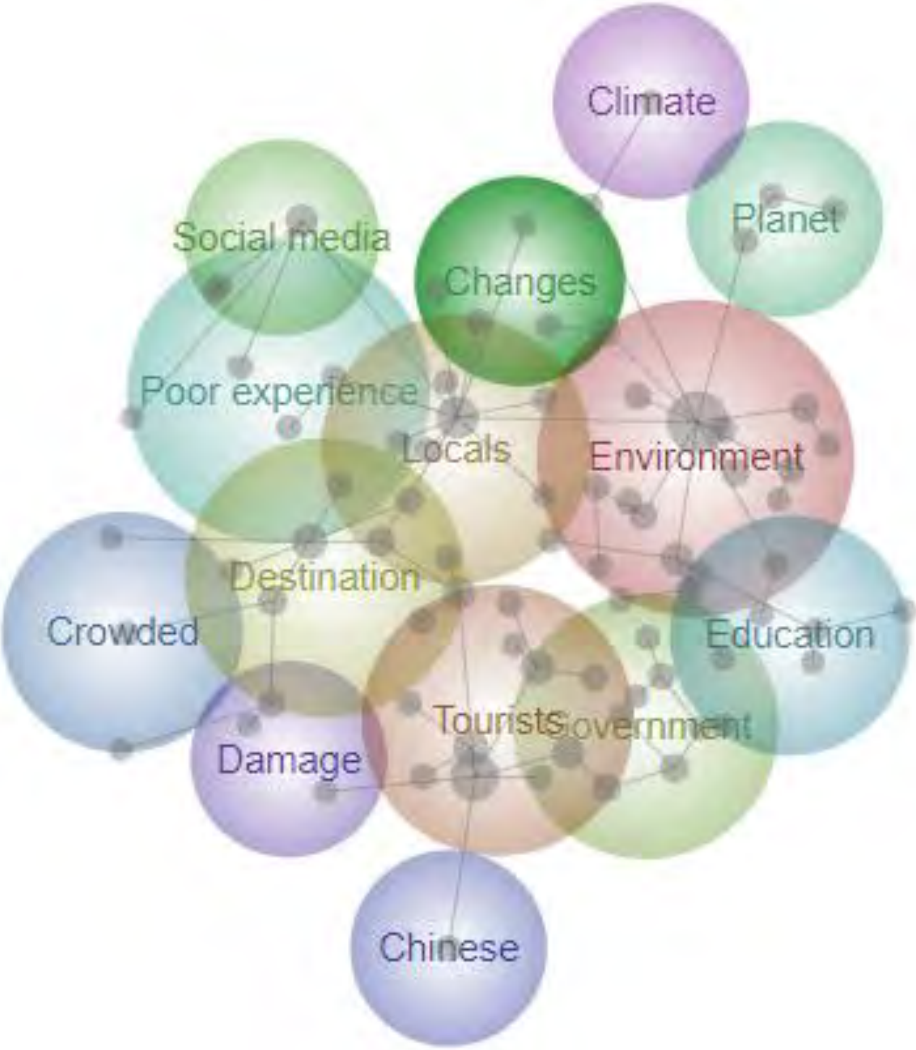

Figure 1. The concept map of over-tourism

4.2. Discussion

Environment was the most discussed theme of "over-tourism" in YouTube comments, with 1835 hits and 15 related concepts such as "environment, pollution, beach, island, nature, water, waste, ocean, recycling, garbage, plastic, area, earth, sad, protect." It is evident that after watching over-tourism-related clips, viewers' immediate responses are anxiety and regret about environmental issues. The Environment is also inextricably linked to **"Changes"** (153 hits) in the lives of the **"Locals"** (1015 hits), the **"Planet"** (164 hits), and **"Climate**" (52 hits). This group of topics can be explained as the top concerns of YouTube viewers regarding the problem of "over-tourism." According to YouTube reviewers, over-tourism is no longer a local issue but has spread to the entire world, resulting in a common consequence of climate change and affecting the lives of humans.

Table 3. Key themes and concepts of over-tourism

Themes	Hits	Most related concepts
Environment	1835	environment, pollution, beach, island, nature, water, waste, ocean, recycling, garbage, plastic, area, earth, sad, protect.
Tourists	1468	traveler, tourist, disrespectful, everywhere, garbage, plastic, overcrowded, touristic
Locals	1015	people, residents, touristic, ignorant, live, noises, humans, greed, poverty, life

Social media	653	Instagram, social-media
Destination	621	city, country, place, destination, area, tourism, touristic, mass, over-tourism, life, economy
Government	256	authorities, rules, restrictions, management, tax, regulation, tourism, economy
Chinese	216	Chinese
Planet	164	world, planet, nature
Crowded	171	full, everywhere, overcrowded
Change	153	changes, things, real, life
Experience	103	experience, travel, bad, trip, problem, visit
Education	56	training, recycling, sustainable, respect, care, environment
Damage	52	life, ruined, damage
Climate	52	climate

Tourists (1468 hits) was the second most prevalent theme of over-tourism, involving the concepts of "traveler, tourist, disrespectful, everywhere, garbage, plastic, overcrowded, pay, and restrictions." This theme accuses the tremendous growth in tourist numbers in recent years as the primary reason for over-tourism. A closely related theme to the Tourists theme is Chinese (216 hits), which supports that Chinese tourists are a fast-growing dominant market share worldwide. This segment's overcrowding negatively affects other segments and creates a sense of discrimination in many places. As numerous studies (María-del-Mar et al., 2019; Capecchi et al.,2019) have demonstrated, this is a sensitive topic and a challenge for many European cities regarding tourist compatibility management. Apart from the crowding, various comments complained about tourists' destructive misbehavior when visiting a location, as illustrated by the direct link to Damage (52 hits).

Locals (1015 hits) is the third most dominant theme and encompasses the concepts of "people, resident, touristic, ignorant, live, noises, humans, greed, poverty, and life." This theme focuses on a variety of negative consequences for local residents who live in overcrowded tourism destinations. While most previous research has frequently identified locals as victims of over-tourism (Groundwater, 2018; Phi, 2020), in this study, locals are also blamed for their "indirect" responsibility for over-tourism. Numerous comments specifically criticize individuals who conduct business for personal gain and overuse local tourism resources, not to remind tourists to respect the native culture and environment. Other people acknowledge that excessive tourism is an unavoidable trade-off of economic development and poverty alleviation. This finding implies that YouTube viewers hold a more objective attitude in judging this social issue. At the same time, it demonstrates that harsh measures to halt tourism development should not be the solution.

Previous research has suggested that social networks and new electronic channels could accelerate the process of destination overcrowding. With 653 hits, ranking the fourth in terms of dominance, **Social media** appears to confirm that proposition. Social media in this study is listed as one of the primary causes of the over-tourism phenomena by YouTube viewers. Social media is mentioned in the comments under two aspects: the excessive communication of DMOs; and tourists' struggle for selfies to share photographs on social media platforms like Instagram rather than genuinely enjoying the destination's natural wonders and cultural heritage.

The next victim of over-tourism is the **Destination** itself, with 632 hits including the concepts "city, country, place, destination, chaos, mass, tourism, touristic, over-tourism, life, economy." Moreover, the direct effect associated with it is **Crowded** (171 hits). This relationship is entirely consistent with previous studies which highlighted the complexities of tourist pressure in the context of "crowding." Those studies have shown that perceptions of over-tourism destinations are related to visitor density (Nests, Nijkamp, & Van Leeuwen, 2012).

As discussed in the literature review, besides the rapid increase in visitor numbers, the cause of **over-tourism should also be associated with the management of local resources. Indeed,** the Government (265 hits) indicates that substantial responsibilities of cities and local authorities in tourism management and controlling the number of tourists have emerged from the corpus. The essence of this theme lies in the assumption that it is not the global travel industry's rapid expansion that creates over-tourism but rather "poor management." The collection of tourist taxes is the most recommended measure. This attitude of YouTube viewers toward the destination authorities entirely coincides with the research results of Phi (2020) and the argument of Milano et al. (2019).

In the end, the overcrowding, the antipathy of the local people, and the disappointing reality, which are different from what tourists saw on social media, have jointly worsened the Experience (103 hits) at the destination. In this perspective, tourists are not only the cause of over-tourism but also immediate victims. All stakeholders are both causes and victims of over-tourism if this problem is not recognized and addressed holistically and comprehensively.

In general, the YouTube audience's perception of this problem remains shallow, focusing on complaining and blaming others rather than proposing a solution. Education (including training, recycling, sustainability, respect, care, and the environment) has emerged as a call for sustainable tourism, but it has received only 52 hits. This fact demonstrates that promoting sustainable tourism development as an effective solution for over-tourism is still not widely adopted.

5. Conclusion

The study reveals several future research opportunities and managerial implications through a critical analysis of the YouTube comments. First of all, it has identified 14 core themes and 61 related concepts that emerged in the perception of YouTube viewers (primarily tourists and residents). In this way, it outlines a comprehensive overall picture of over-tourism, including causes, consequences, and solutions from the perspective of YouTube audiences. It also listed out some significant challenges and issues that need to be prioritized for further study before adopting management policies. The concept map in this study can be used as a guiding framework for studying over-tourism and anticipating the negative consequences associated with modern mass tourism. Next, it shows that a holistic approach that could balance stakeholders' interests is required for solving over-tourism. In this regard, sustainable tourism is a relevant approach and must be broadly communicated. Future research can uncover these hidden perceptions and integrate more diverse actors into sustainable tourism planning and development. Finally, it shows that YouTube user-generated content is a very rich source of information. The use of content analysis by Leximancer software could provide considerably comprehensive results.

While it has made significant contributions to over-tourism research and tourism destination management, this study has limitations. First, this research utilizes only English comments. A similar analysis using data sources from other languages may help create a fuller understanding of how people worldwide think of over-tourism. Second, because most of the clips appeared before the Covid-19 pandemic, its impact on the audience's attitudes has not been explored. Future studies should integrate more recent clips to get more insights into this issue.

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A COMPARISON OF MEDIA CHANNELS IN PANDEMIC WARNINGS AND THE CONSENT LEVELS OF VIETNAMESE YOUTHS IN IMPLEMENTING PREVENTIVE MEASURES DURING COVID-19

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ABSTRACT

Understanding the characteristics of media channels in health communication will considerably support optimising society's resources. During the pandemic outbreaks with the pervasive coverage of fake news, the governments should use appropriate media types to convey critical health information to the community. Therefore, analysing the effectiveness of media channels in warning disease will provide critical knowledge to aid in pandemic prevention, avoid the collapse of healthcare systems and reduce the risk of losing social control.

This study applied Friedman's ANOVA to compare different media types in terms of *'the frequency of receiving disease warnings from'* and *'the usefulness in warning disease'* among 4,648 Vietnamese youths. Moreover, their *'agreement to implement the preventive measures', 'travel plan adaptations', 'trust in the Government management'* after receiving COVID-19 warnings were also explored. The results revealed that Short Message Service (from the Ministry of Health and other state agencies) and Television/Radio were the two channels frequently reached by young Vietnamese and had the highest usefulness assessments. Furthermore, youths received disease alerts most often from social networks, but this platform was not high-rated for usefulness. The Vietnamese government earned a considerably high trust level from young people, so they were willing to actively cancel their travel plans and adhere to preventive measures following disease warnings. Females had higher consent levels in complying with the health recommendations. Increasing the frequency of receiving disease alerts and the overall perception of the media usefulness were linked to a higher probability of adherence to preventive activities among Vietnamese youths. The findings suggest that managers should focus more on utilising relevant media types in pandemic preparedness and response.

Keywords: media channels; Vietnam; disease warnings; COVID-19; pandemic.

1. Introduction

Health communication was an essential component in promoting health-protective behaviours to the community (Tam *et al.*, 2021). However, the vast media penetration and the pervasive coverage of fake news negatively impacted people's health, financial, and psychological state. Moreover, numerous social resources were required to correct the health misinformation (Sommariva *et al.*, 2018; Mohamed-Azzam Zakout *et al.*, 2020; Walter *et al.*, 2020). Thus, the governments and health management organisations should develop effective communication strategies to deliver accurate, useful health messages and achieve desired goals (e.g. rising risk awareness, promoting healthy lifestyles, and empower people with evidence-based disease prevention). Furthermore, by using the communication/persuasion models to assess the effectiveness of communication strategies (McGuire, 1989), the researchers stated the important role of choosing relevant media channels to disseminate health knowledge (Garfin, Silver and Holman, 2020; Paek and Hove, 2020; Ratzan, Sommariva and Rauh, 2020). Specifically, media channels could facilitate health communication when utilised following adequate studies on their characteristics and the target audiences' preferences (Elder *et al.*, 2009).

There were different media types used to spread information and motivate the public to adopt healthy behaviours. For instance, mass media (e.g. television, radio, newspapers, magazines, outdoor and transit advertising, direct mail, and websites) could help the population improve sexual health, reduce sedentary behaviour, and lead to smoking cessation (Stead *et al.*, 2019). In addition, daily newspapers were one of the most influential communication forms for providing lifestyle diseases preventions (Augustine and Harikumar, 2017). Social media offered the possibility of reaching numerous people with critical health information and customising messages to suit viewers' literacy levels and cultural orientations (Wright, 2020). In countries where older mobile phone technology was still the standard, Short Message Service was utilised extensively in health interventions (Toda *et al.*, 2016). Especially, health communication processes might be informal through word-of-mouth (WOM) conversations. WOM based on subjective patients' satisfaction could directly influence the healthcare provider assessments and treatment selection (Martin, 2017). In general, various media types might be used to convey the messages, but the most appropriate channels must be determined by considering the audience's perception of media usefulness and frequency of media exposure (Pinkleton and Austin, 2002).

Social scientists stressed the relationships between media usage and audiences' behavioural change to evaluate health communication initiatives. Furthermore, social and behaviour change communication (SBCC) highlighted the requirements to know which media channels were appropriate for maximising disease warnings' reach and effectiveness (Wikipedia, 2020). As technology advanced, communication channels became more diverse. For example, traditional and interpersonal channels were no longer the only news sources, whereas online or social media, health apps gained more favoured. Consequently, people could rely on several sources as the number of health media platforms enormously expanded. In addition, using various channels enhanced people's exposure to health information and helped them recall those messages more properly (Snyder, 2007). Therefore, the scholars emphasised health media exposure measurements to predict health cognition and behavioural interventions (Romantan *et al.*, 2008). However, according to selective exposure theories, personal characteristics influence each media channel's usage and outcomes (Stroud, 2014). Thus, in the context of health interventions delivered through the media channels, there were reasonable requirements for knowing the receivers' perceptions of media usefulness besides measuring their exposure to health information or the amount of time using each media channel (Pinkleton and Austin, 2002). The usefulness of a media channel in health communication was related to the receivers' judgement on its credibility, feasibility and acceptability to an optimised behavioural intervention. Previous research stated that using appropriate media channels with high usefulness ratings for reacting to a health crisis was critical for reducing the risk of losing social control (Jang and Baek, 2019).

Vietnam is a country in Southeast Asia with a moderate adaptation potential to pandemics, and it was 50th out of 195 economies in the Global Health Security Index list (Johns Hopkins Center for Health Security, 2020; X. T. T. Le *et al.*, 2020). Thanks to the efficient communication strategies that corresponded to the pandemic progression milestones, Vietnam could minimise the damage caused by the COVID-19 (Tran *et al.*, 2020). However, the new strains of Coronavirus have continued to be one of the greatest threats to humanity, causing significant casualties (more than 4.55 million deaths worldwide and over 20.5 thousand deaths in Vietnam from COVID-19) and creating global socio-economic crises. Therefore, analysing the effectiveness of media channels in warning disease will provide essential insights to optimise pandemic prevention resources (Tang and Zou, 2020). Consequently, the population would be empowered to anticipate the problems earlier and implement preventive actions appropriately (Rimal and Lapinski, 2009).

- The main goals of this study were to explore:
- The frequencies Vietnamese young people received disease warnings from different media channels;
- The usefulness levels of different media channels in warning diseases;
- The trust of Vietnamese in the government's management in case of the COVID-19 outbreak;

- The relationship between frequencies of receiving warnings, the usefulness of media channels and behavioural adaptations after receiving COVID-19 alerts.

2. Research method

2.1. Data collection and questionnaire

Young people were the target population of this study because they were the most vulnerable group regarding the pandemic's social and economic impact (International Labour Organization, 2020). This study used data collected from a survey administered randomly to youths in Vietnam. The sampling process was carried out through 2020. The participants were explicitly informed about this research's purpose, and they could be assured of anonymity. There were proposed media channels to analyse, including Short Message Service from the Ministry of Health and other state agencies (SMS), television/radio, printed media (newspaper, magazine, brochures…), social networks, websites of state agencies, websites of non-state agencies, WOM conversations, bulletin boards on the streets, health apps. All respondents answered the questions concerning:

- *Sociodemographic characteristics* (age, gender, housing type, monthly expenditure…).
- *The frequencies of receiving disease warnings through each media channel*. The respondents chose from 1='Almost never' to 5= 'Always (practically every day)'.
- *The usefulness level of media channels in warning disease*. The respondents answered the question by rating from 1=' Extremely useless' to 5='Extremely useful'.
- *Travel plan adaptions after receiving COVID-19 warnings*. The participants chose between options: 'Cancel', 'Postpone', 'Not postpone, but change the route/destination/transport mode', 'Not change' for some proposed travel plans including Going to study/workplace, Shopping, Hanging-out, Traveling type 1 (go out of the current city because there were pandemic alerts in that city), Traveling type 2 (go to the city where there were pandemic alerts in that city).
- *The trust level in the government's management before and during the COVID-19 outbreak*. Respondents chose between levels: 1='Not trust at all' to 5='Completely trust'.
- *Agreement level to implement prevention actions*. The respondents answered by choosing from 1='Totally not agree' to 5= 'Totally agree' for ten proposed actions (*Report family medical history honestly (including self-report); Report your current health status honestly; Go into mandatory isolation/quarantine as directed by the public health authority if you have symptoms; Practice physical distancing and stay at home if you have symptoms; Take recommended measures to prevent further transmission of the virus to society; Spend more money on purchasing medical equipment to prevent the pandemic; Spend more money on online services (home delivery, online shopping...); Spend money to get vaccinated; Donate to the pandemic prevention fund; Participate in pandemic prevention campaigns in the locality*). Finally, the overall agreement level was calculated by summing all those scores.

There were 4,648 sufficiently informative samples left for data analysis after removing the non-conforming responses.

2.2. Statistical analysis

Descriptive analysis was used to explore the characteristics of respondents. Paired-samples t-tests were applied to compare the trust levels in the government's management before and during the COVID-19 pandemic. Independent-sample t-tests were also carried out to examine the disparity in the trust levels between the two genders. Three questions (*'the frequencies of receiving disease warnings', 'the usefulness of channels in warning disease ',* and *'the agreement to implement the prevention activities'*) were measured by ordinal scales, so the authors used Friedman's ANOVA, a non-parametric tool, to test the hypothesis that there were no significant differences between mean ranks of proposed media channels. Finally, generalised linear modelling (GLM) was applied to predict the overall agreement level to implement the preventative measures given the set of independent variables, including social-demographic information and the respondent's usage of media channels to obtain disease warnings.

3. Results and discussion

3.1. Results

The sample included 4,648 young people with a mean age of 20.53 (from 18 to 26 years old), males accounted for 19.5%, and females accounted for 80.5%. More than 50% of them lived in rented rooms, and 36.4% lived with families in their private houses. The majority of respondents spent less than $200 per month, which was consistent with the socio-economic reality of Vietnam. After receiving the COVID-19 alert, most Vietnamese youths cancelled their travel plans, and 52.6% postponed their plans to go to studying/working locations (Table 1).

Table 1. Travel plan adjustments after receiving getting COVID-19 warnings (%).

Travel plan	Cancel	Postpone	Not postpone, but change the route/destination/transport mode	Not change
To work/study places	39.78	**52.62**	6.86	0.73
Go shopping	**62.78**	28.74	7.53	0.95
Hanging out	**71.86**	24.85	2.73	0.56
Travelling type 1	**78.25**	20.78	0.80	0.17
Travelling type 2	**81.52**	17.56	0.73	0.19

The results of the paired-samples t-tests revealed that Vietnamese youth's trust level in the government's management when the COVID-19 pandemic occurring was significantly higher than the period before the pandemic outbreak (4.64±.689 and 4.38±.784, respectively) with $t(4,647)=33.52$, $p<.05$. Although the trust level did not improve substantially, it indicated that the government's management in the prevention process against COVID-19 was evaluated more positively (Table 2).

Table 2. Difference between trust levels in the government's management before and during the COVID-19 period.

Difference between trust levels	Paired Differences Mean	S.D.	Std. Error Mean	95% C.I. of the Difference		t	df	p
				Lower	Upper			
During pandemic – Pre-pandemic	.264	.538	.008	.249	.280	33.52	4,647	.000

Before the pandemic occurred, the independent-samples t-test showed no significant difference in the trust level in the government's management between genders (p=0.26). However, the difference became statistically significant after the occurrence of COVID-19. Young men's trust level was significantly lower than young women's during the pandemic (Table 3).

Table 3. Trust level differences between the two genders.

Trust level difference	t	df	p	Mean Difference	Std. Error Difference	95% C.I. of the Difference	
						Lower	Upper
Pre-pandemic	1.12	1,346	.26	.03	.03	-.02	.09
During pandemic	-3.13	1,301	.00	-.08	.03	-.14	-.03

Friedman's ANOVA analysis, which was applied to compare the frequencies of receiving disease alerts from media channels, provided $\chi^2(8)=15,481$, $p<.05$. This result suggested there was at least one discrepancy exists between mean ranks (Table 4). Running post hoc test (Friedman's ANOVA analysis for each pair of communication channels) and performing Bonferroni adjustments to p-values (p=.011 x 24= .264), the results showed that the differences between the mean ranks of all pairs were statistically significant, except for one pair: 'SMS 'and 'television/radio'.

Table 4. Frequencies of receiving disease alerts.

Channel	Mean	Mean rank
Social network	4.89	6.85
SMS from the Ministry of Health and other state agencies	4.73	6.36
Television/Radio	4.58	6.15
Health apps	4.44	5.90
Word-of-mouth conversations	4.12	5.26
Website of state agencies	3.92	4.75
Website of non-state agencies	2.23	3.67
Bulletin boards on the streets	3.10	3.37
Printed media	2.51	2.68

In terms of the usefulness of media channels in warning diseases, Friedman's ANOVA analysis provided $\chi^2(8)=14{,}516$, $p<.05$, which revealed that there was at least one discrepancy exists between mean ranks (Table 5). Furthermore, the results of the post hoc test showed that the differences between the mean ranks of all pairs were statistically significant, except for two pairs: 'newspaper/magazines' and 'bulletin boards on the streets', 'social network' and 'health apps' ($p\cong1$).

Table 5. The usefulness of different channels in warning diseases.

Channel	Mean	Mean rank
SMS from the Ministry of Health and other state agencies	4.70	6.84
Television/Radio	4.56	6.47
Website of state agencies	3.57	6.16
Health apps	4.25	5.64
Social network	4.25	5.63
Printed media	3.57	3.94
Bulletin boards on the streets	3.53	3.81
Website of non-state agencies	3.32	3.44
Word-of-mouth conversations	3.21	3.07

Regarding the agreement of young Vietnamese to implement prevention activities, Friedman's ANOVA analysis provided $\chi^2(9)= 9{,}609$, $p<.05$, which means that there was at least one discrepancy exists between mean ranks (Table 6). The post hoc tests reported that the differences between the mean ranks of all pairs were statistically significant, except for six pairs: (A1, A2), (A1, A3), (A1, A4), (A2, A3), (A2, A4), (A3, A4) ($p\cong1$).

Table 6. Agreement levels to implement different pandemic prevention activities.

Code	Activity	Mean	Mean rank
A1	Report your current health status honestly	4.71	6.43
A2	Go into mandatory isolation/quarantine as directed by the public health authority if you have symptoms	4.69	6.36

Code	Activity	Mean	Mean rank
A3	Report your family medical history honestly (including yours)	4.69	6.33
A4	Take recommended measures to prevent further transmission of the virus to society	4.69	6.32
A5	Practice physical distancing and stay at home if you have symptoms	4.59	6.05
A6	Participate in pandemic prevention campaigns in the locality	4.44	5.29
A7	Spend money to get vaccinated	4.33	4.92
A8	Donate to the pandemic prevention fund	4.29	4.69
A9	Spend more money on purchasing medical equipment to prevent the pandemic	4.12	4.42
A10	Spend more money on online services (home delivery, online shopping...)	4.12	4.18

To investigate which factors significantly contributed to the overall agreement level to implement COVID-19 prevention activities, GLM analysis was performed with the seven predictors (age, gender, housing type, monthly spending, trust level in the government's management during pandemics, the total frequency of receiving disease warnings and the accumulated usefulness levels of proposed media channels). Among those predictors, only four variables had significant effects on the agreement level (Table 7). The interactions between variables were not statistically significant. Males have lower consent levels in implementing disease prevention measures than females. Increasing the total frequency of obtaining disease alerts and the overall usefulness of media channels were linked to a higher likelihood of undertaking prevention actions. It is worth noting that the trust level in the government's management was positively substantially associated with the overall agreement level to adherence to preventive measures.

Table 7. GLM predicting the likelihood of total agreement level to implement prevention activities

			95% Wald CI			
Parameter	B	SE B	LB	UB	Sig.	Exp(B)
Gender (Male)	-.86	.21	-1.27	-.46	.00	.42
Sum of frequencies of receiving disease warnings	.17	.08	.02	.32	.03	1.18
Sum of usefulness levels of proposed media channels	.32	.08	.16	.47	.00	1.37
Trust level in the government's management after receiving warnings	3.22	.12	2.98	3.45	.00	24.95

3.2. Discussion

One of the people's primary concerns was obtaining reliable health information, and the given messages must be relevant to the needs of different socio-economic and demographic groups (H. T. Le *et al.*, 2020). However, most health communication attempts were failed to engage people in healthy behaviours (Neuhauser and Kreps, 2003). The poor results of those initiatives required a further understanding of media channels' properties and comparing their effectiveness in delivering health information. Moreover, identifying the impact of media channels in influencing preventive behaviours is extremely important during pandemic crises. Therefore, this study investigated the exposure frequency, perceived usefulness in disease warnings of different media types and their relationships with adherence to preventive measures in Vietnam during the COVID-19.

Analysing 4,648 Vietnamese youths showed that they received disease alerts most frequently via three channels: social networks, SMS, and television/radio. In addition, young Vietnamese rated three channels

(SMS, television/radio, state agencies website) most beneficial for disseminating disease warnings. On the other hand, WOM conversation was the least helpful channel for disease warnings. The results emphasised the opportunity of official channels in motivating the youths to take precautionary measures. The first remarkable point was that young Vietnamese people received disease alerts most frequently from social networks, but this platform was not high-rated for usefulness. It could be explained by the fact that social networks were viral among young people in Vietnam, but these platforms had extensive coverage of fake news (Mheidly and Fares, 2020). Moreover, the Vietnamese government could not entirely monitor the online information sources, contributing to the trust level for social networks was not as high as the official channels. If the Law on Cyber Security (Law No. 24/2018/QH14) was applied more effectively in Vietnam, social media might gain more legitimacy in warning disease to the population. The second point was that young people rarely received diseases warnings through bulletin boards on the streets and newspapers/magazines. As a result, the press publishers and those responsible for installing bulletin boards must consider changing approaches (e.g. content, design, location, timing) to be more accessible to the youth community and avoid wastes.

Vietnamese youth had a high level of trust in the government's management. In particular, their trust level was even higher during the COVID-19 outbreak, demonstrating that pandemic prevention of Vietnam's government was in line with their expectations. Furthermore, young people provided good supports for the government to avoid the spread of COVID-19. For example, after receiving the COVID-19 warning, most young people cancelled unnecessary travel plans (hanging out, shopping) and postponed going to study/workplaces (Table 1). At the same time, they actively adhered to preventive measures (report health status and family medical history, go into mandatory isolation/quarantine if having symptoms, and take recommended measures to hinder the virus's spread to society). The previous study also supported this result, which showed a high adherence to preventive responses to COVID-19 among Vietnamese (Nguyen *et al.*, 2020).

Health communication was considered a non-pharmaceutical therapy through promoting healthy behavioural adjustments (Elder *et al.*, 2009). In pandemic outbreaks, the governments could use health communication to foster prevention by enhancing the public's awareness of the health crisis severity (Jang and Baek, 2019). This study proved that increasing the cumulative frequency of receiving disease alerts and the usefulness of media channels were associated with a higher incidence of adherence to preventive recommendations. Prior research also emphasised the comprehensive exploitation of available channels to increase people's preparedness and ability to make informed decisions during pandemics (Park, Boatwright and Johnson Avery, 2019). To leverage health communication, the governments should prioritise health media channels favoured by the community and simultaneously improve other channels with low levels of accessibility or usefulness. Hence, the government could maintain its leading role and satisfy society's expectations by delivering useful warns in a timely and transparent manner (Jang and Baek, 2019). This might increase people's trust in the government's management and positively impact their compliance with pandemic prevention measures.

The drawback of this analysis was that the sample just consisted of Vietnamese youths. Furthermore, since the research was conducted during the COVID-19 pandemic, respondents' awareness of this pandemic may still be incomplete. Thus, it remains necessary to replicate this research using more representative population samples and apply other data collection methods to validate the findings. Simultaneously, further research was encouraged to explore the comprehensive consequences of adjusting particular travel plans (e.g. shopping, travelling, studying abroad) following pandemic warnings.

4. Conclusion

It was essential to investigate the effectiveness of media channels as a health communication component when facing new, dangerous pandemics, such as COVID-19. This study compared common media platforms in Vietnam and discovered how youths adhere to prevention after receiving pandemic warnings. The results showed that SMS and television/radio were the two disease alert channels most frequently reached and had the highest usefulness assessment by young Vietnamese. Therefore, the government should use these platforms to disseminate disease warnings promptly and simultaneously provide preventive guidance to the youth community. The Vietnamese government's management also earned a high level of trust from youths. Hence, most young Vietnamese were willing to adjust their travel plans and agreed to implement the authority's pandemic preventive recommendations. In conclusion, this article highlighted the need to select appropriate media channels for delivering disease warnings to maximise the young population's exposure and attention. The authors suggest extensive research on adaptations of personal plans and the causal relationships between the factors related to health communication when pandemics occur.

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THE ROLE OF SOCIAL PROOF, TRUST, AND CUSTOMER TRAITS TOWARDS THE CONSUMERS' ONLINE IMPULSE BUYING ON LIVE-STREAM BROADCASTING PLATFORM - THE CASE OF FACEBOOK LIVE IN VIETNAM

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ABSTRACT

Many years ago, if the TV shopping channel drew many viewers (mostly the elderly) with jewelry and luxury kitchenware, they would now present and market sale items on a live-stream broadcasting platform rather than on television. Currently, the trend of using Facebook live-stream broadcasting technology for business is blooming in Vietnam, with every kinds of business from small-scale online sellers to big fashion and beauty companies. Furthermore, livestream has evolved into a commerce channel, encouraging customers to engage in online impulsive buying. Through a Facebook livestream broadcasting, this study aims to clarify the role of social proof, trust, and customer traits towards customers' online impulse buying behavior. At the same time, the study provides practical recommendations to assist companies in becoming more aware of online impulsive buying behavior of customers through livestream broadcasting on the Facebook live platform, especially when the economy is significantly influenced by online platforms and outbreaks erupt.

Keywords: social proof; trust; customer traits; consumer; online impulse buying; Facebook live-stream broadcasting

Introduction

Although just recently launched in Vietnam, the wave of sales live-stream broadcasting on social networking sites such as Facebook Live, Youtube Live or Tiktok Live has swiftly expanded since it offers instant effectiveness in income as well as changes in consumer habits due to the impact of the Covid-19 pandemic. Essentially, combining e-commerce and live-stream broadcasting on social network platforms is not a new approach.

According to e-commerce sites, sales on live-stream broadcasting began in Vietnam at the end of 2018, but it did not reach a high until the end of 2019, and notably lately, when the Covid-19 epidemic erupted. This type of sales has the potential to become a valuable tool for merchants in the e-commerce market in the near future (Chau Anh, 2020). Many major businesses, ranging from consumer products to technology, such as Xiaomi, Logitech, P&G, etc have increased sales since utilizing live-stream broadcasting to market.

Sales using Facebook live-stream broadcasting, a sales channel, is highly effective due to the impact on customers' unplanned purchase behavior. Buying inspired is a very frequent experience for most young people. Many fashion products or accessories purchased by office workers are impulsive and emotional purchases made without the goal of purchasing in advance.

This study explores the role of customer traits, trust, and social proof towards consumers' online impulse buying behavior through live-stream broadcasting on Facebook Live. The study also aims to establish whether or not consumers' hasty purchasing decisions are influenced by content or their feelings (shopping enjoyment, moods). Furthermore, the study shows if the level of customer knowledge of firms, such as beautiful product presentation, good support service, and even better customer service, flexible policies, affects consumer impulse.

Theoretical framework and hypotheses development

Stimulus-Organism-Response Model

Mehrabian and Russell (1974) developed the S-O-R (Stimulus - Organism - Response) in the beginnings of behavioral science . Numerous research have exploited it to decipher consumers' impulsive purchasing habits. Consumer behavior and responses are triggered by three elements, including: the environmental or stimuli (S), which in turn motivates organisms (O) to respond. The actual response (R) is then determined by the organism (O). This model is used as a framework in this research because of the significance of stimulus as a motivator in the impulsive purchase.

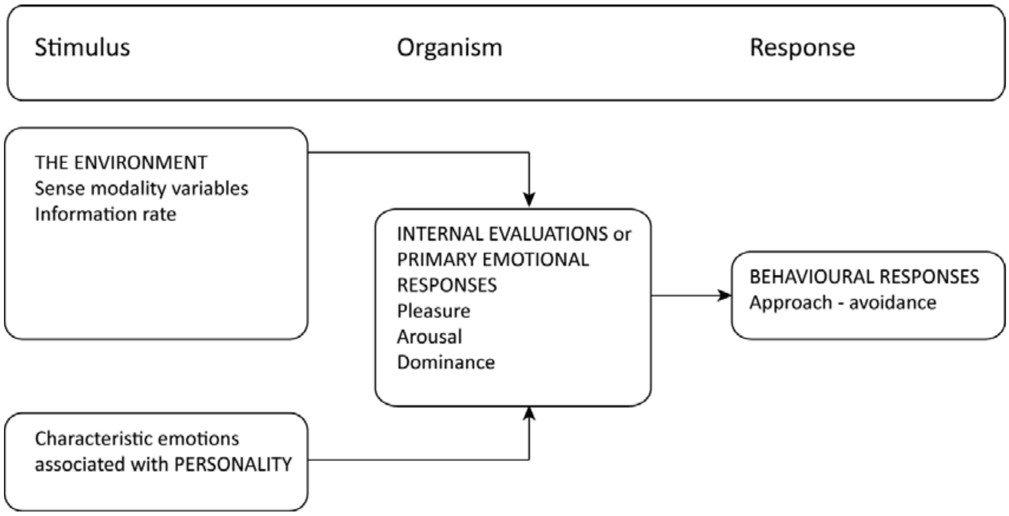


Fig 1: S-O-R Model

According to this concept, people's opinions and sentiments about external stimuli, as well as the ensuing favourable or unfavourable behaviours, are all explained by integrating individual responses. Using the S-O-R paradigm for researching consumer behavior assists separate environmental inputs from internal and outward activities.

With that of the development of online shopping, the S-O-R framework has always been the most often utilized premise for exploring online impulse purchases/buying behavior. This model has also been used in a number of research to investigate how consumer behaviour is influenced by the characteristics of online shopping websites.

Facebook live-stream broadcasting

Live-stream broadcasting implies that an individual can broadcast self-recorded live video content to a potentially large number of viewers over the internet using a computer webcam or a smartphone or tablet camera and can interact with those viewers via the internet using various social live-streaming platforms such as Facebook Live, Youtube Live, and Twitter Live (Scheibe et al., 2016).

Facebook Live is an extra feature of the Facebook social network that allows users to live broadcast video content. Streaming video becomes available as part of the Facebook profile, where current privacy and authorization restrictions governing the accessibility of the stream apply. People who passively access the account can see public broadcasts, while private broadcasts can only be viewed by people who are "friends" with the account owner. As soon as a live broadcast is over, the video will stay available (unless the author deletes it or changes the viewing settings) and may be seen later on (Horsman, 2018).

Some of the interactions that may take place in real-time between broadcasters and viewers include trading online messages, replying to emojis, and giving out incentives. In addition to generating revenue for broadcasters through subscriptions, monetary contributions, and virtual gifts provided by actual money, viewers become revenue sources for the broadcaster (Wang et al., 2019).

Online impulse buying

Researchers and marketers alike are continually trying to figure out how to deal with consumers who make impulsive purchases (Muruganatham & Bhakat, 2013). Impulsive buying refers to an unexpected purchase (Tinne, 2010) made in response to an irresistible, persistent, and urgent impulse to acquire a thing (Rook & Fisher, 1995). Researches, however, have widened the idea beyond a basic unexpected purchase to include emotional aspects or an interest in making a buy.

According to Rook (1987), impulsive purchasing activity is the behavior of customers who have a sudden, frequently intense, and persistent desire to acquire something as quickly. External cues that marketers exploit to persuade customers to buy may cause impulse buying (Youn & Faber, 2000). In addition, impulsive purchase behavior has a substantial effect on product sales in the online context (Amos et al., 2014). Marketers play a key part in influencing an individual to achieve an online impulsive acquisition since they prepare their methods, beginning with boosting awareness of the brand awareness in the online store (Floh & Madlberger, 2013). Consumers, on the other hand, are more concerned with the immediate satisfaction of acquiring items before they are willing to accept impulse buying without considering any alternatives or probable implications.

Many pieces of research, in particular, have underlined the importance of online impulsive behavior (Liu et al., 2013; Floh & Madlberger, 2013). Liu et al. (2013) investigated how website elements (product accessibility, visual appeal, and ease of use) impact personal traits (impulsiveness, evaluative assessment, and rapid enjoyment) as a mediator to attain the aim of an urge to buy online.

In a nutshell, online impulse buying is defined as making an unanticipated and spontaneous decision to buy that is triggered by particular environmental neural stimulation on the spot and is associated with high sentiments of cheerfulness. Intentional behavior, on the other hand, is a planned pattern of behavior that is driven by the creation of cognitive processing purposes and is probably to be reflected by behavior models such as the TAM model (Verhagen & van Dolen, 2011). On other hand, in line with S-O-R model mentioned above, online impulse buying plays a role as behavioral responses in this study. As a result, this study contributes to the understanding of significant consumer behavior on Facebook live-stream broadcasting instead of the intent of behavior in an impulsive purchasing environment.

Trust

Several studies have well-characterized trust as a multi-dimensional structure since it is regarded as a belief system (Wu et al, 2016). According to Kim and Han (2019), in their research on the function of trust belief and its antecedents in knowledge communities, trust belief is a second-order structure composed of the following three attributes: benevolence, competence, and integrity. Earlier research of online recommendation systems also found that three characteristics of trust may be measured: benevolence, competence, and integrity (Wang & Benbasat, 2005).

Benevolence is the idea that even if given the opportunity, the trustee will not operate unscrupulously (Flavian et al., 2006; Pavlou & Fygenson, 2006). Benevolence is also defined as the trustee's perceived favorable attitude toward the grantor (Wu, 2013). Benevolence assures that Facebook live-stream broadcasting will behave honestly and stay back their goods in the trade, even if any circumstances develop (Wu & Tsang, 2008).

The concept of competence is determined by the trustor's confidence in his or her capacity to execute as expected (Pavlou & Fygenson, 2006). The term also denotes the extent to which customers believe providers have the necessary knowledge and abilities to execute the trade (Flavian et al., 2006). Thus, in an online environment, customers think that Facebook live-stream broadcasting should really be willing to assist them in meeting their demands in the transaction (Wu & Tsang, 2008).

Integrity is the assumption that a trustee will be truthful in keeping pledges and keeping statements (Flavian et al., 2006). In an online environment, integrity implies the belief of customers that Facebook live-stream broadcasting would give assurance for maintaining their commitments to withdrawals in terms of purchasing items and confidentiality issues (Pavlou & Fygenson, 2006).

Furthermore, given the three indications, we developed trust construction as a formative framework. Rather than reflecting trust, the three indicators are utilized as a means of explaining it. Despite the fact that the three indications are mutually exclusionary, the changes in each of them are intended to have a different effect on trust. It's clear that the trust construction is a combination of the three indicators, each of which is distinctive. As a result of this, we developed a framework for the three first-order indicators based on past literature.

In the lack of direct experience with Facebook live-stream broadcasting, potential clients should place a higher value on trust (McCloskey, 2006). As a result, trust belief can assist consumers to overcome these issues and urge them to continue using the websites (Kim & Han, 2009). The relationship between trust and perceived usefulness, in particular, has gained considerable attention in the online community (McCloskey, 2006). Specifically, a trust framework based on TAM was clearly established in online purchasing (Gefen et al., 2003a). According to this framework, there are certain connections involving trust and a variety of belief characteristics, such as trust in institutions and faith in one's first impressions - known as cognition-based trust. Furthermore, trust plays an important part in deciding perceived usefulness. This is due to the fact that the sellers have a role in ensuring that buyers perceive the website's anticipated usefulness (Wu et. al, 2016). Moreover, trust is characteristic emotion. In S-O-R model, characteristic emotion belongs to stimulus factor that affects to primary emotional response including pleasure.

Accordingly, we propose Hypothesis 1 as follows:

Hypothesis 1. Trust impacts positively on perceived usefulness.

Visual Appeal

There is evidence that consumers' perceptions of a website's usefulness are influenced by its initial impression (Tractinsky, Katz, & Ikar, 2000). According to the previous study of Parboteeah et al (2009)'s research, visual appeal refers to the visual components of a website (Van der Heijden et al., 2003). Visual appeal is typically defined in this research as the representational complexity of a Facebook live-stream broadcasting, that is, visual components such as images that greatly enhance the appearance of a product (Van der Heijden et al., 2003). People who use Facebook have a higher likelihood of paying attention to and valuing visual features. Determining how people perceive the usefulness of live-stream broadcasting is therefore directly tied to visual aspects. As a result, the more appealing visual components people observe from live-stream broadcasting, the more commonly they regard live-stream broadcasting as a valuable buying platform. Moreover, similar to S-O-R model, visual appeal plays a role as enviroment in stimulus factor that have impact on pleasure and arousal emotions in organism factor.

Accordingly, Hypothesis 2 is proposed:

Hypothesis 2. Visual appeal impacts positively on perceived usefulness.

In the research of Parboteeah et al. (2009), visual appeal may generate a mood whereby online consumers enjoy or feel dissatisfied with the web pages, and these qualities are assessed based on users' sentiments of satisfaction or enjoyment when surfing the website (Kempf, 1999). The degree to which users' involvement with the image-sharing live-stream broadcasting is regarded to be pleasurable is defined as perceived enjoyment in this study (Davis, Bagozzi, & Warshaw, 1992; Wang, Yeh, & Liao, 2013). A large number of high-quality images may provide viewers with a visual spectacle in the context of live-stream broadcasting, making engagement with live-stream broadcasting interesting and pleasurable. The more appealing live-stream broadcasting visual components are to a user, the happier the user will be.

Furthermore, consumers' perceptions of enjoyment might be influenced by visual appeal. Poorly designed pictures not only make it difficult for users to interact with live-stream broadcasting but also lower users' positive impressions of it, reducing their enjoyment. These findings may be mirrored in the timely completion of consumers' online buying chores in the setting of live-stream broadcasting. For example, a user may have a proclivity to buy a pair of trendy shoes when watching a live-stream broadcast. However, she/he discovers no details concerning these shoes on the live-stream broadcasting and may conclude that the live-stream broadcasting is not entertaining and does not satisfy her/his information needs. The user's mood is broken by the irritation, which eventually prompts her or him to join an alternate live-stream broadcasting platform. The customer whose information demands may be effectively fulfilled by live-stream broadcasting may experience higher delight while watching live-stream broadcasting.

Thus, Hypothesis 3 is proposed:

Hypothesis 3. Visual appeal impacts positively on perceived enjoyment.

Perceived usefulness

In fact, the association between usefulness and enjoyment has been widely researched (Shiv & Fedorikhin, 1999), and perceived usefulness has been found to significantly impact enjoyment (Holbrook & Batra, 1987). As a result, effective reactions take place just after perceptual reactions to the environment have been accomplished. Cognitive responses to the situation can either enhance or detract from emotional emotions.

The more beneficial live-stream broadcasting is seen to be in the context of live-stream broadcasting, the more pleasurable it is to interact with. If live-stream broadcasting can successfully accomplish tasks linked to online shopping, consumers may find the use of live-stream broadcasting to be pleasurable and develop an effective relationship with it. Furthermore, perceived usefulness and perceived enjoyment can be seen as pleasure and arousal emotion responses in the S-O-R model. Follow to the S-O-R model in the study of (Xiang et al., 2016), the cognitive reaction can impact affective reaction, where the cognitive reaction is perceived usefulness and affective reaction is perceived enjoyment.

Accordingly, Hypothesis 4 is proposed:

Hypothesis 4. The perceived usefulness impacts positively on perceived enjoyment.

It has been shown in several studies that perceived usefulness has a major impact on the adoption of various information systems, such as hedonic information systems (Wu et al., 2011), using the technology acceptance model (TAM, Davis, 1989). Studies have demonstrated the perceived usefulness of online product searching for information is a significant factor in customers' online buying behavior as well (Chea & Luo, 2008). When it comes to impulse buying on the internet, early researchers have suggested that the cognitive state of an individual's response to external cues (such as perceived usefulness) and how it interacts with the emotional state to enhance or decrease it may be connected (Kalla & Arora, 2011). In line with the S-O-R model, primary emotion responses have also a relationship with the behavioral responses element.

Thus, the following Hypothesis 5 is proposed:

Hypothesis 5. The perceived usefulness impacts positively on online impulse buying.

Perceived enjoyment

Flow study can explain the influence of an individual's emotive reactions on his or her answers, which found that when intrinsic satisfaction grew, a user's exploratory behavior might be enhanced (Ghani & Deshpande, 1994). Those who are in a positive mood when shopping offline are more prone to make impulsive purchases (Rook & Gardner, 1993; Donovan & Rossiter, 1982). Also, a positive shopping experience might lead to more unexpected purchases for online shoppers. This is certainly relevant if they enjoy their purchasing experience (Beatty & Elizabeth Ferrell, 1998). It has also been shown that there is a favorable link between a user's feelings and impulsive buying behavior (Adelaar et al., 2003). As a result, in this study, we presume that in the situation of live-stream broadcasting, individuals who perceive a pleasurable engagement with live-stream broadcasting are more inclined to buy products on the spur of the moment. Similar to perceived usefulness, perceived enjoyment aslo belongs to organism factor that affects directly on behavioral responses in S-O-R model and behavioral responses can be seen as online impulse buying in this study.

Thus, Hypothesis 6 is proposed:

Hypothesis 6. The perceived enjoyment impacts positively on online impulse buying.

Customer traits

Previous research performed in brick-and-mortar businesses found that personality, cultural environment, visual merchandising, and sales promotion elements influenced consumers in making impulsive buying tendencies (Miao et al., 2020; Katawetawaraks & Wang, 2011). Concurrently, it is implied that the big five traits impacted a person to make impulsive and unexpected purchases (Saran et al. 2016). Other researchers investigated internal characteristics such as impulsive purchasing tendency, shopping enjoyment, and mood (Atulkar & Kesari, 2018; Bahrainizad & Rajabi, 2018; Chang et al., 2014; Dawson & Kim, 2009; Dhaundiyal & Coughlan, 2016; Leong et al., 2017; Mohan et al., 2013). Prior research indicated that sentimental internal variables were important drivers in an individual's purchasing choice process.

As a result, in line with the previous research related to impulsive purchase, we addressed consumer mood, shopping enjoyment tendency, and impulse buying tendency as attributes belonging to customer traits in the suggested research hypothesis and concept.

Accordingly, we propose Hypothesis 7 as follows:

Hypothesis 7. Customer traits impact positively on online impulse buying.

Social proof

Social proof has a strong impact on customer purchasing decisions and is now firmly incorporated into many marketing strategies. Furthermore, social proof is the most crucial psychological phenomenon in which people regard the acts of others in their surroundings to be comparable to their own (Van-Anh T. & Ky-Minh Do, 2021). The previous study also implies that people are sensitive to social signals from others around them while making judgments, therefore social evidence exists to some level.

Furthermore, social proof is highly useful for merchants, especially in an online context, because customers are greatly affected by the behaviors and suggestions of others (Raji, 2019). Customer reviews or ratings, media honors, sponsored influencer endorsements (brand ambassadors), or testimonials (authenticity) from a social media trendsetter are all different types of social proof.

For the type of user ratings, it is known that customers, for example, rate the business's offering using a quick star rating. The customer's effort is minimal, and firms may utilize the evaluations instantly (automatically) in commercial communication. In browse abandonment emails, for example, include user ratings. These emails are sent to potential consumers who were about to make a final acquisition choice at the online store and left items in their grocery cart. Businesses use reactivation messages to encourage such "apprehensive" customers to purchase the items in their cart. After all, user ratings may be the ultimate impetus for a purchase. They are, nevertheless, better suited to low-involvement items. For example, while choosing between two vendors, a buyer may be significantly influenced by a friend's exposure or by watching the number of consumers who purchased in it without knowing their names or motives (Becker, 1991). Individuals with reduced cognitive ability frequently use a simpler and heuristic method to make an online purchasing choice (Shah & Oppenheimer, 2009). Rating data is widely available, and low cognitive heuristics such as numeric rating play an important part in online purchases (Hu, Koh, & Reddy, 2014). Following the preceding viewpoint, we suggested that user ratings such as the number of "likes," "shares," and "comments" that appear on postings by users or celebrities may develop and be interpreted as rating constructions to promote online impulsive purchase. Furthermore, the positive effect of the number of likes and volume of sales on impulse purchasing suggested the significance of user ratings and customer engagement in it (Chen et al., 2016; Zhang et al., 2014). As a result, any live-stream broadcast with a large number of quantitative signals on social networks may result in an informational sequence, with subsequent members of groups perceiving the positive influence conveyed by these significant masses of ratings.

According to the consumer value perspective, this study proposes that user reviews or reading online comments can provide customers with emotional and functional value (Zhang et al., 2018). A complete picture of the pros and cons of a company's products and services may be gleaned from customer reviews. It is possible to better analyze if products or services satisfy the needs of potential clients when they read authentic reviews. "Review authors" have to put in some further effort than just adding a user rating to a review. The study defines functional value as customers' opinions of the extent to which internet reviews can give instrumental value and meet their needs. It is stated that the functional value of information seeking is related to customers' intention to look for resources on the internet (Wang, 2010). To et al. (2007) also claimed that customers can derive functional value from searching for information online, hence establishing a preferred approach. In light of these worries, buyers are more inclined to purchase a product impulsively if they believe they may acquire relevant information from online reviews via live-stream broadcasting on social networks.

Testimonials or authenticity is stated in psychology by Kowalczyk and Pounders (2016) as "a post or image that displays some part of the celebrity's inner self." Authenticity is a sign that a star is loyal to its fans. A distinction was made between traditional and non-traditional celebrities. Typical celebrities include actors, singers, athletes, and TV personalities. Bloggers, YouTube idols, and social media famous people are examples of non-traditional celebrities (Chahal, 2016; Kowalczyk & Pounders, 2016). Because of their authenticity, users want to follow such superstars, and it has gotten a lot of attention in the field of marketing (Moulard et al., 2014). Wiley (2014) asserts that information offered by an internet celebrity is viewed as more authentic and influential. Such superstars have evolved in a variety of industries, including personality, enjoyment, culinary, and so on (Kumar & Mirchandani, 2012; Zoha, 2018; Bradri, 2019). Many businesses are likewise attempting to incorporate such influencers into efficient social media marketing efforts (Hennig-thurau et al., 2013; Kumar & Mirchandani, 2012).

As a result, it is believed that after celebrities share the post, the legitimacy of the post will compel followers to buy impulsively because people are likely to follow celebrities' behaviors (Wilcox & Stephen, 2013). Furthermore, people are more likely to respond to celebrities' perceived sincerity by making an official promise, engaging in happy sensations, and expressing purchase decisions (Loroz & Braig, 2015; Moulard et al., 2015). Previous social network research has also claimed that celebrities' parasocial engagement and relationships can affect impulse purchasing behavior (Chung & Cho, 2017; Xiang et al., 2016). As a result, the genuineness of celebrities' posts may encourage consumers' interest to purchase impulsively. According to the aforementioned rationale and research, it will have an impact in the following suggested ways.

The final type related to the type of social proof in the scale of this research, brand ambassadors or opinion leaders, who are also known as "brand ambassadors," are persons who may influence the opinions and behaviors of others by using new products or ideas (Rehmet & Dinnie, 2013). In other words, a brand ambassador is an individual who represents a brand that is associated with a well-known public personality to interact and engage with the audience (Fawwaz & Indrawati, 2020).

Customers may be more likely to make impulsive buying (Amos et al., 2014) if they are exposed to brand ambassadors (Tripathi & Roy 2018). Brand ambassadors are considered a trend in many Asian countries (Vietnam, Indonesia, Thailand, Malaysia, etc), they may enhance the impact of customers' consumption. Furthermore, celebrities as brand ambassadors have an impact on consumer spending interest and attraction toward advertisements of public figures. In the context of the online environment, particularly through live-stream broadcasting on social networks, they encourage impulsive purchasing by exceeding the expectation that consumers will have good or pleasant sentiments about goods (Mubarok, 2018). As a result of unexpected purchases, consumers who are drawn to a particular product category or brand may engage in online impulsive buying activity (Chi et al., 2009; Malik et al., 2013).

Accordingly, from all kinds of social proof, Hypothesis 8 is proposed:

Hypothesis 8. Social proof impacts positively on online impulse buying.

The research's theoretical background was gathered from a variety of sources, including journalism, networking sites. The research's fundamental model is built from the research of Xiang et al (2016) on online impulse buying model, Atulkar, S., and Kesari, B.'s (2018) customer traits model, and the model of trust belonging to Wu et al., (2016). The research model figure 2 outlines the important constructs and relationships studied in this study based on the prior discussion.

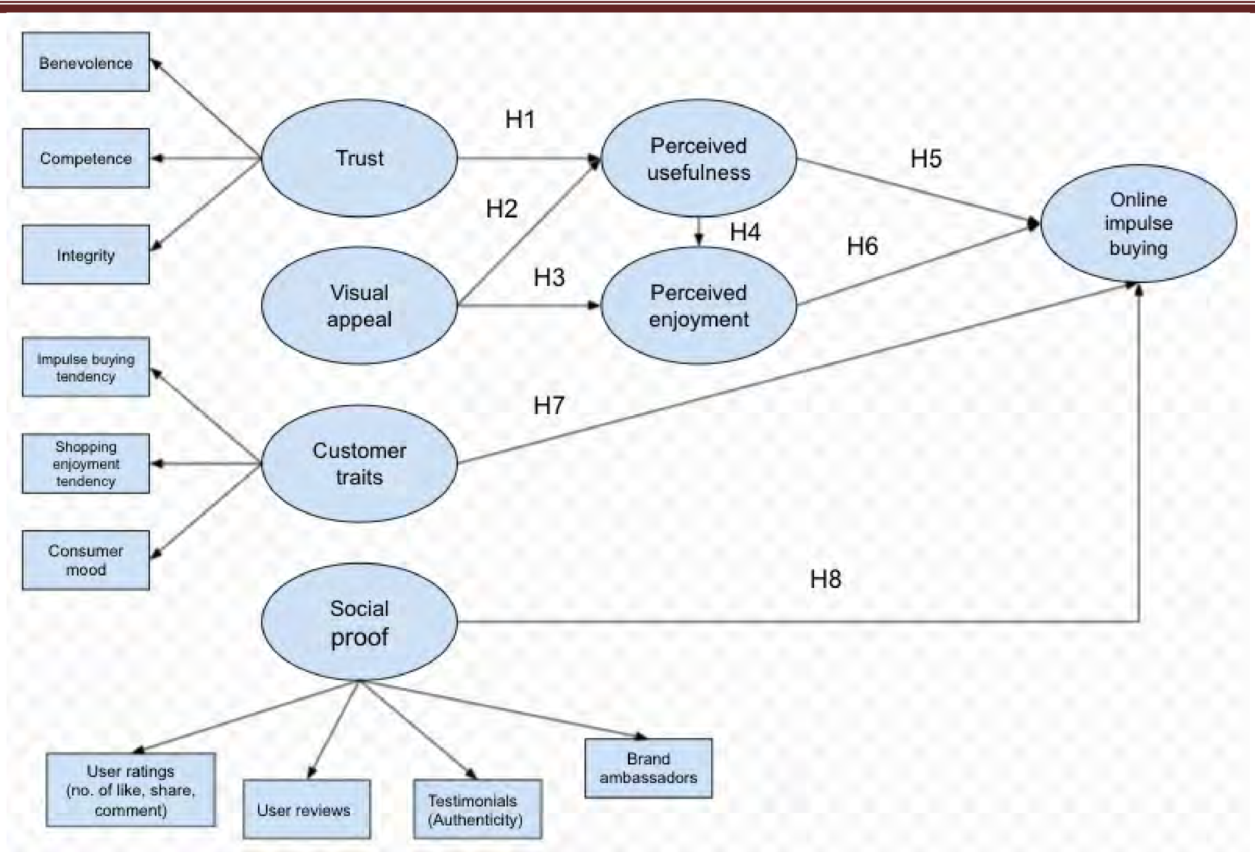


Fig 2. The proposed research model

Research method

Research design

Measures and control variables

This study utilized the measure of constructs containing multiple-item scales well-validated from prior studies. Appendix A shows the survey of this study, including two-part. The first part uses a nominal scale containing control variables that are measured by consumer characteristics in online impulse buying such as gender, age, education level, and shopping experiences. Control variables were added to the model to assess the ability of any systematic respondent differences. The second part includes multiple-item scales measured by a five-point Likert scale from "1= strongly disagree to 5= strongly agree". The data is collected in Vietnam and is answered by Vietnamese, thus we utilized the translation-back-translation way to obtain consistency of the initial English measure and Vietnamese measure.

Table 1 indicates measures of this study adapted prior studies. Some measures are modified to be suitable for this study area and make the context consistent.

Table 1. Measurements of prior studies

Measures	N of items	Sources
Trust		Xiao and Benbasat, 2007
Benevolence	4	
Competence	4	
Integrity	3	
Visual Appeal	3	Loiacono et al, 2007
Customer traits		

Impulse buying tendency	7	Atulkar and Kesari, 2018; Mohan et al., 2013
Shopping enjoyment tendency	3	Atulkar and Kesari, 2018; Mohan et al., 2013; Sproles and Kendall, 1986
Consumer mood	5	Bahrainizad and Rajabi, 2018
Social Proof		
User ratings	3	Duan, Gu, & Whinston, 2008; Park & Lee, 2008
User reviews	5	Wang, 2010
Testimonials	3	Moulard et al., 2015
Brand ambassador	3	Wang & Hariandja, 2016
Perceived usefulness	4	Koufaris, 2002; Luo et al., 2012
Perceived enjoyment	3	Chang and Cheung, 2001
Online impulse buying	4	Rook and Fisher, 1995; Parboteeah et al., 2009

Sample design and data collection

The data was collected by online survey during the period August-September in 2021 (pandemic time - COVID 19). Thus, the online survey method is an effective approach to collect data. In addition, this study targets impulse online buying, ensuring consistency between the study's context and the data collecting method. An online method has several advantages. It is not only geographically unbounded but also time and cost savings with eliminating the printing of survey instruments (Cobanoglu et al., 2001). However, convenient sampling is one of the common issues of this method. This study used a filter and reversed questions to improve this problem. To begin with the survey, a filter question about whether interviewers have purchased something on the Facebook live stream or not. This question helps to target respondents correctly, as well as save time for participants. Then, in the main part of the survey, we used some reverse questions in measures that keep respondents from answering carelessly and help correct for agreement bias. In addition, to determine a clear memory of respondents about shopping online, respondents were asked to reflect on a recent impulse purchasing online within 6 months that ensures all respondents keep perceived shopping online experiences while answering the survey. This manner could avoid a bias in the data collection process (Wu et al., 2015).

The survey is designed by Google Form. We used the URL of the online survey to share on online platforms such as Facebook posts, Facebook groups, and Messenger by an invitation message attached URL link. To encourage respondents to fill the survey link, we set up a lucky number game, and numbers ranged randomly from 0 to 99. Then, interviewers could choose one number after completing the survey. We made a live stream to randomly choose 5 lucky numbers and give a reward of 5 US dollars through email contact of respondents collected during the online survey process. A month later, we collected 286 responses, then we ignored some of the responses which had errors or overlapped above all of the measurements. The rest of the responses is 283 that were utilized in the data analysis process. According to (Kline, 2015), the reasonable sample size in SEM is applied to the ratio N: q procedure that should be 20:1, q is the number of parameters in the model and N is the sample size. This study includes 14 parameters, following this procedure, the acceptable sample size is 280. Hence, a sample size (283) is collected from this study that is suitable for several data analysis methods in the research model.

Scale validation

Pre-test

Before the final survey, we conducted a pre-test for measures in the survey on 30 respondents, then asked them to provide some comments about the context of items including translation, structure, and wording. The pre-test's main purpose is to utilize useful comments to improve the scale for assuring initial reliability and validity at an acceptable level (Wu et al., 2015). After adjusting, the final survey is carried out for random sampling by the online survey method.

Non-response bias

Non-response bias is a common issue for survey research (Wu et al., 2015). As a result, the impact relationship between constructs in the model would be affected significantly. To examine this concern, we made a comparison between the first 50 and the last 50 respondents in the sample about characteristic features such as age, income, and education level. This test might provide pieces of evidence for whether appearing bias in the sample or not (Armstrong and Overton, 1977; Wiseman, 1972). We use the chi-square test to detect whether there was a relationship between the two groups. All of the tests on characteristic features indicated no significant difference at 0.05 level (χ^2, p = 2.784, 0.835; 15.115, 0.088; 1.148, 0.563), suggesting that non-response bias could not exist in this study.

Common method bias

Common method bias is a problem that occurs frequently in behavior research and relates to measurement error. Measurement error impacts negatively the validity of the results about the relationship between constructs. Common method bias is a result of using a common rater to respond to the measures of both independent and dependent variables (Podsakoff et al., 2003). In this study, we used many relationship structures and sub-constructs such as perceived usefulness that is both explanatory and dependent variable, as well as antecedents of trust (independent variable) and trust (dependent variable). In addition, all of the measures in this study used method variance. In this method, variance "is attributed to the measurement method rather than to the construct of interest" (Bagozzi and Yi, 1991, p.426). Thus, there are risks related to common method bias in this study. According to Podsakoff et al (2003), we can use Harman's single factor test as a statistical remedy to solve common method bias.

After testing, extracted variance of one general factor in unrotated factor analysis is 29.856% which is lower than 50%. We thus conclude that common method bias has no existence in this study.

Data analysis and findings

In this study, we used Structural Equation Model (SEM) to find relationships among numerous latent variables and constructs. According to (Hair et al, 2014), SEM is a strong analytical tool for testing relationships with latent variables. We also utilized SPSS (Statistical Packages in Social Science) 26 and AMOS (Analysis of Moment Structures) 24 to analyze data in the SEM model by covariance-based SEM (CB-SEM) technique. CB-SEM is related to the maximum likelihood procedure whose target is to estimate covariance matrices and maximizing explained variance. CB-SEM approach is well suited to models that have mediating effects and higher-order modeling of constructs (Hair, Garibel, and Patel, 2014). This study has some mediating effects revealed to perceived usefulness and perceived enjoyment factors as well as the second-order construct (trust, social proof, and consumer traits). Besides, AMOS is the most popular software in the CB-SEM approach compared to other software such as LISREL, EQS, and SEPATH. Several merits of AMOS include a clear graphical interface and the ability to make a behavioral model with complex interactions (Thakkar, 2020), especially in the CB-SEM approach.

Descriptive analysis

Table 2. Demographics of response sample with online impulse buying (sample= 283)

Characteristics	Frequency	Percent (%)
Gender		
Male	95	33,6
Female	185	65,4
No want to response	3	1,1
Age		
Less than 20	27	9,5
From 20 to under 30	247	87,3
From 30 to under 40	8	2,8
From 40 or more	1	0,4
Degree		
High school	7	2,5
College/University	227	80,2
After University	49	17,3
Job		
Student	156	55,1
Officer	94	33,2
Functionary	12	4,2
Worker	1	0,4
Housekeeper	3	1,1
Other	17	6,0
Income (monthly, VND)		
Less than 5 million	120	42,3
From 5 to under 10 million	95	33,6
From 10 to under 20 million	57	20,1
From 20 million or more	11	3,9
Using social networking (year)		
From 1 to under 3	5	1,8
From 3 to under 5	39	13,8

From 5 or more	239	84,5
Online buying experiences		
Yes	229	80,9
No	54	19,1

Table 2 indicates the demographic information of this study sample. In terms of gender, of the initial cohort of 283 interviewers, 95 were male and 185 were female. The respondents were from 20 to under 30 years old accounted for 87,3%. As can be seen clearly, students had the highest proportion of the job area, at 55,1%. Over 80% of those who were interviewed indicated that there were college or university degrees. Take a look at income monthly, the percentage of those who earned less than 5 million VND monthly was 42,3% and the proportion of respondents who had income monthly from 20 million VND or more is just 3,9%. The most striking result to emerge from the data is that the majority of respondents who obtained online buying experiences accounted for 80,9%. Besides, the survey results show that 84,5% of the respondents used social networking for 5 years or more.

Measurement model

In this study, we used the CB-SEM approach to evaluate the research model. Thus, data should be distributed as normality (Rick Hoyle, 2012). To access this issue, we calculated a skewness index that ranged from -1 to 1 (Gao, 2008). As a result, data could be seen as a normal distribution.

To assess the reliability and validity of the measurement, we made the confirmatory factor analysis (CFA). This analysis is used to ensure reliability and validity by reducing the number of items in each construct. According to (Fornell and Larcker, 1981), before inspecting the hypothesis for the structural model, we have compulsory to test the measurement including reliability, convergent validity, and discriminant validity, which helps to avoid the measurement error.

To identify the reliability, Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE) are used. The accepted value for three indexes including (1) Cronbach's alpha is higher than 0,7, (2) Composite reliability is higher 0,7, (3) Average variance extracted must exceed 0,5 (Chin, 1998). The measurement that fits these criteria had good reliability (Hair et al, 2010).

In terms of validity, we had to inspect the convergent validity and discriminant validity. Convergent validity refers to the degree to which two measures of constructs theoretically should be related that are accessed by three criteria: (1) items loading larger than 0,5, (2) CR is higher than 0,7, (3) AVE must exceed 0,5. Discriminant validity shows the degree to which the measure of one construct is not related to measures of other constructs. This index is accessed by the square root of AVE for a construct that should be higher than its correlation with all other constructs (Hair et al, 2010).

Table 3 shows the indicators of reliability and convergent validity, particularly, Cronbach's alpha coefficients are computed from 0,76 - 0,90, composite reliability (CR) ranges from 0,77 - 0,90, and average variance extracted (AVE) lies in the range of 0,74 - 0,76. This result proved that the measurement of constructs had a high degree of reliability and convergent validity. In terms of discriminant validity, table 4 indicates that the square root of AVE for each construct is higher than its correlation with all other constructs. Hence, discriminant validity for the model is satisfied. However, the measurement of competence and impulse buying tendency did not meet to these conditions. Specifically, both these measurements indicated the average variance extracted (AVE) that was less than 0.5, which was not to ensure the reliability and validity. Competence and impulse buying tendency, thus, were eliminated from measurement model.

In addition, the measurement model is necessary to meet goodness-of-fit that is used to identify whether practical study matches with the theory model. According to (Hair et al, 2010; Bagozzi and Yi, 1988), there are various indexes that are used to access goodness-of-fit including (chi-square/df < 3, GFI > 0,8, RMSEA < 0,08, CFI > 0,9, IFI > 0,9). After testing the model completely, this study obtained the indexes (chi-square/df = 1,696, GFI = 0,855, RMSEA = 0,05, CFI = 0,937, IFI = 0,939). All of these results ensure a good model fit.

Table 3. Reliability and Convergent validity of the measurement

Constructs	**Items**	**Mean**	**SD**	**Items loading**	**CR**	**AVE**	**Cronbach's alpha**
Benevolence (B)	3	3,16	0,80	0,64 - 0,83	0,78	0,54	0,77
Integrity (I)	3	2,96	0,74	0,73 - 0,77	0,79	0,56	0,79
Visual appeal (VA)	3	3,62	0,85	0,81 - 0,90	0,90	0,75	0,90
Shopping enjoyment tendency (SET)	2	3,64	0,89	0,81 - 0,81	0,79	0,65	0,78
Consumer mood (CM)	2	3,91	0,83	0,73 - 0,85	0,77	0,63	0,76
User ratings (URA)	3	3,83	0,62	0,70 - 0,79	0,79	0,55	0,78
User reviews (URE)	4	3,36	0,75	0,73 - 0,81	0,85	0,58	0,85
Testimonials (T)	3	2,81	0,79	0,80 - 0,83	0,86	0,67	0,85
Brand ambassador (BA)	3	3,57	0,76	0,65 - 0,85	0,83	0,62	0,81
Perceived usefulness (PU)	3	3,28	0,76	0,74 - 0,83	0,81	0,59	0,81
Perceived enjoyment (PE)	2	3,24	0,83	0,83 - 0,91	0,86	0,76	0,86
Online impulse buying (OIB)	3	2,83	0,95	0,78 - 0,87	0,87	0,69	0,87

Table 4. Discriminant validity of the measurement

Constructs	B	I	VA	SET	CM	URA	URE	T	BA	PU	PE	OIB
B	0.735											
I	0.722 ***	0.749										
VA	0.401 ***	0.420 ***	0.867									
SET	0.227 **	0.414 ***	0.351 ***	0.807								
CM	0.236 **	0.234 **	0.352 ***	0.743 ***	0.793							
URA	0.274 ***	0.274 ***	0.353 ***	0.390 ***	0.470 ***	0.743						
URE	0.565 ***	0.547 ***	0.464 ***	0.415 ***	0.394 ***	0.444 ***	0.762					
T	0.472	0.529	0.232	0.247	0.182	0.162	0.447	0.815				

	***	***	***	**	*	*	***					
BA	0.397 ***	0.428 ***	0.332 ***	0.407 ***	0.384 ***	0.515 ***	0.477 ***	0.474 ***	0.784			
PU	0.543 ***	0.58 2***	0.605 ***	0.501 ***	0.457 ***	0.389 ***	0.739 ***	0.483 ***	0.466 ***	0.769		
PE	0.591 ***	0.531 ***	0.435 ***	0.375 ***	0.324 ***	0.365 ***	0.641 ***	0.429 ***	0.382 ***	0.684 ***	0.869	
OIB	0.454 ***	0.537 ***	0.305 ***	0.498 ***	0.391 ***	0.193 **	0.562 ***	0.486 ***	0.379 ***	0.541 ***	0.533 ***	0.83

Diagonal value: square root of AVE, Non-diagonal value: correlation.

*Significance of correlations: * p < 0.050; ** p < 0.010; *** p < 0.001*

Structural model

Fig 3 shows the result of the structural model in this study. The structural model had a good model fit that matches the criteria of goodness-of-fit (chi-square/df = 1,782, GFI = 0,827, RMSEA = 0,053, CFI = 0,915, IFI = 0,916).

The structural model was calculated to determine the path coefficient among constructs in the research model. In terms of direct impacts, the trust had a positive effect on perceived usefulness with path coefficient (β= 0,769, p<0,001). The visual appeal had a positive impact on perceived usefulness with path coefficient (β= 0,211, p<0,001), but we did not find any significant relationship between visual appeal with perceived enjoyment. In addition, we proved that customer traits impacted positively online impulse buying with path coefficient (β= 0,165, p<0,01). Similarly, social proof had also a significant influence on online impulse buying with path coefficient (β= 0,685, p<0,001). About the perceived usefulness construct, there was a positive influence on perceived enjoyment with path coefficient (β= 0,783, p<0,001), however, we did not see the direct relationship between perceived usefulness with online impulse buying. Finally, perceived enjoyment had a positive impact on online impulse buying with path coefficient (β= 0,194, p<0,05).

On the other hand, in this model, we found indirect effects with perceived enjoyment as a mediator variable. As to the way to calculate mediation coefficients proposed by (MacKinnon, 2008), trust and visual appeal had a positive indirect effect on online impulse buying with path coefficient (β= 0,081, β= 0,023), respectively. Similarly, there was a significant influence indirectly between perceived usefulness and online impulse buying with path coefficient (β= 0,107).

As can be seen clearly in the result of the structural model, trust, customer traits, and social proof were accessed as a second-order construct. For the trust, benevolence and integrity play an important role in explaining this construct with the weight (w = 0,743, w = 0,764). For the customer trait, the weights for shopping enjoyment tendency and consumer mood were 0,962 and 0,769, respectively. For the social proof, this construct had four sub-construct including user rating, user review, testimonial, and brand ambassador that were all significant for determining the main construct with the weight (w = 0,481, w = 806, w = 0,617, w = 0,617).

Moreover, trust and visual appeal contributed 78,2% of the variance on perceived usefulness (R^2 = 0,782). Next, the perceived usefulness explained 54,2% of the variance on perceived enjoyment (R^2 = 0,542). Similarly, the three variables, perceived enjoyment, consumer traits, and social proof contributed 47,1% of the variance on online impulse buying (R^2 = 0,471).

All of the control variables were not supported on online impulse buying such as age (β= 0,013, p>0,1) and gender (β= 0,007, p>0,1).

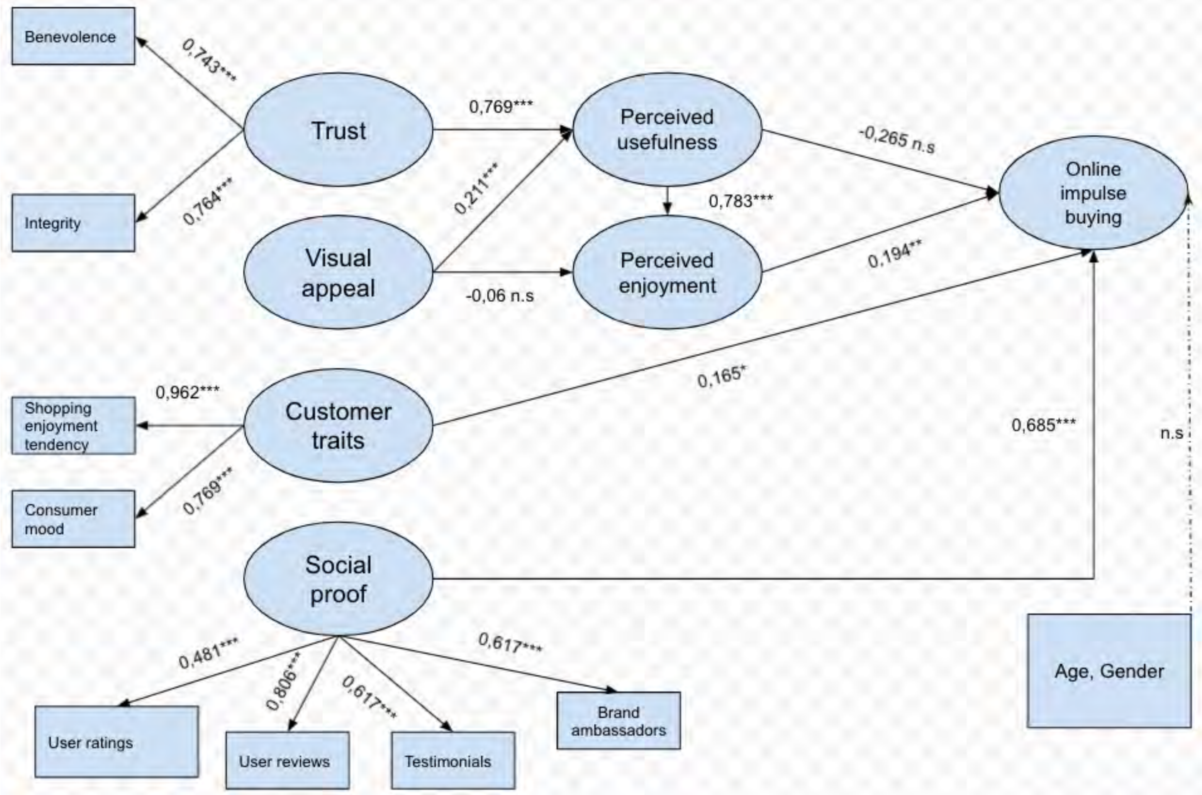


Fig 3. Results of path analysis for research model

** p < 0.050; ** p < 0.010; *** p < 0.001, n.s: no significant*

Discussion

This research shows that customer traits, social proof, and trust (mediated by perceived usefulness and perceived enjoyment) impact consumers' online impulse buying mostly through Facebook live-stream broadcasting. This may be the first study in Vietnam to look at such influencing factors for customers who use Facebook. The research focuses on how social proof, customer traits, and trust lead to online impulse buying in Vietnamese consumers through Facebook live-stream broadcasting.

According to the findings, customer traits such as shopping enjoyment tendency and consumer mood are found to be significantly related to consumers' online impulsive buying, making them ideal for social networks that broadcast live streams, such as Facebook. There is a strong correlation between customer traits through shopping enjoyment tendency and online impulse buying, also the path analysis confirms this. Previous research indicates that a customer towards a strong shopping enjoyment tendency is motivated and makes unexpected purchases based on impulse. For the most part, customers participate in an enjoyable Facebook live-stream broadcasting environment, as they may experience the seller as themselves in experiencing the product with leisure and relaxation facilities, which makes buying delightful. Because of this, customers watch the Facebook live-stream broadcasting for shopping to relieve stress and bad emotions, which encourages and engages them to make impulsive purchases online. However, the findings of the customer traits characteristics show that the component of impulse buying tendency was not significant. It indicates that consumers who are prone to making impulsive purchases are less likely to become impulsive purchasers. In hence, they have sentiments that they are not powerful enough to purchase items through Facebook live-stream broadcasting and would be surprised if they could put it into practice. Also, this suggests that impulse buying tendency is not a direct determinant of the customer traits that promote online impulse buying behavior through Facebook live-stream broadcsting. In this situation, the findings contradict earlier research (Atulkar & Kesari, 2018; Bahrainizad & Rajabi, 2018; Chang et al., 2014; Dawson & Kim, 2009; Dhaundiyal & Coughlan, 2016; Leong et al., 2017; Mohan et al., 2013). Thus, it is found that the more satisfied customers are with their shopping experience, the better their mood (particularly a positive mood) is when they go shopping. Creating a soothing and rejuvenating retail atmosphere is also seen as a key competitive weapon for businesses, since it results in a pleasurable and enticing purchasing experience for customers in the online environment, particularly in the context of Facebook live-stream streaming.

Secondly, for the view of trust, it is regarded as a common strategy for minimizing the perceptions of social complication and danger of online transactions by raising the anticipation of a great result and apparent clarity based on the predicted conduct of sellers on Facebook live-stream streaming. The findings show that the significant elements of trust for Facebook live-stream broadcasting are benevolence and integrity, and they are the primary indications in developing trust perceptions. Meanwhile, the competence component is not a contributing factor in the development of trust in online impulse buying through Facebook live-stream broadcasting. Because competence does not make sense in building trust belief, it is clear that good customer service, good knowledge competence in product information, and real expertise in evaluating product information are not really meaningful in building trust belief in online impulse buying through Facebook live-stream broadcasting. As a result of this, it is possible to implicate that trust belief, particularly benevolence and integrity, can be enhanced since buyers can initially create a belief state of pleasant thoughts toward sellers via Facebook live-stream broadcasting. Businesses ' efforts may be directed in the following directions. They can focus on benevolence and integrity to develop the trust belief on their consumer. They can conduct market research to better understand the true needs of consumers in order to fill the gap among them and their consumers. From this point, sellers can comprehend their customers' wants and preferences, as well as their concern for their customers' interests. The second possibility is that they construct a group on social networks for business and consumers to discuss ideas in order to build credibility. Furthermore, creating a customer loyalty program aims to establish a long-term relationship with clients in an effort to increase trust believe in online impulsive buying to sellers via Facebook live-stream broadcasting. Perceived enjoyment and online impulsive buying are both favorably influenced by customer trust in Facebook live-stream broadcasting in the trust theory. As a result, trust and online impulse buying influence one another through the perceived usefulness, which in turn influences the perceived enjoyment. This is for a variety of reasons, which are detailed below. As long as customers have a high level of trust in sellers on Facebook live-stream broadcasting, that trust is important to ensure that they receive the expected helpful products/services from such interactions. For the time being, the trust factor gives customers faith that sellers are honest and capable of fulfilling their online payments or transactions. This might increase customer propensity to engage in online impulsive buying. In a few types of research, the trust concept was recommended to be included in understanding unplanned impulsive buying behavior, since it differs from general online shopping, an intended action. Evidence suggests that trust sentiments have an indirect impact on online impulsive buying through perceived enjoyment and perceived usefulness.

Furthermore, the findings revealed that visual appeal is the most essential online indicator for perceived usefulness. In other ways, the visual appeal has a big influence on perceived usefulness, indicating that today's current customers always have a better perception of eye-catching, intuitive, and appealing Facebook live-stream streaming. This empathy can boost customer trust in Facebook live-stream streaming vendors and facilitate online impulsive purchases. Live-stream broadcasting on Facebook, in particular, offers a lot of photos and videos that are aesthetically appealing, pleasant, and exhibit visually appealing designs. Furthermore, by buying on such a visually beautiful Facebook live-stream broadcasting, customers would have greater enjoyment in spending money and a favorable assessment of making unexpected purchases, leading to a positive sensation of being pushed to purchase spontaneously.

Thirdly, in terms of social proof, the study explores the effects of social proof on online impulse buying in the environment of Facebook live-stream broadcasting. First, the findings show that user ratings and reviews have a substantial beneficial impact on Facebook live-stream broadcasting. When it comes to successful advertising and promotions, business owners and marketers need to keep in mind feelings such as the volume and the number of likes, shares, and as a marketing technique. This is because good opinions increase users for online impulse buying. People who are admirers of celebrities, for example, are more likely to appreciate the opinions of fan groups and celebrities, and celebrities typically invite their Facebook communities to appear on Facebook live-stream broadcasting. These findings are consistent with the fact that they indicate the major influence of attitudes on online impulse purchase decisions as well as product promotion for merchants who have precise plans upon broadcasting.

Simultaneously, the findings show that there is a favorable direct influence from social proof on customers' online impulse buying by the factor of testimonials, providing proof to support hypothesis H8. In a larger sense, it is suggested that celebrities' and peers' para-social engagement favorably influences the user's impulsive buying behavior on an image-sharing social network (Xiang et al. 2016). It also supports the Kowalczyk and Pounders (2016) thesis that testimonials have the ability to impact online impulse purchasing behavior. As a result, this discovery highlighted the influence of celebrities' genuineness in social media posts, as well as the significance of this finding for organizations and consumers seeking to encourage online impulsive buying. Based on the findings, people are considerably more likely to buy impulsively through Facebook live-stream broadcasting if they can read celebrities' postings on the social network as legitimate. Rather than focusing just on advertising, social media managers could consider posting celebrity thoughts on their Facebook fan pages, newsfeeds in order to provide more information with the perception of authenticity. Such acts might encourage customers to make better, more spontaneous purchases in the future.

Lastly, according to the poll's findings, a large percentage of respondents have stated that when they hear about celebrities, they immediately think of the products that are associated with them, and they immediately think of the brands that celebrities are associated with when they see advertisements for those products. Based on this significance, brand ambassadors of business owners or Facebook live-stream broadcasting sellers may increase customer spending excitement and attractiveness by delivering exceptional products and engaging in online impulse buying behavior. By understanding these terms, brand ambassadors were thought to drive consumers' online impulse buying behavior to acquire goods through Facebook live-stream broadcasting. This research demonstrates more perspectives on the usefulness of brand ambassadors as promotional strategies, particularly being used through Facebook live-stream broadcasting. Because the major emphasis of this research is on consumers' online impulsive buying, businesses may believe that having a brand ambassador will benefit the firm because it might stimulate consumers to purchase more abrupt decisions and engage in online impulse buying behavior. As a result, the brand ambassador may draw attention to customers of the commodities or brand being pushed. Furthermore, online impulsive buying refers to purchases made on the spur of the moment without any thought. Customers will not require consideration while purchasing celebrity-related items. In this research, it is indicated that online impulse buying behavior can happen only if customers recognize that the brand ambassador is an artist that they are actually interested in.

Conclusion

This study revealed that all of these factors including social proof, customer traits, and trust that impact online impulse buying on Facebook live stream platform. Particularly, social proof constructed by user ratings, user reviews, testimonials, and brand ambassadors contributed the highest weight in impulse buying on the Facebook live stream platform. Social proof plays an important role in creating customer's online impulse buying. Hence, sellers should consider putting these factors of social proof together in live-stream activities, which may contribute to enhancing customer's unexpected purchasing a lot. Moreover, customer traits factor conceptualized by shopping enjoyment tendency and consumer moods also affects directly online impulse buying. Sellers, thus, need to create an exciting atmosphere on the social networks that is helpful to accelerate customers' enjoyment and mood. In addition, the trust factor built by the context of benevolence and integrity was found that indirectly influences online impulse buying through perceived usefulness and perceived enjoyment. In the previous study such as (Wang, 2015), the trust factor impacts directly on online impulse buying, however, in this study area, unexpected buying of customers is created by live-stream platforms. Thus, it is reasonable to see the mediator role of perceived usefulness and enjoyment in the relationship between trust and online impulse buying. This finding also follows the S-O-R (Stimuli-Organism-Response) model while perceived usefulness and perceived enjoyment play a role as cognitive reaction and affective reaction in the organism construct. As a result, boosting trust activities is necessary to enhance online impulse buying on Facebook live stream platform. Lastly, the other finding of this study that is considered by managers of e-commerce vendors is the visual appeal. This factor indirectly impacts online impulse buying. Thus, sellers and managers of e-commerce organizations also should focus on aesthetically appealing live streams. In terms of characteristics of interviewers, the striking thing in the experience of online impulse buying is that 80,9% of the interviewers had experience in online unexpected purchasing, which contributed significantly in conducting the kind of study.

Limitation and further study

Following contributions and findings of this study, we also realized some limitations that need to improve in the future. Firstly, of course, data is collected on online platforms by random sampling method that leads to data bias and negatively affects the result of the research. Indeed, in the descriptive results, some characteristics are biased a lot such as age (from 20 to under 30 accounted for 87,3%) and gender (female accounted for 65,4%). In the further study, we may use sampling by the group and make face-to-face interviews to improve this issue. Secondly, this result only applies to the Vietnamese area while online impulse buying might be different between geographical patterns as well as cultural characteristics. So, we can consider expanding the research area to other countries that aim to discover more factors that also may impact online impulse buying. Thirdly, in the previous study, the impulse buying tendency factor was found that has a strong relationship with online impulse buying. However, in this study, impulse buying tendency has no existence in the model result. So, we are going to study this factor deeply and adjust measurements to obtain more understanding about it. Lastly, we also consider making more analysis on the characteristics group of customers that is helpful to reveal the difference between customer groups toward online impulse buying.

Appendix

Appendix A. Questionnaire

Have you made a purchase on a Facebook live stream in the past 6 months?

1. Yes
2. No

Serial	**Factor**	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		1	2	3	4	5
TRUST						
I	**BENEVOLENCE**					
1	If required help, Facebook would do their best to help me.					
2	Shopping on the Facebook live stream considers consumers' interests when problems arise.					
3	Shopping on the Facebook live stream tries to understand my needs and preferences.					
4	Shopping on the Facebook live stream would concern my well-being.					
II	**COMPETENCE**					
1	Shopping on the Facebook live stream has provided good customer service.					
2	Shopping on the Facebook live stream has provided good knowledge about product information.					

3	Shopping on the Facebook live stream is like real experts in assessing product information.					
III	**INTEGRITY**					
1	Think that shopping on the Facebook live stream is trustworthy.					
2	I think that shopping on the Facebook live stream is truthful in their dealings with consumers.					
3	I think that shopping on the Facebook live stream keeps promises to their consumers.					
IV	**VISUAL APPEAL**					
1	Live streams on Facebook show me plenty of pictures and videos, which are visually pleasing.					
2	Live streams on Facebook show me plenty of pictures and videos, which are visually appealing.					
3	Live streams on Facebook provide me with plenty of pictures and videos, which display visually pleasing designs.					
CUSTOMER TRAITS						
V	**IMPULSE BUYING TENDENCY**					
1	I can't control myself to buy the product.					
2	I buy products because of environmental influences.					
3	When I shop, I usually buy products that I didn't plan to buy.					
4	I am an individual who always makes unplanned purchases.					
5	When I see a product that catches my eye, I will immediately buy the product without considering anything.					
6	It feels great to make purchases.					
VI	**SHOPPING ENJOYMENT TENDENCY**					
1	Shopping is one of my favorite activities.					
2	Shopping is a way I like to spend leisure time.					
3	I do not obtain pleasure in buying something attractive.					
VII	**CONSUMER MOOD**					

1	I buy a certain product depending on how I feel at the time					
2	Sometimes, I buy something to make myself feel better					
3	Shopping is a way to reduce stress in everyday life					
4	My happiness increases with the number of products I buy					
5	When I'm feeling happy, shopping becomes even more fun.					
SOCIAL PROOF						
VIII	**USER RATING**					
1	I observe easily that many people like, share, and comment on celebrities' posts.					
2	I observe that the quantity of likes, shares, and comments regarding different posts is great.					
3	I observe that the volume of likes, shares, and comments related to various products is large.					
IX	**USER REVIEWS**					
1	I find it useful to read online reviews on the Facebook live stream					
2	I am satisfied with online reviews on the Facebook live stream					
3	I find just the information I am looking for while reading online reviews on the Facebook live stream					
4	I find it enjoyable to read online reviews on the Facebook live stream					
5	I feel like an escape when I read online reviews on the Facebook live stream					
X	**TESTIMONIALS**					
1	Social media celebrities' suggestions are genuine.					
2	Online celebrities' posts regarding different products seem real to me.					
3	Digital celebrities' opinions are reliable.					
XI	**BRAND AMBASSADOR**					
1	When talking about celebrities, I easily and quickly remember products related to them.					

2	I can easily remember products by celebrities' presence in their advertisements.					
3	If I want to draw the shape of the brand in my mind, I should think of celebrities to remember it.					
XII	**PERCEIVED USEFULNESS**					
1	Using live stream shopping on Facebook enables me to find the products easily I am looking for.					
2	Using live stream shopping on Facebook enables me to access a lot of product information.					
3	Product information on live stream shopping on Facebook is clear and understandable.					
4	Using live stream shopping on Facebook enables me to accomplish transactions quickly.					
XIII	**PERCEIVED ENJOYMENT**					
1	My interaction with the live stream on Facebook was enjoyable.					
2	My interaction with the live stream on Facebook was boring.					
3	My interaction with the live stream on Facebook was pleasant.					
XIV	**ONLINE IMPULSE BUYING**					
1	When shopping on the Facebook live stream, I often have the idea "buy now, think about it later".					
2	When shopping on the Facebook live stream, I often buy things according to how I feel at the moment.					
3	When shopping on the Facebook live stream, I often buy things without thinking.					
4	When shopping on the Facebook live stream, the shopping process prompted me to make impulsive, sudden purchases.					

Personal information

Question 1: What is your gender?

1. Male
2. Female
3. No want to response

Question 2: What is your age?

1. Less than 20

2. From 20 to under 30
3. From 30 to under 40
4. From 40 or more

Question 3: What is your highest degree?

1. Under high school
2. High school
3. College/University
4. After University

Question 4: What is your job?

1. Student
2. Officer
3. Functionary
4. Worker
5. Housekeeper
6. Other

Question 5: How much is your monthly income? (VND)

1. Less than 5 million
2. From 5 to under 10 million
3. From 10 to under 20 million
4. From 20 million or more

Question 6: How many years have you used social networking?

1. Under 1
2. From 1 to under 3
3. From 3 to under 5
4. From 5 or more

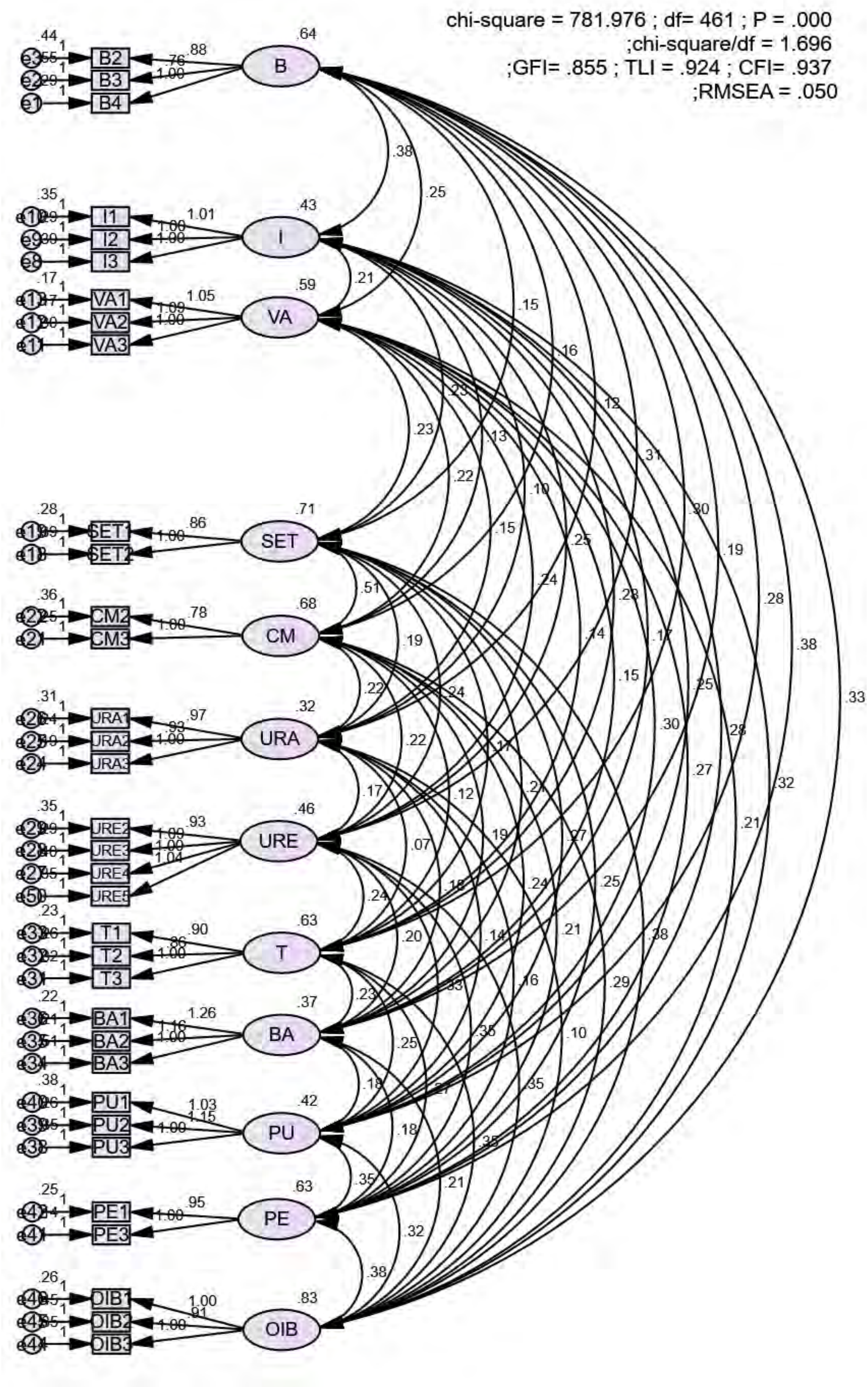
Question 7: Did you have online impulse buying?

1. Yes
2. No

Appendix B. Result of Harman' test

Total Variance Explained						
	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	15.525	29.856	29.856	15.525	29.856	29.856
Extraction Method: Principal Component Analysis.						

Appendix C. Result of measurement model (CFA)



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THE ROLE OF IMMERSION AND PRESENCE IN BUILDING CUSTOMER ENGAGEMENT IN SOCIAL COMMERCE LIVESTREAMING: AN EMPIRICAL STUDY IN VIETNAMESE CONTEXT

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ABSTRACT

Social commerce has become an inevitable trend for new generations, which makes companies need to know how to exploit to bring their products closer to consumers. Livestreaming shopping is also one of assistance that makes for human life much easier and it will be up-coming trend in the near future because people are much busier with their stuffs in lives so the more convenient goods, services invented; the more people will be open to welcome it. This study aims to investigating the role of immersion and presence along with other factors in building customer engagement in social commerce livestreaming platforms. Data was collected with 302 appropriate respondents who used to or have watched livestream session on social commerce. The research results confirmed that symbolic value, trust in seller and immersion have significant effect on the relationship with customer engagement towards livestream platform on social commerce sellers as well as significant effects of utilitarian value, symbolic value, trust in product on customer trust towards social commerce sellers on livestream platform.

Keywords: social commerce, customer trust, customer engagement, livestreaming, perceived value, immersion.

1. Introduction

According to Liang and Turban (2011), social commerce that makes utilization of social media platforms so that Internet users are easily accessible to make transactions and experience shopping via electronic commerce. One of the most superior livestream characteristics of social networking sites are the interpersonal interaction, real-time connection, quickly response that creates appealing and immersive for customer engagement that gives shoppers social presence despite actually is not (Haimson & Tang, 2017). Furthermore, livestreaming trends seem to be more crucial for online shopper even individuals or organization during Covid-19 when people was recommended to stay at home and avoid social contact with others. For this harsh period, the shopping needs of customers obviously rise and some of being-livestreaming seller sense that it's good chance for them to advertise to viewers available products on the ground that people during the social distancing have tendency to use smartphone or electronic devices more. Livestreaming allows sellers to display their personal appearance, express emotions, personality, show their selling space, provide interpersonal interactions between buyers and sellers, as well as exploit sales technique that was only applicable in offline sales, now it can be used online. The presence and engagement capabilities that livestreaming brings help improve customer shopping experience, positive attitudes and interactions for towards merchants (Hajli, 2015). Although livestreaming is growing strongly, it has not received much attention from researchers, especially studies on the impact of immersion and presence on customer engagement. Recently, very few international studies have investigated the factors affecting customer trust and engagement with sellers through livestreaming on social networks such as study of Wongkitrungrueng and Assarut (2018). In the Vietnamese context, there are currently only a few studies by Tuan and Pham (2019) on the factors affecting customers' purchase intention through Facebook live streaming platform. Therefore, a comprehensive research that investigating the factors affecting to the customer engagement in liveatreaming social platforms that include immersion and presence is needed.

In this studies, we examined factors that could affect to consumer's trust and engagement in liveatreaming social platforms. The paper is structured as follows. In the next sections we will discuss the conceptual model development with proposed hypothesis, methodology, results, and conclusion.

2. Theoretical framework

2.1. Customer engagement

Customer engagement is understood as joining with emotion among brands, customers and sellers (Moliner, Monferrer-Tirado, & Estrada-Guillén, 2018). An article belongs to Wongkitrungrueng and Assarut (2018) claimed customer engagement like customer behavioral addiction. Even one study of Bowden (2009) consider customer engagement as a process of psychology. For the past research it is said that engagement is among the publicly used in some industries such as advertising and social commerce (Wongkitrungrueng & Assarut, 2018). In 2019, a research of Prentice, Han, Hua, and Hu (2019) supposed that purchase intention can be affected by customer engagement. Hence, there are abundant range of research specialize in purchase intention in commerce so author hope that author can find something different in terms of customer engagement under the context of livestream platform on social commerce sellers. The previous research have tested about the impact of social networking sites on customer behavior such as sharing information motivation, customer behavior before, in and after purchasing that can have an influence on the recognition stage and accumulative information about products and brands. Customer engagement was considered as the way potential customer or current customers connect with brands, products. Moreover the engagement also includes activities such as window-shopping, visiting the online seller websites and process of analyzing and accumulating information in order to make decision (Vivek, Beatty, & Morgan, 2012).

2.2. Customer trust

Trust have greatly influence on the consumer buying intention Kim, Ferrin, and Rao (2008) and also support for the consistent relationship between sellers and buyers (Chang & Chen, 2008). Furthermore, trust helps to make positive impact on customers behavior that create the brand loyalty and at the same time increase customer intention to re-patronage to the site (Chang & Chen, 2008). Without the trust, people will less or never reach out to these networking sites, it can be further harmful effect to brand image if people leave out the trust with brands due to the previous bad fame from the bad experience with brands and products. In addition, trust decreases the consumer uncertainty, risk from purchasing via web-based (McKnight, Choudhury, & Kacmar, 2000). Furthermore, said that raising the trust towards customer is crucial for online shopping. By virtue of the fact that most of online transactions have to be engaged with many parties such as delivery, packaging, online payment,… so customers always ask the reliability with trustful information and confirmation from online seller before buying products (Yadav, De Valck, Hennig-Thurau, Hoffman, & Spann, 2013)

Consequently, the first step for online suppliers and consumers is to create the trust-related behavior. Previous research has found out that when the belief towards brands, products via online form is strong enough, people will be willing to engage, buy and interact with others in the livestreaming sessions (Lim, Sia, Lee, & Benbasat, 2006).

2.2.1. Trust in sellers

Trust in seller means the customers put belief in sellers because of some reasons such as the reliable fame of sellers or the appearance of sellers when they said that they used that products which makes them have good-looking appearance. This typical example is the most common case with cosmetic products. On the ground that the customers consider the sellers as the standard model, therefore their logical thinking indicates that they should use those products which that model used to buy.

H1. *Customers' trust in the seller has a positive relationship with customer engagement.*

2.2.2. Trust in products

For the past studies investigated about building trust in traditional and online form of transactions, the majority of the research focus on the correlation between trust in sellers and trust in products. Even an article of (Hidayanto, Ovirza, Anggia, Budi, & Phusavat, 2017; Pappas, 2016) make it more clearly between trust in sellers and trust in products. By virtue of that products are one of type in model 4P, the following hypotheses are proposed:

H2. *Customers' trust in products has a positive relationship with customer engagement.*

H3. *Customers' trust in products has a positive relationship with customers' trust in the seller.*

2.3. Perceived value

Perceived value plays an important role in building customer trust as well as customer engagement with brands. Perceived value is simply explained by the comparison between value that consumers can get from the products, services and the cost that they have to spend (Zeithami, 1988). Knowing the perceived value of customer clearly will help online sellers to add essential value in order that customers can put higher trust and are willing to taste products as well as reduce worrying. Therefore, customer can choose to place more trustful belief with brands, products and online sellers. Scholars supposed that consumer perceived valued was consider as the key factor so as to constitute consumer's trust. In fact, the higher value a product demonstrate, the high possibility customers will buy that products (Zeithami, 1988).

2.3.1. Utilitarian value

Utilitarian value with regard to the level of satisfaction with products/services when compared to the initial customer expectation. Utilitarian value is considered to motivate the shopping needs and evaluate the actual perceived value from products/services experience (Babin, Darden, & Griffin, 1994). To assess the high level of utilitarian value of shoppers depending on the large information customer search for the items (Babin et al., 1994); the emergency of their demand; highly consumption of time, effort (Rintamäki, Kanto, Kuusela, & Spence, 2006); under easily reach as regards available information, convenient payment (Seiders, Berry, & Gresham, 2000). What's more, the utilitarian value was found out to be the high concern towards online buyers rather than hedonic value from the point of view of previous articles about purchase intention and behavior (Bridges & Florsheim, 2008; Overby & Lee, 2006).

Because of some drawbacks such as a single, independent or small scale of sellers when purchasing via online channels, online shoppers have tendency to be in excess of awareness about the legitimacy of online sellers and product authenticity (Chen & Dhillon, 2003). The word "authenticity" with regard to the real appearance, clearly originality (Boyle, 2003; Kennick, 1985). Livestream publicly exhibits the seller's facial emotion, background, appearance especially when they try on clothes or cosmetics for instance that cannot be edited by software or technology support to make products/items much more eye-catching with viewers. Let make it more specific to compare between online shopping and traditional shopping, we can see that in online channels consumers are usually concerned about the shortage of the products consultancy and customer services from shop staffs due to the long distance, time or accurate size of the customers (Nohria & Eccles, 1992; Yoon, 2002). Responsive which means to react quickly with customer concerns, feedback is therefore extremely important to get feedback, give more detailed information, respond in both sides and also raise online flow of experiences, customer engagement experience and last but not least is to improve their livestream services (Van Noort, Voorveld, & Van Reijmersdal, 2012).

Furthermore, online shopping is overwhelmed high risks with respect to the physical touch, fitting-on items before purchasing decision-making (Lee, Kim, & Fiore, 2010). Due to the fact that the online shop often uses fake pictures or photogenic models with such products/items on internet so as to advertise about the premium high-quality products/items. To solve this issues, some of e-commerce websites address some of platforms for example zoom 200%, rotate all angles of the pictures to increase the reliability toward those pictures for e-commerce users (Lee et al., 2010; Park, Stoel, & Lennon, 2008). Moreover, Social networking sites users who used to buy items via Social networking sites claims that the products/items in reality are not as eye-catching, premium and photogenic as displayed as well. For livestream platform on Social networking sites, it can reduce incidence of not real object because while the online seller put on the clothes, test cosmetics under the witness of viewers.

In particular, we hope that livestream platforms can address to support some limitation of online shopping in terms of authenticity, visualization, and responsiveness.

H4a. *The utilitarian value of livestreaming has a positive relationship with customers' trust in the seller.*

H4b. *The utilitarian value of livestreaming has a positive relationship with customers' trust in the product.*

2.3.2. Hedonic value

Hedonic value shows emotion, relaxation and reactional experience of shoppers. Hedonic value often related to the joyful and enjoy when shopping on e-commerce (Jarvenpaa & Todd, 1997). The definition enjoyment or playfulness" means a fascinating, enjoyable experience. One research from Parsons (2002) report that nearly almost e-commerce buyer ponder that surfing and shopping via e-commerce channel is stress-buster out of daily lives.

Before the invention of livestream platforms on social commerce we used to experience some of posts on social media like flash sales, discounts in order to gain as much as attention and reach for those. Since the come-up of livestream on Social networking sites, online sellers also make use of this platforms to engage in excess of viewers as they can with acquisition program. For instance, online sellers set up black-Friday or flash sales to give consumers sales-off or host a lot of lucky games which enable the participants to go in for and earn the bonus, gifts, discounts. One of the most common funny games that is shoppers comment a number and tag at least 3 friends, the result of lucky games will be announced at the end of the livestream meeting. By these promotion methods can boost the participant mood, provoke the shoppers' excitement. What's more only buyers said that bargain hunting makes them feel conquering the affordable items without severe bargaining in the market (Wolfinbarger & Gilly, 2001). Therefore the online shoppers can utilized this livestream platform as a relaxing tool to attract the customers attention. Thus:

H5a. *The hedonic value of livestreaming has a positive relationship with customers' trust in the seller.*

H5b. *The hedonic value of livestreaming has a positive relationship with customers' trust in the product*

2.3.3. Symbolic value

Apart from two of perceived values that is utilitarian value and hedonic value, we have symbolic value to depict more detailed about the value which consumers feel. According to an article of Firat and Venkatesh (1993) that symbolic value includes social contact, relationship and consumer' image when they purchase on e-commerce. Koo, Kim, and Lee (2008) indicated that symbolic value which includes some factors such as self-image, social networks of customers contribute significant role in building the highly return of customers. Shoppers tend to enter any livestream meeting in case they see some of their friends and network are there. Koo et al. (2008) described that the personal values of self-esteem (e.g., self-fulfillment) and social affiliation (e.g., friendly relationships) have a positive influence on consumers' assessments of online stores' attributes, and that this has a positive influence on re-patronage intention. Overall, it is expected that livestreaming may create some of social feeling and respect basing on symbolic value with hypothesis:

H6a. *The symbolic value of livestreaming has a positive relationship with customers' trust in the seller.*

H6b. *The symbolic value of livestreaming has a positive relationship with customers' trust in the product.*

The previous studies also recommended that perceived value can have an impact on the assessment process of customers (Baker, Parasuraman, Grewal, & Voss, 2002; Coulter, Gummerus, Liljander, Weman, & Pihlström, 2012; Dennis, King, Fiore, & Kim, 2007). Last discussion clarified about the clearly relationship between perceived shopping value and the engagement of customer.

H4c. *The utilitarian value of livestreaming has a positive relationship with customer engagement.*

H5c. *The hedonic value of livestreaming has a positive relationship with customer engagement.*

H6c. *The symbolic value of livestreaming has a positive relationship with customer engagement.*

2.4. The immersion and presence in livestreaming platform

2.4.1. Immersion

Online shoppers can identify their personal values, benefits from activities which they engage (Fang, Chen, Wen, & Prybutok, 2018). The more values and benefits they obtain, the more engagement they will create with sellers and eventually purchase intention. The shoppers even can assimilate themselves in seller's reaction video and lucky games and when buyers really absorb with interesting content of video or amusing words from sellers, they will make them feel like relaxed. It therefore impact both of utilitarian and hedonic value. For example, at some special occasion, the sellers will host some give-away for customer in the form of requiring their customer to share, tag and interact with their post or livestream and the result will be public at the beginning or the ending of the livestream. These exhilarating interactions were born by sellers by following which can immerse the participants as well as make them be absorbed in the current also future launching (Yim, Chu, & Sauer, 2017). So the hypothesis in there:

H7. *In livestreaming shopping, immersion is positively associated with customer engagement*

2.4.2. Telepresence and Social presence

Shopping with physical stores and staffs somehow has some pros such as physical touching with items with conscientious consultancy from staffs but its cons is unpleasant of customers incase the customers are anti-social. So with the absence of online shopping platforms are able to make these customers more comfortable (Gao, Liu, Liu, & Li, 2018). With high intense participation in telepresence and social network of online shopping, shoppers may assimilate abundantly useful information about brands, sellers even products. Not only livestream supports more visual about the products but also more convenient for customers keep watching if are busy. Additionally online shoppers are likely to gain in excess of experience and a range of opinions/reviews/recommendations from other online shoppers that connect sellers and buyers much better to meet the goal of both sides (Darke, Brady, Benedicktus, & Wilson, 2016; Gao et al., 2018; B. Lu, Fan, & Zhou, 2016). Telepresence and Social presence can affect less or more over the customer engagement so that we propose that:

H8. *In livestreaming shopping, telepresence is positively associated with customer engagement*

H9. *In livestreaming shopping, social presence is positively associated with customer engagement*

All in all, based on the aforementioned discussion, the conceptual model has been developed and shown in *Figure 1*.

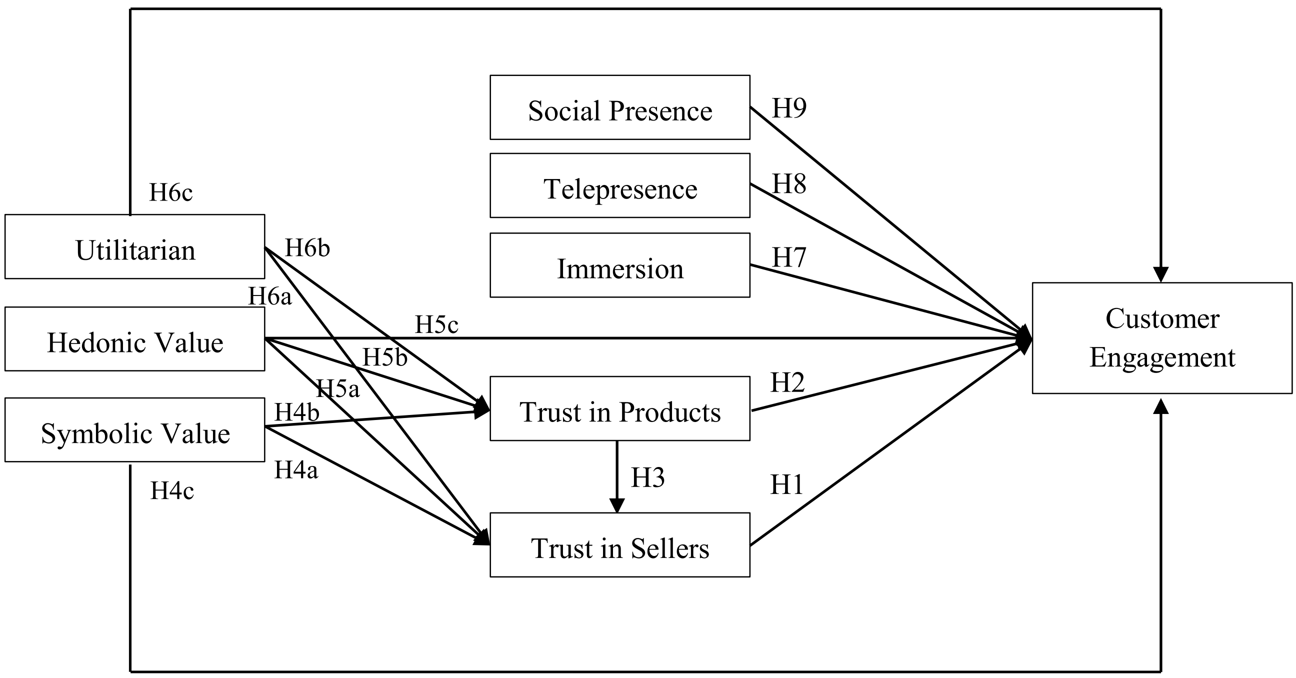

Figure 1. Proposed Research Model

3. Research method

A questionnaire-based survey was developed in order to test the theoretical constructs. Constructs and measurement items were adapted with slight modifications from the literature review to build the questionnaire. Measurement items for constructs are operationalized by items adapted from previous studies of Ba and Pavlou (2002), Chiu, Wang, Fang, and Huang (2014), Coulter et al. (2012), Y. Lu, Zhao, and Wang (2010), Ou, Pavlou, and Davison (2014), Song and Zinkhan (2008), and Yim et al. (2017). All main measurement items were measured on a five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5). Four demographic variables related to gender, age, occupation, income level were also included in the questionnaire. The questionnaire was primarily developed in English, based on the literature with reviewing for content validity experts from a university. Because the data collection procedure was operated in Vietnamese context, then later all English instruments was translated into Vietnamese language by a professional translator. The questionnaire was built online with Google Form service and distributed via emails and social networks private messages. There are 361 respondents took part in the survey and data of 302 respondents was valid. After the data has been collected from official surveys, coding process and data processing techniques to carry out research objectives with the main support of SPSS 22.0 and SmartPLS 3.0. Partial Least Squares Structural Equation Modeling (PLS-SEM) techniques were applied for testing the research model and hypotheses.

4. Results and discussion

4.1. Measurement model

In order to verify measurement model, all observed variables of 9 latent variables were used to conduct the partial least squares structural equation modeling (PLS-SEM). The analysis results show that the outer loadings for each of the latent variable of the present study were sufficiently greater than 0.5. The composite reliability (CR) coefficients for each of the latent variable ranged from 0.879 to 0.945, which indicating strong reliability of the measures. The average variance extracted (AVE) have sufficiently greater than 0.5, thus the study demonstrated adequate convergent validity (see Table 1). The shared variance between factors was below the square root of the AVE of the individual factors as shown in Table 2, ratifying the discriminant validity. The results of cross loading show that all individual items are loaded higher on their respective constructs than on the other constructs. The square root of AVE was higher than the correlations among the latent variables. The heterotrait-monotrait ratio of correlations (HTMT) values, which lie above the diagonal in Table 2, are below the threshold of 0.85. Therefore, the discriminant validity of the measurement model in this study is acceptable. VIF of all observed variables are less than 3; thus, multicollinearity is not a concern in this study. The details are presented in Table 1 and Table 2.

Table 1. Convergent Validity

Factor	Cronbach's Alpha (α)	Composite Reliability (CR)	Variance Inflation Factor (VIF)	Average Variance Extracted (AVE)
Customer Engagement (CE)	0.934	0.945		0.655
Hedonic Value (HV)	0.901	0.921	1.61	0.570
Immersion (IM)	0.893	0.933	1.80	0.824
Social Presence (SP)	0.880	0.917	1.37	0.735
Symbolic Value (SV)	0.903	0.921	1.68	0.566
Telepresence (TE)	0.846	0.896	1.47	0.684
Trust in Product (TP)	0.853	0.910	1.98	0.772
Trust in Seller (TS)	0.814	0.879	1.65	0.648
Utilitarian Value (UV)	0.851	0.882	1.53	0.523

Table 2. Discriminant Validity

	CE	HV	IM	SP	SV	TE	TP	TS	UV
CE	**0.755**[a]	0.553[c]	0.610[c]	0.625[c]	0.315[c]	0.575[c]	0.568[c]	0.589[c]	0.479[c]
HV	0.468[b]	**0.908**[a]	0.714[c]	0.250[c]	0.237[c]	0.365[c]	0.459[c]	0.573[c]	0.349[c]
IM	0.478[b]	0.585[b]	**0.857**[a]	0.344[c]	0.334[c]	0.372[c]	0.464[c]	0.535[c]	0.308[c]
SP	0.525[b]	0.229[b]	0.278[b]	**0.752**[a]	0.622[c]	0.394[c]	0.419[c]	0.511[c]	0.544[c]
SV	0.259[b]	0.205[b]	0.265[b]	0.480[b]	**0.827**[a]	0.387[c]	0.212[c]	0.450[c]	0.477[c]
TE	0.497[b]	0.337[b]	0.319[b]	0.349[b]	0.329[b]	**0.879**[a]	0.496[c]	0.562[c]	0.391[c]
TP	0.468[b]	0.405[b]	0.381[b]	0.373[b]	0.181[b]	0.441[b]	**0.805**[a]	0.585[c]	0.327[c]
TS	0.402[b]	0.501[b]	0.444[b]	0.450[b]	0.383[b]	0.501[b]	0.503[b]	**0.885**[a]	0.386[c]
UV	0.375[b]	0.271[b]	0.228[b]	0.423[b]	0.364[b]	0.327[b]	0.268[b]	0.322[b]	**0.723**[a]

[a] *Square root of the average variance extracted (AVE) of each latent variable*

[b] *Correlation between latent variables*

[c] *HTMT value*

4.2. Hypotheses testing

In order to extend the research results to the overall, the model needs to be tested for reliability. Path coefficient for endogenous latent variables is used. Evaluation of research results conducted through non-parametric Bootstrap analysis (Bootstrapping Test). Bootstrap is used in PLS to provide confidence intervals for all parameter estimates, building a basis for statistical inference. The path coefficients that make up a Bootstrap distribution can be viewed as an approximation of the sampling distribution. The R^2 value of the model was 0.53, the cross-validated redundancy value (Q^2) is 0.35 (greater than zero) and all the f^2 for exogenous variables in the models are greater than the threshold of 0.02. This suggests that the model has predictive relevance. PLS-SEM results for all bootstrap models provide confirmation for the hypotheses H1a, H1b, H2b, H3a, H3b, H3c, H4a, H5, H6, H7b as shown in Table 3 and Figure 2.

Table 3. Hypotheses testing results based on testing structural equation models

Hypothesis		t-statistics	p-values	Bootstrap 95% CI	Results
H1	Trust in Sellers has a positive effect on Customer Engagement	2.808	0.005	[0.042, 0.223]	Accepted
H2	Trust in Products has a positive effect on Customer Engagement	0.448	0.655	[-0.063, 0.112]	Rejected
H3	Trust in Products has a positive effect on Trust in Sellers	6.552	<0.001	[0.272, 0.467]	Accepted
H4a	Symbolic Value has a positive effect on Trust in Sellers	6.186	<0.001	[0.387, 0.663]	Accepted
H4b	Symbolic Value has a positive effect on Trust in Products	4.760	<0.001	[0.213, 0.489]	Accepted
H4c	Symbolic Value has a positive effect on Customer Engagement	3.671	<0.001	[0.102, 0.339]	Accepted
H5a	Hedonic Value has a positive effect on Trust in Sellers	0.393	0.695	[-0.071, 0.195]	Rejected
H5b	Hedonic Value has a positive effect on Trust in Products	2.981	0.003	[0.076, 0.356]	Accepted
H5c	Hedonic Value has a positive effect on Customer Engagement	1.938	0.053	[-0.003, 0.218]	Rejected
H6a	Utilitarian Value has a positive effect on Trust in seller	2.880	0.004	[0.146, 0.339]	Accepted
H6b	Utilitarian Value has a positive effect on Trust in product	4.264	<0.001	[0.131, 0.376]	Accepted

H6c	Utilitarian Value has a positive effect on Customer Engagement	0.555	0.579	[-0.097, 0.057]	Rejected
H7	Immersion has a positive effect on Customer Engagement	6.748	<0.001	[0.255, 0.449]	Accepted
H8	Telepresence has a positive effect on Customer Engagement	2.641	0.009	[0.027, 0.237]	Accepted
H9	Social Presence has a positive effect on Customer Engagement	1.715	0.087	[-0.009, 0.172]	Rejected

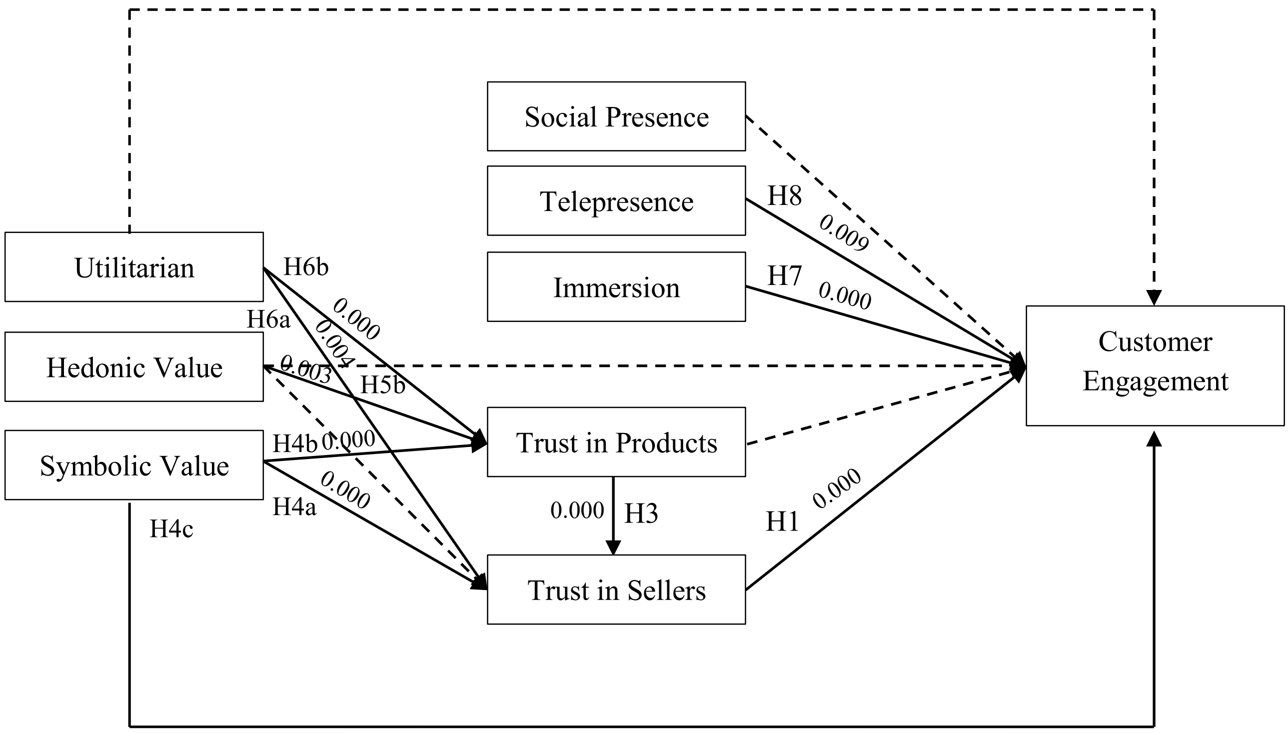

Figure 2. Hypotheses testing with Bootstrapping (PLS-SEM)

4.3. Discussion

The research paper found out that symbolic value, trust in seller and immersion have strong effect on the relationship with customer engagement towards livestream platform on social commerce sellers (p <0.001) and strong effect of utilitarian value, symbolic value, trust in product with customer trust towards livestream platform on social commerce sellers (p <0.001). Therefore, the online sellers should increase the attractive appearance of livestream feature on social commerce to engage as much as viewers in their livestreaming sessions. Moreover, online sellers should give recognition about the presence of customers and build trust with customers by adding some reliable certification in order to increase about the customer engagement towards livestreaming sessions so that customer can build trust with their products. In terms of customer trust towards livestreaming sessions, the online sellers had better bring as much as utilitarian value for customer besides visualization via livestream platform such as sending sampling if customers are really care about their products.

Based on the results of this study, several managerial implications for enhancing customer engagement in livestreaming platform on social commerce could be suggested for firms. Firstly, company need to prepare numerous interactive activities with buyers to increase their immersion, the feeling that they really participate in interactions with sellers like in offline stores. Sellers should enhance interesting sales activities to attract buyers into their livestreaming space. Secondly, sellers should improve their symbolic values through social interactions beyond selling to make customers feel that they are friends of the same level, with the same interests, with the same passion and interacting with sellers makes them feel like they're trending. Thirdly, they also should increase customer trust in themselves by reinforcing the utilitarian values of the product, reinforcing the trust in the offering products.

5. Conclusion

Social commerce has become an inevitable trend for new generations, which makes companies need to know how to exploit to bring their products closer to consumers. Livestreaming shopping is also one of assistance that makes for human life much easier and it will be up-coming trend in the near future because of its interpersonal interaction, real-time connection, quickly response that creates appealing and immersive for customer engagement. This study was conducted to investigate the role of immersion and presence along with other factors in building customer engagement on social commerce livestreaming platforms. The research results confirmed that symbolic value, trust in seller and immersion have significant effect on the relationship with customer engagement towards livestream platform on social commerce sellers as well as significant effects of utilitarian value, symbolic value, trust in product on customer trust towards social commerce sellers on livestream platform.

However, beside of our study's main contribution that adds into the existing body of knowledge, we also recognize its limitations, mostly regarding the sampling with typically young, highly educated people as responders. The respondents' behavioral patterns might diverge to some extent in comparison with the population average. With such behaviors that are mostly more pioneering and rapider to adopt new technologies, this sampling seems to have possible effects. Future research can be constructed based on this study by examining the proposed model in more equal between age groups or applying this model to other countries and also other contexts.

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THE IMPACT OF BRAND HATE ON NEGATIVE WORD-OF-MOUTH AND NON-REPURCHASING INTENTION: AN EMPIRICAL STUDY IN VIETNAMESE CONTEXT

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ABSTRACT

Most of previous studies paid much attention to the positive emotion that customers have towards brands as well as the contribution of the brand love in consumer's buying decision. Besides, negative emotions, such as brand hate, was recently addressed as a dangerous factor which leads to consumer's bad experience and behavior. This study aimed to identify determinants of brand hate and evaluate the influence of brand hate on consumer's non-repurchase intention as well as negative word-of-mouth. The research framework was empirically tested using 250 responses conducted in Vietnamese consumers. The research results confirmed the brand hate is triggered by negative past experience and symbolic incongruity; these factors cause negative word-of-mouth and brand retaliation which positively influences non-repurchase intention..

Keywords: brand hate, non-repurchase intention, negative past experience, symbolic incongruity, ideological incompatibility, offline negative word-of-mouth, online complaining, brand retaliation.

1. Introduction

Brand plays the significant role as a principal entity of cultural marketplace phenomena which has been increasingly emphasized by the consumer culture theory (Davvetas & Diamantopoulos, 2017). Several studies have investigated the consumer-brand relation from a positive perspective approach (Fetscherin & Sampedro, 2019), by especially focusing the researches on some dimensions, such as brand attachment (Park, Eisingerich, & Park, 2013), brand passion (Albert, Merunka, & Valette-Florence, 2013; Swimberghe, Astakhova, & Wooldridge, 2014), brand commitment, brand loyalty, brand advocacy (Stokburger-Sauer, Ratneshwar, & Sen, 2012) and brand love (Ahuvia, Bagozzi, & Batra, 2014; Rossiter, 2012; Zarantonello, Formisano, & Grappi, 2016). Conversely, the dark side of relationships between consumer and brand has been recently become an interesting topic that put the questions on scholars in this field (Fetscherin, 2019). There some concepts have been raised to analyze by the researchers, such as brand dislike (Dalli, Romani, & Gistri, 2006), brand avoidance (Khan & Lee, 2014; Knittel, Beurer, & Berndt, 2016; Odoom, Kosiba, Djamgbah, & Narh, 2019) brand divorce (Sussan, Hall, & Meamber, 2012), brand hypocrite (Guèvremont, 2019) and anti-branding (Cambefort & Roux, 2019). Notably, the previous studies' results show that consumers are found as being dramatically influenced by the negative attitudes above (Fetscherin, 2019). The reason for this can be addressed that people tend to remember negative events more than positive ones (Fournier & Alvarez, 2013; Hegner, Fetscherin, & Van Delzen, 2017; Zeki & Romaya, 2008). The results are supported by several findings of other theoretical areas, such as in psychology (Ito, Larsen, Smith, & Cacioppo, 1998), and neuroscience (Zeki & Romaya, 2008). Moreover, Baumeister, Bratslavsky, Finkenauer, and Vohs (2001) also assert that people tend to be more eager to talk and write reviews about their negative experiences than to share their own positive experience. In consumer behavior approach, this is referred to "negativity bias" (Kanouse et al., 1972), which suggested that "people tend to weigh negative information more heavily than positive information" (Kanouse, 1984). Indeed, consumer's brand hate and other negative attitudes become extremely dangerous issue for brand management process in any organization, especially when these emotions can instantaneously and globally widespread through the Internet and social media (Cooper, Stavros, & Dobele, 2019; Grégoire, Tripp, & Legoux, 2009; Obeidat, Xiao, al Qasem, & Obeidat, 2018). In this context, the brand hate related contents disseminated through websites (Krishnamurthy & Kucuk, 2009) and social media platforms can easily damage the reputation of the brand and firm (VanMeter, Grisaffe, & Chonko, 2015), by influencing consumers' perceptions and consequently their purchase decisions (Hegner et al., 2017; Krishnamurthy & Kucuk, 2009).

From the conceptual perspective, different studies have analyzed the brand hate attitude outcomes without discriminating between their online and offline nature (Bryson & Atwal, 2019; Fahmi & Zaki, 2018; Hegner et al., 2017). In addition, there is a lack of research focused on respondents as specific composed targeted consumers who hate a brand that they bought and experienced. Some previous studies results detected how negative brand experiences lead consumers to hate the brand, the findings also show the worth of using the composed target in sampling approach (Hegner et al., 2017; Zarantonello et al., 2016). According to the findings, when consumers have a bad experience with a brand, they tend to adopt more active responses, such as complaints and negative word-of-mouth (Zarantonello et al., 2016). These such consumers can be particularly harmful to brands because they can deliver the negative feelings to other customers in their own revengeful actions on some different platforms (Gensler, Völckner, Liu-Thompkins, & Wiertz, 2013). Moreover, a further research gap is related to the limited number of studies - focused on negative emotions towards brands - which have specifically paid attention to the service environment (Grégoire et al., 2009; Jayasimha, Chaudhary, & Chauhan, 2017; Sweeney, Soutar, & Mazzarol, 2014). Notably, within this context, negative word-of-mouth (in the online as well as in the offline sphere) assumes a key role since services rely more on this type of communication than products. This is particularly due to the intangibility of services, which transforms them into higher-risk choices than goods (Bijmolt, Huizingh, & Krawczyk, 2014; Pongjit & Beise-Zee, 2015). Given this intangible nature, the offline/online negative word-of-mouth can also play a prominent task in the formation of consumers' non-repurchase intentions (Bijmolt et al., 2014). Therefore, a study with a comprehensive research framework to better understand the mechanisms of brand hate that influence on the negative attitudes and behavioral intention as well as its determinants is required.

In this study, we examined the impact of brand hate on negative word-of-mouth, brand retaliation and non-repurchasing intention as well as factors that could facilitates consumers' brand hate. The paper is structured as follows. In the next sections we will discuss the conceptual model development with proposed hypothesis, methodology, results, and conclusion.

2. Theoretical framework

2.1. Brand Hate

Among the multiple negative emotions, the brand hate construct within the literature is a very recent phenomenon and researches remain out-of-print (Bryson & Atwal, 2019; Zarantonello et al., 2016). It still has been defined in a systematic way by some authors although the scarcity of studies focused on brand hate analysis. Grégoire (2009) define brand hate as a desire for avoidance and revenge toward a brand, while Bryson, Atwal, and Hultén (2013) suggest that brand hate can be seen as the extreme negative affective component of attitude towards a brand. According to the results of previous studies, there were two brand hate components have been categorized: active brand hate emotion, including sentiments such as anger, contempt, and disgust, and passive one, which comprises feelings related to fear, disappointment, shame, and dehumanization.

Psychology and marketing literature identify three possible determinants of hate. The first one is the consumer's dissatisfaction with the product or service performance (Bryson et al., 2013) or negative past experience with the brand. Another is the possible incongruence between the self-image and the brand image. The last relates to an organizational behavior which consumers might regard to be ideologically unacceptable because of legal, moral or social corporate wrongdoing. As related to behavioral outcomes, brand hate leads to hateful consumer behaviors ranging from mild (talking badly or negative word of mouth) to severe retaliation behavior (Grégoire et al., 2009; Marticotte, Arcand, & Baudry, 2016), and at last, is non-repurchase intention.

In this study, the authors focus the investigation on several outcomes, such as (i) examining three determinants of brand hate (ii) investigating brand hate's outcomes; (iii) examining the mechanisms through which brand hate influences the non-repurchase intention within a cross channel environment.

2.2. Determinants of Brand Hate

2.2.1. Negative past Experience

Product-related factors refer mostly to negative past experience the consumer had with the brand. These experiences might relate to failures of the product, dissatisfaction with the offering or negative country of origin associations. In addition, confirmation usually leads to satisfaction and occurs when consumers' expectations of the brand match their experience. Disconfirmation occurs when the consumer's expectations are either below or above the initial expectations (Oliver, 1980). Negative experience occurs when actual performance is below expectations which likely results in dissatisfaction (Oliver, 1980). The difference though between product hate and brand hate is that a negative experience with a certain product of a brand affects attitudes toward other products from the same brand name, and, thus, hate gets generalized on a brand level. Accordingly, it is reasonable to expect that negative past experience leads to brand hate, and, hence, following hypothesis is proposed.

H1. *Negative Past Experience leads to Brand Hate.*

2.2.2. Symbolic Incongruity

The incongruity between the symbolic meanings of a brand and the consumer's sense of self could lead to negative emotions toward the brand. Individuals choose or deliberately do not choose brands in part to construct their self-concepts and to create their personal identities (Escalas & Bettman, 2005). Among the works on self-concept, the undesired self Ogilvie (1987) seems to be the psychological construct most suitable to brand hate. As Lee et al. (2009) argue, "Disidentification theory suggests that people may develop their self-concept by disidentifying with brands that are perceived to be inconsistent with their own image". Based on these critical points, the second hypothesis is proposed.

H2. *Symbolic Incongruity leads to Brand Hate.*

2.2.3. Ideological Incompatibility

The author labels this factor "ideological incompatibility" as the term ideology refers to a set of beliefs which are incompatible with the consumer. Unlike the other two determinants, this one involves a more contextual and often societal or moral focus that extends beyond the needs of the individual consumers' self-image (Lee, Motion, & Conroy, 2009; Nenycz-Thiel & Romaniuk, 2011) or the basic product or service performance. In that respect, consumers perceive an ideological incompatibility with the brand because of legal, moral or social concerns when a brand is suspected of corporate irresponsibility (Bryson, Atwal, & Hultén, 2013; Zarantonello et al., 2016). Hence, the third research hypothesis is:

H3. *Ideological Incompatibility leads to Brand Hate.*

2.3. Outcomes of Brand Hate

2.3.1. Offline Negative Word-of-mouth

Offline word-of-mouth can be conceptualized as an oral and person-to-person conversation "between a receiver and a communicator, whom the receiver perceives as non-commercial" (Istanbulluoglu, Leek, & Szmigin, 2017). When this communication assumes a negative nature, it is defined as negative word-of-mouth and identified as a consumer's oral message aimed at denigrating, complaining, or advising against products, services, brands, or firms (Istanbulluoglu et al., 2017). Moreover, there is growing evidence that feelings of hate, deriving from episodes of service brand failure (Bryson et al., 2013; Johnson, Matear, & Thomson, 2011), lead consumers to adopt offline negative word-of-mouth in order to talk badly about the hated services brand (Bryson et al., 2013). Starting from the above discussion, it is expected that the more the consumers hate a service's brand, the more they will adopt offline negative word-of-mouth communications and the following hypothesis is proposed.

H4. *Brand Hate leads to Offline Negative Word-of-Mouth.*

2.3.2. Online Complaining

The complaint's concept can be defined as the act of expressing negative feelings and annoyance or communicating dissatisfaction to firms and/or third parties. With the advent of the new technologies, the act of complaining also acquires an online nature since consumers today can communicate their negative feelings instantly and globally through the adoption of the Internet and the social media platforms. Based on the above, it is expected that the more the consumers feel an emotion of hate toward a service's brand, the more they will adopt the online complaining. In this regard, the following hypothesis is postulated:

H5. *Brand Hate leads to Online Complaining.*

2.3.3. Brand Retaliation

The third type of behavioral outcomes focuses on active and direct actions toward the brand which follow the suggestion by (Grégoire, Laufer, & Tripp, 2010) and regard brand retaliation as an outcome variable of brand hate. According to Sternberg (2003), hate triggers people to approach the object of hate and to take revenge or retaliate for whatever wrongdoing the brand has committed. Based on equity theory, the author expects that brand hate can result in a direct "punishment" behavior toward the brand (Funches, Markley, & Davis, 2009). Therefore, the following hypothesis is proposed:

H6. *Brand Hate leads to Brand Retaliation.*

2.4. Non-Repurchase Intention

Liao and Keng (2013) conceptualize non-repurchase intention as a negative outcome caused by firms' failures. In another hand, based on customers' past negative experiences, their willingness to avoid another purchase from the same firm which is defined as non-repurchase intention. According the classification proposed by Baker, Meyer, and Chebat (2013), Istanbulluoglu et al. (2017) define the non-repurchase intention with the term "exit". Moreover, they also emphasize the key relevance to analyze further the mechanisms which are behind this construct since it represents a customers' private action, which "does not give the enterprise any feedback". Thus, the exit is not directly visible to brands since consumers decide to abandon them without communicating their dissatisfaction. Also for what concerns the identification of the main antecedents, literature has mainly focused its attention on the repurchase intention construct (Carroll & Ahuvia, 2006; Platania, Morando, & Santisi, 2017), thus detecting several factors leading customers to non-purchase again from the same firm.

Concerning the non-repurchase intention, how the perceived deception and dissatisfaction represent the main factors leading customers to adopt this action are identified by some studies (Agag & El-Masry, 2016; Istanbulluoglu et al., 2017; Román & Riquelme, 2014). Overall, starting from the supposition that consumers, who are dissatisfied with the brand of enterprise, develop an emotion of hate toward it (Bryson et al., 2013; Fahmi & Zaki, 2018), and that this dissatisfaction can also lead them not to repurchase this brand (Baghi & Gabrielli, 2019), it could be hypothesized that the more the consumers are dissatisfied with the brand, the more they will hate it by consequently manifesting a non-repurchase intention.

Based on that, the following hypothesis is stated:

H7. *Brand Hate leads to Non-Repurchase Intention.*

In addition to the brand hate antecedent, also the word-of-mouth can assume a key role in affecting and shaping customers' attitudes and behavioral intentions (Istanbulluoglu et al., 2017). Indeed, this type of communication can influence consumers' behaviors by creating awareness, changing or confirming opinions, and encouraging or discouraging repeat purchase (Pongjit & Beise-Zee, 2015). In particular, by focusing on the dark side of word-of-mouth, offline negative word-of-mouth and online complaining can be particularly effective in changing purchase intentions and decision making (Jayasimha et al., 2017; Sweeney et al., 2014).

Because of these arguments, regarding the offline and the online spheres, a hypothesis is that consumers will develop the intention of non-repurchase when they are influenced by offline negative word-of-mouth and online complaining as well as brand retaliation against a brand was proposed.

H8. *Offline Negative Word-of-Mouth leads to Non-Repurchase Intention.*

H9. *Online Complaining leads to Non-Repurchase Intention.*

H10. *Brand Retaliation leads to Non-Repurchase Intention.*

All in all, based on the aforementioned discussion, the conceptual model has been developed and shown in *Figure 1*.

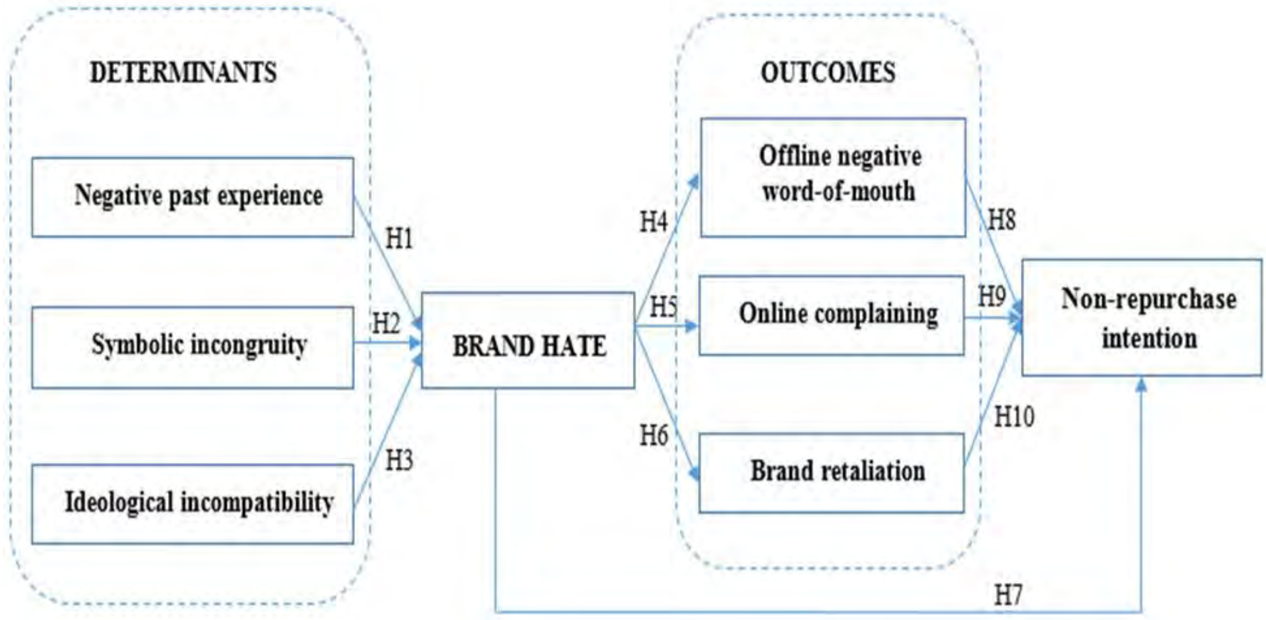

Figure 1. Proposed Conceptual Model

3. Research method

A questionnaire-based survey was developed in order to test the theoretical constructs. Constructs and measurement items were adapted with slight modifications from the literature review to build the questionnaire. Measurement items for constructs (as shown in the Appendix A) are adapted from studies of Hegner et al. (2017), Grégoire et al. (2010), Davvetas and Diamantopoulos (2017), and Romani, Grappi, and Dalli (2012). All main measurement items were measured on five-point Likert scales, ranging from totally disagree (1) to totally agree (5). Four demographic variables related to gender, age, occupation, income level were also included in the questionnaire. The questionnaire was primarily developed in English, based on the literature with reviewing for content validity experts from a university. Because the data collection procedure was operated in Vietnamese context, then later all English instruments was translated into Vietnamese language by a professional translator. The questionnaire was built online with Google Form service and distributed via email and online social networks. The There are 548 Vietnamese consumers were contacted via email and private messages in online social networks and data of 250 valid responses were received. For brands that bring discomfort or hate, 42.8% are brands in the fashion and accessories sector, 22.8% are brands in the food and beverage sector, 16.4% are brands in the service sector, 7.6% are brands in the cosmetics sector, 7.6% are brands in the electronics sector, and 2.8% are brands in the other sectors. After the data has been collected from official surveys, coding process and data processing techniques to carry out research objectives with the main support of SPSS 22.0 and Smart PLS 3.0. Exploratory factor analysis (EFA), scale reliability testing with Cronbach's Alpha, Partial Least Squares Structural Equation Modeling (PLS-SEM) techniques were applied for testing the research model and hypotheses.

4. Results and discussion

4.1. Measurement model

To prove the dimensionality and reliability of the constructs, several data purification processes are conducted in this research, including factor analysis, correlation analysis, and coefficient alpha analysis. Factor analysis is utilized to examine the basic structure (the patterns or dimensions) of the data. Correlation analysis is used to confirm the multicollinearity among variables, and coefficient (Cronbach's) alpha turns to accesses the internal consistency of each variable.

4.1.1. Determinants of Brand hate

In order to identify the dimensionality of measurement scales, principle components factor analysis with varimax rotation could be adopted to examine the underlying patterns for the vast numbers of variables. The results of the third run of exploratory factor analysis (EFA) with orthogonal rotation (varimax) showed that 13 initial measurement variables within determinants factor were reduced to 11 variables and divided into 2 factors with all factor loadings are greater than 0.5 (KMO = 0.876; $\chi^2(55) = 1514.569$, $p < 0.001$). Additionally, the recently exploratory factors continue to be assessed with the Cronbach's Alpha coefficient. All variables have a high coefficient of item-total correlation (greater than 0.5) and all the Cronbach's alpha also meet the criterion that greater than 0.6. In brief, the eleven items all pass every criterion and shows high degree internal consistency. The Table 1 shows the result of factor analysis and reliability test for the determinant variables.

Table 1. Results of exploratory factor analysis and scale reliability test of determinant factors of brand hate

Measurement Variables	***Rotated Factor Loadings (3rd EFA)***		***Item-Total Correlation***
	Symbolic Incongruity	*Negative Past Experience*	
SI3	0.810		0.895
SI4	0.791		0.899
SI5	0.771		0.897
SI1	0.762		0.896
II2	0.699		0.897
SI2	0.651		0.896
II4		0.826	0.903
NE3		0.760	0.900
II3		0.738	0.900
NE1		0.696	0.897
NE2		0.615	0.899
Eigenvalues	5.760	1.261	
Percentage of variance explained (%)	51.9%	11.5%	
Coefficient alpha	0.887	0.842	

4.1.2. Outcomes of Brand Hate

Exploratory factor analysis with orthogonal rotation and scale reliability testing with Cronbach's alpha are also applied for examining the dimensionality and reliability of the construct of outcome of brand hate. The results of the second run of EFA analysis showed that 18 initial measurement variables within determinants factor were reduced to 17 variables and converge on 3 factors with all factor loadings are greater than 0.5 (KMO = 0.944; $\chi^2(136) = 3376.524$, $p < 0.001$). Moreover, scale reliability test result shows that all item-total correlation is greater than 0.5 the scale coefficient alpha of all factors are greater than 0.6. The result of factor analysis comprises a conclusion that the high degree of consistency is existed and the results of all criteria are acceptable. The Table 2 presented the result of factor analysis and reliability test for the outcome variables.

Table 2. Results of exploratory factor analysis and scale reliability test of outcome factors of brand hate

Measurement Variables	***Rotated Factor Loadings (2nd EFA)***			***Item-Total Correlation***
	Brand Hate	*Brand Retaliation*	*Offline Negative Word-of-Mouth*	
BA1	0.805			0.698
BA5	0.804			0.822
BA3	0.793			0.666
BA4	0.791			0.737
BA2	0.776			0.756
BA6	0.726			0.704
BR3		0.829		0.729
BR1		0.827		0.625
BR5		0.752		0.741
BR4		0.727		0.746
BR2		0.634		0.734
OC1		0.630		0.680
OC2		0.542		0.696
OW3			0.813	0.683
OW2			0.726	0.714
OW1			0.696	0.744
OW4			0.676	0.696
Eigenvalues	9.658	1.667	1.028	
Percentage of variance explained (%)	56.80%	9.80%	6.40%	
Coefficient alpha	0.932	0.916	0.881	

4.1.3. Modified Conceptual Model

Furthermore, results of exploratory factor analysis and scale reliability tests of non-repurchase intention also confirm the reliability of those scales. Therefore, based on the aforementioned analysis results, the conceptual model has been modified and shown in Figure 2.

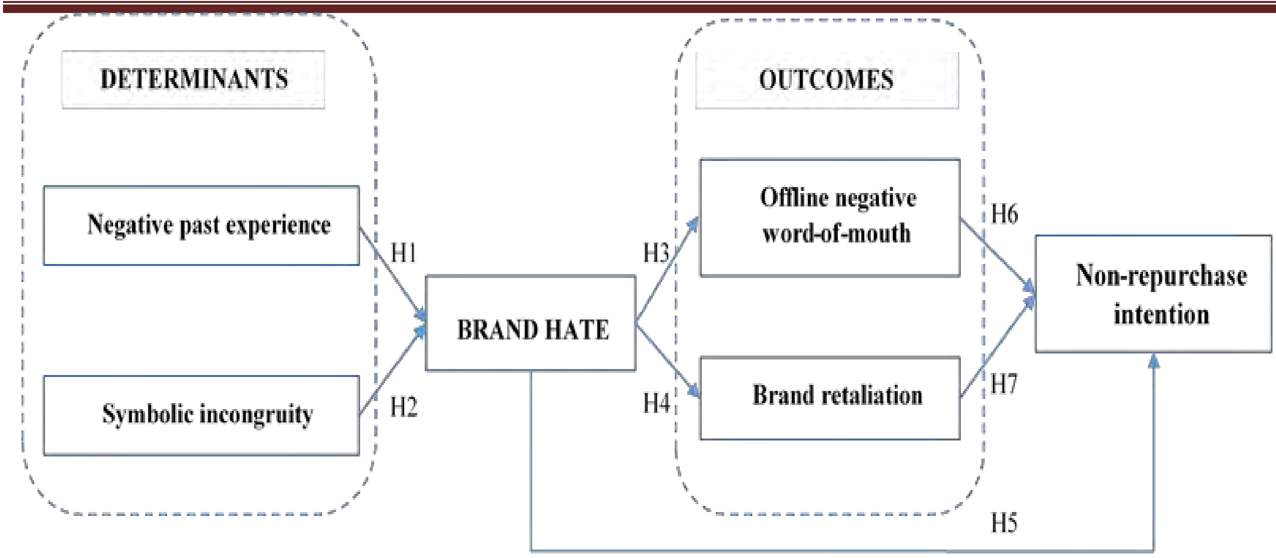

Figure 2. Modified Conceptual Model

4.1.4. Convergent Validity

The results in Table 3 showed satisfied indicators toward evaluating the convergent validity of the scales. The results present that all variables have the factor loading is greater than 0.6, the total reliability value of Composite Reliability (CR) are also within the allowed level (CR > 0.7) and the average extraction variance (AVE) is greater than 0.5 (within between 0.614 and 0.749)

Table 3. Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Brand hate	0.933	0.94	0.947	0.749
Brand retaliation	0.916	0.92	0.932	0.664
Negative past experience	0.843	0.85	0.888	0.614
Non-purchase intention	0.925	0.93	0.940	0.690
Offline NWOM	0.883	0.89	0.919	0.740
Symbolic incongruity	0.887	0.89	0.914	0.639

4.1.5. Discriminant Validity

According to the results when testing the Fornell-Lacker condition area, most of AVE square root value (values on the diagonal) in each factor has a higher value than the correlation coefficient of other factors in the same column. Therefore, all factors reach discriminant value. The Table 4 below shows the test values representing the discriminant valid of the scales.

Table 4. Latent Variable Correlation

	Brand hate	Brand retaliation	Negative past experience	Non-purchase intention	Offline NWOM	Symbolic incongruity
Brand hate	0.866					
Brand retaliation	0.679	0.815				

Negative past experience	0.801	0.704	0.783			
Non-purchase intention	0.743	0.560	0.714	0.831		
Offline NWOM	0.685	0.732	0.713	0.676	0.860	
Symbolic incongruity	0.748	0.584	0.649	0.691	0.560	0.799

4.2. Hypotheses testing

Multiple PLS-SEM analyses were used to examine the interrelationships between the factors of brand hate, negative past experience, symbolic incongruity, offline negative word-of-mouth, brand retaliation, non-repurchase intention. The results in Table 5 show the evaluation of the significance and relevance of the path factors in the structural model using bootstrapping with 5000 samples. The path coefficients show that six over the seven structural relationships are statistically significant.

Table 5. Results of Hypotheses Test

Hypotheses	**β**	**Std.**	**t-value**	**p-value**	**VIF**	**Results**
Negative past experience → Brand hate	0.545	0.054	10.079	*<0.001*	1.728	Accepted
Symbolic incongruity → Brand hate	0.395	0.056	7.054	*<0.001*	1.728	Accepted
Brand hate → Offline NWOM	0.685	0.043	15.771	*<0.001*	1.000	Accepted
Brand hate → Brand retaliation	0.679	0.04	16.931	*<0.001*	1.000	Accepted
Brand hate → Non-purchase intention	0.551	0.063	8.752	*<0.001*	2.160	Accepted
Offline NWOM → Non-purchase intention	0.35	0.071	4.932	*<0.001*	2.510	Accepted
Brand retaliation → Non-purchase intention	-0.071	0.073	0.972	0.331	2.474	Rejected

4.3. Discussion

The results of testing the relationship between negative past experience, symbolic incongruity and brand hate show that these factors are statistically significant. This is consistent with previous studies about discovering the factors that impact customers' brand hate. In particular, negative past experience has a stronger positive effect than the other, this also suits with what we actually know, that is disgusting something often related to negative experiences opposes us in the past, makes us unhappy, and we gradually hate it. Additionally, the results of testing the relationship between brand retaliation, offline negative word-of-mouth, brand hate and non-repurchase intention also show that offline word-of-mouth and brand hate is statistically significant. In this imperial context, the brand retaliation does not show a relationship worth considering for non-repurchase intention. In the Vietnamese context with collective culture, self-interest people, the idea of brand revenge is uncommon, customers are often silent about what enterprise do makes them dissatisfied which more than seeking to retaliate against the brand.

5. Conclusion

The people often pay much attention to the positive emotions our customers have towards brands, but besides that, negative emotions like brand hate are also very common in addition to the existing brand love. Typically, anti-brand groups, websites, and anti-fan pages appear a lot and make lots of people pay attention to and participate. These are things that no enterprise wants to encounter, and they need to find ways to limit and effectively overcome brand hate. This study was conducted to assess factors that lead to brand hate of customers and explore the relationship between brand hate and non-repurchase intention in order to partially explain the impact that how the brand hate's influence. The research confirmed the relationship between negative past experience, symbolic incongruity and brand hate as well as the impacts of brand hate that leads to two distinct types of active and passive negative behavior toward the brand. It is also confirmed that brand hate is most strongly influenced by symbolic incongruity, followed by consumers' past negative experiences. Therefore, brands should not engage in wrongdoing, immoral or non-social behavior. A negative image will be a significant liability for a brand's brand, although a neutral image can reduce consumer conversion behavior as a positive image.

The results of this study also provide several managerial implications for firms. Firstly, company market research divisions are advised to closely monitor target groups' needs and wants, as well as negative associations with the brand to avoid symbolic incongruity. As negative word of mouth occurs outside the firm, it is very difficult to control and manage, especially in the digital context of social media as well as websites for trading the product (e.g. Lazada, Shopee, Amazon) or service reviews (e.g. Yelp, Tripadvisor). Thus, integrating complaint management and social media monitoring in strategic branding is essential. Secondly, to deal with negative past experience, firms should carefully assess the severity level of the past experience and the degree of loyalty of the customers. If the dissatisfy consumer approaches the brand, employees should be trained not only to measure but also to adequately handle such dissatisfaction. In particular, firms are recommended to put high attention to the omni-channel environment since dissatisfied consumers will adopt both online complaints and offline negative word-of-mouth in order to communicate their brand hate. Managerially, all these online actions require the inclusion of specific and qualified skills specialized in communication, content development, and real-time interactions with users who can be included within the company or recruited externally (e.g., marketing and web agencies).

Beside of our study's main contribution that adds into the existing body of knowledge, we also recognize its limitations, mostly regarding the sampling with convenient non-probability sampling method. Although it is a reasonable sampling method and there is a reliable basis to identify the object, the sample is still not extremely representative. Besides, the sample is still having a quite mild disgust towards the brand and the level of hate are not high. Future research can be constructed based on this study by examining the proposed model in different demographic groups or applying this model to other countries and also other contexts.

6. Appendix A. Main model measurements

Constructs	Items		Source
Brand Hate	BA1 -	I am disgusted by this brand	Hegner et al. (2017)
	BA2 -	I do not tolerate this brand and Its company	
	BA3 -	The world would be a better place without this brand	
	BA4 -	I am very angry about this brand	
	BA5 -	This brand is awful	
	BA6 -	I hate this brand	
Offline Negative Word-of-Mouth	OW1 -	I spread negative word-of-mouth about the brand offline	Hegner et al. (2017)
	OW2 -	I denigrated the brand to my friends offline	
	OW3 -	When my friends were looking for a similar service, I told them not to buy from the firm offline	

	OW4 -	I try to influence many people in not purchasing this brand offline	
Online Complaining	OC1 -	I complained online to make the behaviors and practices of the brand public	Grégoire et al. (2010)
	OC2 -	I complained online to report my experience to other consumers	
	OC3 -	I complained online to spread the word about my misadventure	
Non -Repurchase Intention	NI1 -	I do not purchase products of this brand anymore	Davvetas and Diamantopoulos (2017)
	NI2 -	It is very likely I will not buy this brand in the future	
	NI3 -	I will not buy this brand in the next time when I need a product from this category	
	NI4 -	I reject services/products of this brand	
	NI5 -	I refrain from buying this brand's products or using it services	
	NI6 -	I avoid buying the brands products or using its services	
	NI7 -	I do not use products or services of this brand	
Negative Past Experience	NE1 -	The performance of products of this brand is poor	Hegner et al. (2017)
	NE2 -	The brand products are inconvenient	
	NE3 -	My hate for this brand is linked to the bad performance of this brand products	
	NE4 -	I am dissatisfied by this brand	
Symbolic Incongruity	SI1 -	The products of this brand do not reflect who I am	Hegner et al. (2017)
	SI2 -	The products of this brand do not fit my personality	
	SI3 -	I do not want to be seen with this brand	
	SI4 -	This brand does not represent what I am	
	SI5 -	This brand symbolizes the kind of person I would never wanted to be	
Ideological Incompatibility	II1 -	In my opinion, this brand acts irresponsible	Hegner et al. (2017)
	II2 -	In my opinion, this brand acts unethical	
	II3 -	The company violates moral standards	
	II4 -	The brand does not match my values and belief	
Brand Retaliation	BR1 -	I have deliberately bent or broken the policies of the brand	Romani et al. (2012)
	BR2 -	I have showed signs of impatience and frustration to someone from this brand	
	BR3 -	I complained to this brand to give a hard time to the representatives of the company	
	BR4 -	I complained to this brand to be unpleasant with the representatives of the company	
	BR5 -	I complained to the brand to make someone from the organization pay	

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AN EXTENSIVE MODEL OF PERCEIVED VALUE IN PREDICTING CONSUMER SATISFACTION TOWARD MOBILE COMMERCE: THE MODERATOR ROLE OF USE OF TIME

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ABSTRACT

This study decomposes epistemic value into two sub-dimensions (gained knowledge and novelty) and includes a new dimension of green value besides other traditional value dimensions (utilitarian, hedonic, social, and conditional). It also tests the alternative models of perceived value in predicting customer satisfaction toward mobile commerce (MC). In particular, it tests customer participation (the use of time) as a predictor and a moderator in a proposed model. The two new values of gained knowledge and green have significant effects on customer satisfaction. Both reflective- and formative second-order construct models of perceived value were valid, but the formative second-order construct model was better in predicting customer satisfaction. Customer use of time participating in MC was shown as a positive predictor and a positive moderator in the relationship.

Keywords: perceived value, reflective second-order construct, consumer participation, satisfaction, mobile commerce.

1. Introduction

Mobile commerce (MC) has become consumers' popular choice as an increasingly competitive alternative for traditional business (Lee and Chen, 2014; Tan, 2017). MC in Vietnam is in a bloomed stage with impressive growth in all areas. According to a report by Google Vietnam (VietNamNews, 2016), mobile devices have driven a significant shift in Vietnamese consumer behavior. It says that an individual on average checks his/her phone 150 times a day (or ten times per hour) and mobile transactions up by 135% domestically and 61% internationally. Besides, Vietnam has the mobile phone user penetration rate of risen by 9.30% to over 51,128,599 broadband mobile subscribers including 4G and 5G subscribers (Dharmaraj, 2019). Therefore, it is not surprising that Vietnam leads Southeast Asia in terms of mobile purchase conversion rate, signaling an uptick in the move from desktop to mobile (CustomsNews, 2018). However, only a few studies have explored consumer behaviors toward MC in this attractive market (Han *et al.*, 2016; Khoi *et al.*, 2018). The interactions between consumers and their mobile devices have generated opportunities for businesses to use MC in creating values to satisfy consumer needs (Cossío-Silva *et al.*, 2016; Pura, 2005). Therefore, a deeper understanding of how consumers is satisfied by MC service from the perspectives of perceived value and the co-creation of value is essential, which has always encouraged in MC literature (Huang *et al.*, 2019; Kim and Han, 2011).

The literature of service (Zeithaml, 1988) and technology-based service delivery (Pura, 2005; Ukpabi *et al.*, 2020) suggest that perceived value is the critical determinant of satisfaction. Most previous studies are based on the conceptualization of perceived value suggested by Sweeney and Soutar (2001) to include three value dimensions (i.e., utilitarian, hedonic, and social) in explaining technology acceptance or adoption (Deng *et al.*, 2010; Kim and Han, 2009; Turel *et al.*, 2007). A few studies in the mobile service area are based on the perceived value model suggested by (Sheth *et al.*, 1991) to include conditional and epistemic value dimensions (Pihlström and Brush, 2008; Pura, 2005). Although the structure of five original value dimensions (functional, emotional, social, epistemic, and conditional; (Sheth *et al.*, 1991) was generally accepted, perceived value is also suggested as an open construct in nature, highly depends on a specific context (Wulfsberg *et al.*, 2010), and continuously developed during the service process occurs (Heinonen, 2004; Huang *et al.*, 2019). For example, Sweeney and Soutar (2001) suggested that functional value has two separate sub-dimensions (value for money and expected performance). Similarly, Pihlström and Brush (2008) divided functional value into two sub-dimensions (monetary and convenient). In a recent study, Huang *et al.* (2019) added the dimensions of guarantee and design value to structure perceived value in mobile marketing. Because MC can offer additional value elements that are beyond traditional commerce (Karjaluoto et al., 2019), the exploration of new value dimensions is considered an important marketing strategy to increase satisfaction with MC (Alalwan, 2020; Dastane et al., 2020).

Therefore, the first contribution of this study is to decompose epistemic value into two sub-dimensions called novelty and gained knowledge value and to explore their role in predicting consumers' satisfaction toward MC. As clarified by Sheth *et al.* (1991), epistemic value refers to novelty and acquired value from being satisfied with a desire for knowledge. While novelty value is relevant to people who seek hedonic benefits, knowledge value is dominant with people who seek utilitarian benefits (Duman and Mattila, 2005). Furthermore, e-commerce (EC) platforms, including MC, are also considered a type of green marketing, which helps to save energy and natural resources to generate environmental-friendly transactions with green value for the social community (Belanche *et al.*, 2012; Chang and Chen, 2013). Thus, this study is expected to generate a more profound how novelty, gained knowledge, and green value can contribute to perceived value to satisfy consumer needs in the MC context.

In addition, although most prior studies accept a multidimensional perspective of perceived value, the lack of a consensus about how perceived value is structured (e.g., Chen and Lin, 2015; Huang et al., 2019; Pura, 2005; Sheth *et al.* (1991). The existing literature also addresses both the horizontal relationships between conceptual constructs and the vertical relationships within a multi-dimension construct in predicting behavioral consequences (Chen and Tsai, 2007; Cong, 2016). Therefore, this study contributes by developing and testing two reflective second-order constructs of content- and context-related value (Pihlström and Brush, 2008; Pura, 2005) to reflect the complex structure of perceived value in predicting satisfaction.

Furthermore, the process of creating service value is largely dependent on the interactions between service providers, services, and consumers (Prahalad and Ramaswamy, 2004; Ukpabi *et al.*, 2020). Although the service literature suggest the different aspects of consumer participation (e.g., perceived benefits, mental and physical efforts, or involvement) can affect and interact with perceived value to impact on satisfaction (e.g., Dong *et al.*, 2015; Prebensen *et al.*, 2016), only one study we know has explored such role of consumer participation (customization and personalization) the MC literature (Yeh and Li, 2009). Previous studies also suggest that consumer use of time is an essential factor in understanding how consumers interact with technology-based self-services, by which it impacts on perceive value and the consequences of service delivery process (e.g., Heinonen, 2004). Therefore, this study makes a more contribution by arguing and investigating consumer use of time in participating in MC as a moderator in the relationships between the context-related value, the content-related value, and satisfaction. This study uses a sample of 561 Vietnamese consumers to test the proposed hypotheses using a structural equation modeling approach.

2. Theoretical framework

2.1. Consumer Satisfaction with Mobile Commerce

Satisfaction as a consumer's positively affective response is determined as the most crucial determinant of consumers' post-purchase behaviors, such as loyalty (Oliver, 1999). Satisfaction can be defined as the consumer's post-purchase evaluations in a specific transaction or as accumulative responses over time (Johnson *et al.*, 1996). Previous studies in online contexts often focus on satisfaction because this construct associated with different features of mobile technology, online services, and apps (Kim *et al.*, 2018; Lu *et al.*, 2019), consumer differences (e.g., innovativeness; Han *et al.*, 2016), and especially different dimensions of perceived values (Prebensen *et al.*, 2016). Therefore, this study focuses on satisfaction and defines it as consumers' accumulative affective responses toward MC activities.

2.2. Perceived Value in Mobile Commerce

The earlier literature often defines perceived value as a trade-off between benefits and sacrifices (Zeithaml, 1988). This perspective implies the structure of perceived value includes two components - gains and losses. However, previous studies in the mobile service suggest that the sacrifice component does not dominate or only plays a minor role in perceived value because it seems to belong to the goods industries (Gummerus and Pihlström, 2011; Pihlström and Brush, 2008; Pura, 2005). Therefore, most studies in the mobile service field often accept a view suggested by (Sheth *et al.*, 1991), asserting perceived value as an individual construct that can be formed by one, two, or more value dimensions (see Huang *et al.* 2019 for a review). This study adopts this perspective and conceptualizes perceived value as a multidimensional construct. Accordingly, perceived value is structured to include seven value dimensions of EC and mobile services adapted to MC enclosing utilitarian, emotional, social, conditional, green, novelty, and gained knowledge value (Belanche *et al.*, 2012; Duman and Mattila, 2005; Gummerus and Pihlström, 2011; Pihlström and Brush, 2008; Sheth *et al.*, 1991).

Utilitarian value relates to the effectiveness, efficiency, performance, and quality resulting from the use of online services (Khoi *et al.*, 2018; Kim and Han, 2009, 2011). Hedonic value represents the fun or pleasure (e.g., the experience of joy, entertainment, passion, or innovation) derived from using the online services (Hsieh and Tseng, 2018; Kim and Han, 2009, 2011; Turel *et al.*, 2007). Social value refers to the ability of the product/service to increase consumers' social self-concept and social well-being (Sheth *et al.*, 1991). MC could provide consumers with condition value which is the result from the independence of time and place and is generated in certain conditions, such as location, social environment, time, personal state of the consumer, etc. (Gummerus and Pihlström, 2011; Pihlström and Brush, 2008). Green value is defined as service/product benefits that fulfil consumer's environmental desires, sustainable expectations, and green needs (Chen and Chang, 2012). Finally, epistemic value refers to the product/service capacity to arouse curiosity, provide novelty, and satisfy a desire for knowledge (Sheth *et al.*, 1991). However, as mentioned in the Introduction, epistemic value is decomposed into two sub-dimensions: novelty and gained knowledge. While novelty value is often attributed to the new experience of products or services without a specific goal (Pihlström and Brush, 2008), knowledge value is derived from learning ways of doing things with a particular purpose in mind (Novak *et al.*, 2003). It reflects the benefits of the content of skills, knowledge, and expertise which consumers gained via actively learning or being shared by service providers, online businesses, or via interactive processes with other consumers (Berthon and John, 2006). Although a recent study by Dastane et al. (2020) developed a synthesized model of measuring the perception of value on mobile commerce (M-VAL) to include some new components that are discomposed from utilitarian or experiential values (e.g., interface, credibility, or gratification), this model does not capture value dimensions such as green, novelty, and gained knowledge.

Although most prior studies adopt perceived value as a multidimensional construct, how perceived value can be structured is controversial (Chen and Lin, 2015; Ledden *et al.*, 2007; Turel *et al.*, 2007). This debate comes from the fact that there is no consensus about the nature and role of each value dimension in forming and contributing to perceived value. Because MC is innovative and revolutionary, it includes a variety of services that could be used to fulfill the desire of consumers' knowledge/information-seeking and generate different types of strongly related specific perceived values (Gummerus and Pihlström, 2011; Khoi *et al.*, 2018; Pihlström and Brush, 2008; Pura, 2005). In the other words, perceived value about MC as an overall assessment with its highly covariant component values that satisfy the statistical and conceptual conditions for a reflective construct (Chen and Lin, 2015; Hair *et al.*, 2016; Hair *et al.*, 2017). Therefore, most studies in EC and online marketing literature accept and validate perceived value as a reflective second-order construct (Chen and Lin, 2015; Mathwick *et al.*, 2001; Pura, 2005).

Besides, some scholars also distinguish the differences between value dimensions relating to the context (i.e., where, when, circumstances) and the content (i.e., experience or utility) because different dimensions of perceived value keep the different relative role in predicting consumer behaviors (Gummerus and Pihlström, 2011; Pihlström and Brush, 2008; Pura, 2005). According to them, the context-related value dimensions reflect the temporary nature that includes conditional and epistemic value. In contrast, the content-related value dimensions reflect the stable personal preferences for content services, such as emotional, social, and utilitarian value. The context-related value is also suggested as conditions that enhance both the need to use a service and the content-related value; thus, conditional and epistemic value should keep as basics to explain the content-related value dimensions and have indirect effects on satisfaction via content-related values (e.g., utilitarian, hedonic, and social value; (Gummerus and Pihlström, 2011; Pihlström and Brush, 2008; Pura, 2005). In this sense, previous studies have modified the cognitive – affective – conative – behavioral loyalty framework (Oliver, 1999) to form the context value – content value – satisfaction – loyalty model in the context of mobile services.

Based on those above reasons, this study proposes a new structural model of perceived value to include two reflective second-order constructs of content- and context-related value to predict satisfaction. Accordingly, the reflective second-order construct of content-related value is structured to include four reflective dimensions in predicting satisfaction (Chen & Lin, 2015; Pura, 2005). In addition to utilitarian, hedonic, and social value which have been categorized by prior studies ((Gummerus and Pihlström, 2011; Pihlström and Brush, 2008; Pura, 2005), this study extends to include green value as additional content-related component because MC provides digital means for helping to save energy and effort (Belanche *et al.*, 2012; Chang and Chen, 2013; Chen and Chang, 2012; Williams and Soutar, 2009) and generating green transactions by fulfilling consumer environmental desires (Chang and Chen, 2013; Chen and Chang, 2012; Williams and Soutar, 2009). Next, the reflective second-order construct of context-related value is specified by three reflective dimensions of novelty, gained knowledge, and conditional value (Pihlström and Brush, 2008; Pura, 2005).

Previous studies indicate that utilitarian, hedonic, and social values positively affect satisfaction across research fields, including mobile services and MC (Karjaluoto *et al.*, 2019; Kesari and Atulkar, 2016). Furthermore, empirical evidence also indicates the effects of novelty and green value on satisfaction (Chang and Chen, 2013; Chen and Chang, 2012; Williams and Soutar, 2009). In addition, satisfaction with MC can largely depend on how much technical infrastructure is available when required by consumers (Venkatesh, Brown, Maruping, & Bala, 2008). In other words, facilitating conditions or conditional value provided by MC has a critical influence on satisfaction (Baabdullah *et al.*, 2019; Verkijika, 2018). Besides, knowledge that consumers have gained through transferring and sharing via open, collaborative systems such as MC can help to generate value and innovation (Jaakkola and Alexander, 2014; Olaisen and Revang, 2017). Gained knowledge also enhances benefits for transactions because it keeps a role as consumer's standards to evaluate a service (Hau and Thuy, 2016). However, novelty, gained knowledge, and conditional value dimensions are suggested as basics to obtain content-related value (Pihlström and Brush, 2008; Pura, 2005), the context-related value is proposed to have indirect effects on satisfaction via the content-related value. The first two hypotheses are as follows:

Hypothesis 1: The content-related value has a positive effect on satisfaction.

Hypothesis 2: The context-related value has a positive effect on the content-related value.

2.3. Consumer Participation in Mobile Commerce

Different concepts are used to reflect and capture the content of consumer participation in value-creation activities, such as coproduction, self-service, or the use of time (Olsen and Mai, 2013). The use of time is considered a key factor of consumer participation as well as a critical construct in explaining consumers' decision-making process (Etgar, 2008). The term of co-creation also refers to consumer's mental participation (i.e., active participation) and physical participation (i.e., the level of interest in an activity; Prebensen *et al.*, 2016), while the use of time in consumer participation reflects economic, social, and psychological costs for the consumers (Etgar, 2008). Since previous studies explored participation readiness or participation experience as a moderator (Dong *et al.*, 2015; Prebensen *et al.*, 2016), this study contributes by defining consumer use of time in participating in MC as the behavioral part of consumer participation process that acts a moderator in the relationships between perceived values and satisfaction (Dong *et al.*, 2015; Prahalad and Ramaswamy, 2004; Prebensen *et al.*, 2016). In MC context, consumers may concern in the performance of one or various value creation activities in collaboration with other MC partners (businesses, shops, stores or the like) to create value for themselves and others. Therefore, the definition of consumer participation as the use of time can reflect consumer value creation activities in interacting with MC providers to create value for themselves or others. It refers to the actions and resources supplied by consumers for service production and delivery (Rodie and Kleine, 2000). It also reflects consumer sacrifices (Etgar, 2008), and thus, generates a comprehensive understanding of what consumers gain and what consumers spend in forming perceived value (Zeithaml, 1988).

Consumer participation increases interaction and adaptability between consumers and service providers to obtain more utilitarian and experiential benefits (Prebensen *et al.*, 2016). It can also increase social and epistemic value because participation activities play a role as a motivation to seek status and social esteem (Holbrook, 1999). Consumer participation helps consumers obtain more skills, shared experiences, and valuable knowledge (Berthon and John, 2006). Furthermore, consumer participation also helps to satisfy consumer needs for self-expression and uniqueness (Etgar, 2008). Through the process of participation, consumers can actively involve service generation and delivery process with physical and mental actions (Bendapudi and Leone, 2003). Therefore, it helps to achieve facilitating conditions and outcomes for both consumers and service providers. Consumer participation also generates positive biases in evaluating an outcome, and thus consumers feel more satisfied with their self-production (Troye and Supphellen, 2012). Some activities of consumer participation in MC contexts, such as customization and personalization, are seen as effective ways to fulfill consumers' expectations better and increase their satisfaction (Yeh and Li, 2009). Based on these discussions, this study contributes to the present literature to suggest that consumer participation as the use of time has a positive impact on both perceived value and satisfaction with MC.

Hypothesis 3: Consumer participation has a positive effect on satisfaction.

Hypothesis 4: Consumer participation has a positive effect on the content-related value.

Hypothesis 5: Consumer participation has a positive effect on the context-related value.

The present literature confirms a strong association between perceived value and satisfaction (Chen and Lin, 2015; Williams and Soutar, 2009). However, as discussed by previous studies (Prahalad and Ramaswamy, 2004; Ukpabi *et al.*, 2020), the process of creating service value is much dependent on the interactions between a service provider and its consumers. Therefore, potential moderators can amplify or hint at the relationship. For example, from the perspectives of consumer experience, Prebensen *et al.* (2016) demonstrate tourists' co-creation experience as a positive moderator on the perceived value–satisfaction relationship. Based on the person-job fit theory, Dong *et al.* (2015) find that consumer's participation readiness (e.g., ability or role identification) can enhance the relationship between consumer participation and satisfaction. This study makes a further contribution by exploring how consumer use of time in participation in MC can moderate the relationship between the relationships between the context-, content-related value, and satisfaction toward MC from the perspectives of the theory of attitude strength (Fazio, 2007).

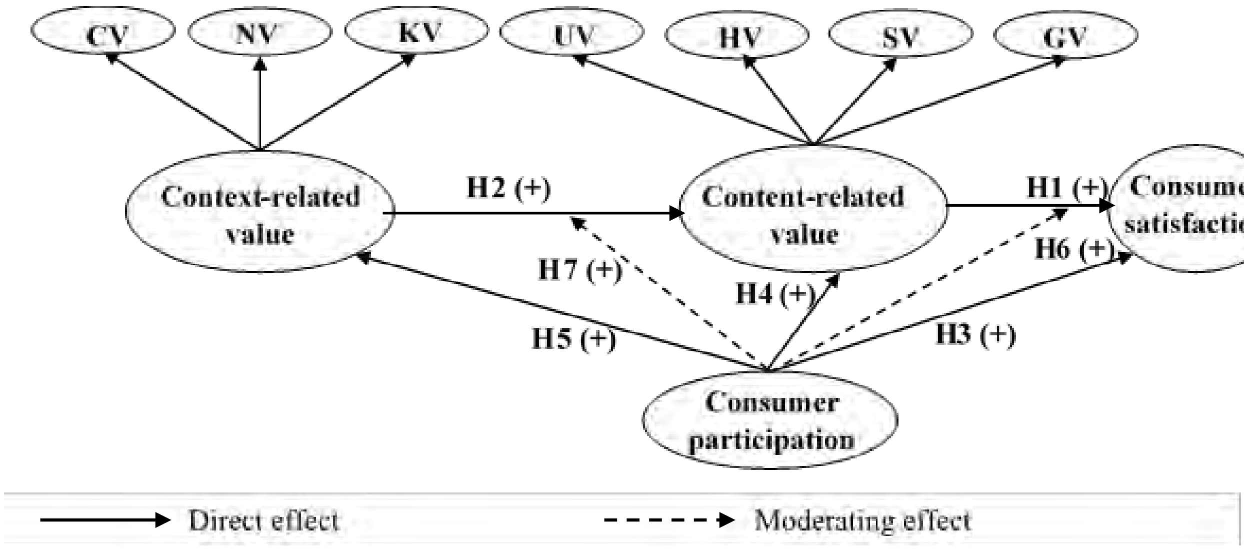
The development and integration of social media platforms into MC have fostered the information generation from sellers, consumers, and producers (Chopdar *et al.*, 2018), which leads to the high levels of information availability, shared knowledge, and opportunities for consumers to participate in MC. Thus, the higher levels of consumer participation/use of time strongly increase the higher levels of spending other resources or exploring conditions (e.g., economic, social, effort, creativity, knowledge, and mental energy; Etgar, 2008), which leads to the higher levels of consumer involvement, elaboration, and confidence in evaluating and creating benefits (Andreassen, 1999; Dong *et al.*, 2015; Olsen and Mai, 2013), such as the content-related value (e.g., utilitarian, hedonic, or social). In other words, consumer participation in MC could enhance the process of delivering value from the valuable conditions (i.e., the context-related value) to actual value (the content-related value).

In addition, applying consumer use of time in participation as a cost-benefit approach (Etgar, 2008; Rodie and Kleine, 2000), a higher level of consumer participation could increase consumer expectation of obtaining maximum benefits compared with costs (Bendapudi and Leone, 2003), given the high level of information available in MC context. In other words, higher levels of consumer participation could increase the strength-related attitude attributes (Fazio, 2007) in evaluating different dimensions of the content-related value, which enhances the predictive ability of the content-related value on its consequences, such as satisfaction. Therefore, compared to consumers with lower levels of participation, the ones with a higher level of participation are more likely to concern about what they obtain than what they spend in total and accordingly perform their actions more actively and more confidently. For example, in the case of a consumer who wants to buy a laptop, she/he might concern about total benefits compared to the time she/he uses. Thus, an increase in the gains over the used time could enhance her/his satisfaction with the purchased laptop. Based on these discussions, this study suggests that:

Hypothesis 6: Consumer participation in MC enhances the effect of the content-related value on satisfaction.

Hypothesis 7: Consumer participation in MC enhances the effect of the content-related value on satisfaction.

The theoretical model is shown in Figure 1.



Notes. UV: Utilitarian value; SV: Social value; HV: Hedonic value; CV: Conditional value; GV: Green value; NV: Novelty value; KV: Knowledge value.

Figure 1. The Proposed Model

3. Research method

3.1. Research Data

Consumers from the three biggest communication providers in Vietnam (VNPT, Mobifone, and Viettel) in the Central of Vietnam were selected in a survey using a self-administered questionnaire at stores. A total of 600 consumers agreed to join the survey. Among them, 19 were rejected because of missing responses, and 581 cases were used for analysis (the response rate was 96.8 percent). The main characteristics of respondents were male (65.40 percent), married (68.06 percent), educated from at least 12 years (96.86 percent), the average age was 31 years (ranging from 16 to 63), and their average income per month was about USD 350.

3.2. Measurements

Satisfaction was measured by four items on a five-point Likert scale reflecting consumer enjoyment, pleasure, satisfaction, and excitement toward MC (Alalwan, 2020; Deng *et al.*, 2010). Two items measuring consumer use of time participating in MC on a numbering scale were used: How much time on average (in hours) do you usually conduct online transactions via (1) MC per week? and (2) searching for new brands, new products, or new online stores, via MC per week? The ratings were then recoded into a seven-point range with 1 = under 2 hours per week, to 7 = from 14 hours per week. Similar items were also used by prior studies to reflect consumer participation in the co-creation of value in a context of product consumption (Olsen & Mai, 2013) as well as the duration of consumer usage behaviors in technology adoption models (Venkatesh et al., 2008). Perceived value was measured using a five-point Likert. The measurements of *utilitarian value* (four items), *hedonic value* (four items), and *social value (four items)* were used by previous studies (Khoi *et al.*, 2018; Sweeney and Soutar, 2001). Four items of *green value* were adapted from Chen and Chang (2012). *Novelty value* measurement consists of three items used by Pihlström and Brush (2008) and Pura

(2005). Knowledge value was measured by four items adaptive from previous studies (Pacharapha and Vathanophas Ractham, 2012).

4. Results and discussion

4.1. Results

Reliability and Validity

A confirmatory factor analysis (CFA) of the measurement model, including five constructs in the theoretical model, as in Figure 1, resulted in an acceptable fit with the data ($\chi^2 = 682.4$; $df = 428$, $p = 0.000$; $RMSEA = 0.032$; $GFI = 0.932$; $CFI = 0.965$) (Browne and Cudeck, 1992). Tables 1 and 2 present the results of the CFA.

Table 1. The Reliability and Validity of the Constructs

Constructs	Mean	Variance	1	2	3	4	5	6	7	8	9
Utilitarian value	3.83	1.85	**1.00**	*0.49*	*0.43*	*0.55*	*0.45*	*0.53*	*0.48*	*0.58*	*0.44*
Hedonic value	3.80	1.87	0.49	**1.00**	*0.47*	*0.48*	*0.51*	*0.58*	*0.52*	*0.60*	*0.48*
Social value	3.31	1.72	0.41	0.44	**1.00**	*0.43*	*0.33*	*0.43*	*0.46*	*0.49*	*0.44*
Green value	3.84	1.93	0.55	0.49	0.42	**1.00**	*0.46*	*0.64*	*0.47*	*0.55*	*0.51*
Knowledge value	3.93	1.70	0.44	0.50	0.25	0.45	**1.00**	*0.63*	*0.51*	*0.50*	*0.37*
Novelty value	3.82	1.67	0.54	0.59	0.42	0.65	0.62	**1.00**	*0.53*	*0.50*	*0.39*
Conditional value	3.79	1.33	0.48	0.52	0.47	0.48	0.49	0.54	**1.00**	*0.46*	*0.35*
Customer satisfaction	3.73	1.98	0.58	0.60	0.46	0.55	0.49	0.50	0.46	**1.00**	*0.57*
Customer participation	4.35	1.85	0.43	0.47	0.36	0.50	0.38	0.38	0.33	0.56	**1.00**

Notes. CR: Composite reliability; VE: Variance extracted; Fit indices: $\chi^2 = 682.4$; $df = 428$, $p = 0.000$; $RMSEA = 0.032$; $GFI = 0.932$; $CFI = 0.965$.

Table 2. Means, Standardized Deviation, Correlations

Constructs and indicators	Factor loadings	t-values	CR	VE
Utilitarian value (UV)			**0.81**	**0.51**
Compared to the fee I have to pay for, the use of MC would offer a good value for the money	0.69	17.43		
Compared to the effort I need to put in, the use of MC would be beneficial to me	0.68	17.12		
Compared to the time I need to spend for, the use of MC would be worthy to me	0.73	18.68		
Overall, the use of MC would deliver me good value	0.76	19.87		
Hedonic value (HV)			**0.80**	**0.50**
MC would be ones that entertains me	0.69	17.27		
MC would make me forget everything during using it	0.70	17.52		
MC would be ones that I feel interesting about using it	0.71	17.80		
MC would make me feel fantastic with visual appeal	0.74	18.84		
Social value (SV)			**0.86**	**0.64**
The use of MC would make people hold me in high regard	0.80	21.95		
The use of MC would enhance the image that others would have of me	0.82	22.90		
The use of MC would help me to show others who I am	0.75	20.10		

The use of MC would make a good impression on other people	0.82	22.89		
Green value (GV)			**0.81**	**0.52**
MC provides green transactions	0.76	19.90		
MC is environmental friendly	0.73	18.70		
MC has more environmental benefits than others	0.69	17.34		
MC fulfils my environmental concerns	0.70	17.72		
Knowledge value (KV)			**0.78**	**0.48**
Knowledge I gained from MC makes it easier and quick to my online shopping	0.71	17.61		
Knowledge I gained from MC helps to improve the quality of things I buy via MC	0.71	17.71		
Knowledge I gained from MC helps to increase my effectiveness on buying online things	0.69	17.07		
Generally, I appreciate that the skills and knowledge that I gained from MC are valuable	0.65	15.95		
Novelty value (NV)			**0.76**	**0.52**
MC helps me to have new experiences of shopping things	0.74	18.66		
MC fulfils my novelty seeking	0.76	19.23		
MC is out of curiosity	0.65	15.88		
Conditional value (CV)			**0.74**	**0.49**
I value the entertainment MC offers, with the help of which I get what I need in a certain situation	0.69	16.55		
I value the independence of place and time offered by the use of MC	0.74	17.75		
I value the real time information and interaction that MC makes possible	0.67	15.92		
Satisfaction (CS)			**0.83**	**0.55**
My experience with MC is very satisfied	0.78	20.73		
My experience is very encouraging	0.66	16.84		
MC gives me exciting feelings	0.78	20.91		
I feel enjoyable with MC	0.74	19.53		
Consumer participation (CP)			**0.69**	**0.51**
Time per week for MC transactions	0.60	13.01		
Time per week for MC searching	0.81	16.41		

Notes. The correlations between the constructs for testing common method biases are shown in italics on the upper of the diagonal; All correlations are significant at $p < 0.001$. Composite reliability and average variance extracted (AVE) are used to assess the reliability of reflective measurements. The analysis results (Table 1) showed that most of the indicators of the constructs exhibited very high loadings, above the critical value of 0.70. Also, all the values of composite reliability exceeded the threshold of 0.70. Besides, most of the variances extracted were greater than 0.50. Thus, the convergence validity of all constructs was acceptable. As shown in Table 2, all correlations were significantly positive ($p < 0.001$), with a range from 0.25 to 0.65. Besides, the squared-correlation between each pair of constructs (maximum at 0.42) was less than the average variance extracted from each pair of constructs (minimum at 0.49), which constitutes discriminant validity (Fornell and Larcker, 1981).

Checking for Common Method Bias

Previous studies have emphasized the potential problems in estimating causal relationships caused by multi-sources such as social desirability and motif consistency in self-reported data (i.e., common method bias; Podsakoff *et al.*, 2003). In this study, we adopted the common method factor approach (Podsakoff *et al.*, 2003). Following this approach, a common latent factor whose indicators were all the key constructs' indicators was added to the measurement model. The results show the fit of the CFA model with the common latent factor (χ^2 = 577.5; *df* = 396, *p* = 0.000; *RMSEA* = 0.028; *GFI* = 0.943; *CFI* = 0.975) was slightly improved compared with the basic measurement model (χ^2 = 682.4; *df* = 428, *p* = 0.000; *RMSEA* = 0.032; *GFI* = 0.932; *CFI* = 0.965). However, the correlations between studied constructs almost unchanged under the influence of the common latent factor (see Table 2). Furthermore, most factor loadings of the common latent factor were small (0.02 – 0.34), which did not generate a theoretically significant construct. Therefore, it could be concluded that common method biases were not a serious problem in the current study (Podsakoff *et al.*, 2003).

Testing Hypotheses

The estimated results of the structural equation model as shown in Table 3 indicate a good fit with the data (χ^2 = 873.3; *df* = 512, *p* = 0.000; *RMSEA* = 0.035; *GFI* = 0.919; *CFI* = 0.951).

Table 3. Results of Testing the Proposed Causal Relationships

Antecedents/Structural paths	Hypotheses	Estimations		Conclusion
		Beta	*t*-value	
Hypothesized effects				
Content-related value (CV) → Satisfaction (CS)	H1 (+)	0.56***	7.06	Supported
Context-related value (TV) → Content-related value	H2 (+)	0.67**	7.77	Supported
Customer participation → Satisfaction	H3 (+)	0.18*	2.56	Supported
Customer participation → Content-related value	H4 (+)	0.47***	6.82	Supported
Customer participation (CP) → Context-related value	H5 (+)	0.29***	4.50	Supported
CV × CP → Satisfaction	H6 (+)	0.14**	3.18	Supported
TV × CP → Content-related value	H7 (+)	0.12**	2.70	Supported
Second-order construct of the context-related value				
Context-related value → Knowledge value	+	0.71	-	-
Context-related value → Conditional value	+	0.70	8.78	-
Context-related value → Novelty value	+	0.87	9.50	-
Second-order construct of the content-related value				
Content-related value → Social value	+	0.56	-	-
Content-related value → Utilitarian value	+	0.71	9.67	-
Content-related value → Hedonic value	+	0.71	9.56	-
Content-related value → Green value	+	0.76	9.65	-

*Note: * $p < 0.05$; ** $p < 0.01$; $R^2_{TPV} = 8.1$ %; $R^2_{CPV} = 83.2$ %; $R^2_{CS} = 51.6$ %; Fit indices: χ^2 = 873.3; df = 512, p = 0.000; RMSEA = 0.035; GFI = 0.919; CFI = 0.951The testing results supported our expectations by demonstrating a positive impact of the content-related value on satisfaction (H1: β = 0.56, t = 7.06, p < 0.01) and a positive influence of the context-related value on the content-related value (H2: β = 0.67, t = 7.77, p < 0.001).*

Next, consumer participation has a positive effect on satisfaction (H3: $\beta = 0.18$, $t = 2.56$, $p < 0.05$), the content-related value (H4: $\beta = 0.47$, $t = 6.82$, $p < 0.01$), and the context-related value (H5: $\beta = 0.29$, $t = 4.50$, $p < 0.01$). The results also indicated the positive moderator effect of consumer participation on the relationships between the content-related value and satisfaction (H6: $\beta = 0.14$, $t = 3.18$, $p < 0.01$) and between the context-related value and the content-related value (H7: $\beta = 0.12$, $t = 2.70$, $p < 0.01$).

It is worthy noticing that two second-order constructs of the content- and the context-related value are reliable and valid with the factor loadings of the reflective components ranging from 0.56 to 0.87 (all $p < 0.01$). The estimated model generated a highly explained variance of satisfaction ($R^2 = 51.6\%$).

4.2. Discussion

This study developed and tested a new structural model of perceived value including two reflective second-order constructs of the context- and the content-related value in predicting satisfaction toward MC. In particular, it included two new value dimensions (gained knowledge and green) and investigated consumer use of time in participating in MC as a moderator on the relationships between the context-related value, the content-related value, and satisfaction. Utilitarian, hedonic, social, and green value dimensions were confirmed as the reflective first-order sub-constructs of the content-related value. In contrast, novelty, knowledge, and conditional value dimensions were determined as the reflective first-order sub-constructs of the context-related value. The findings also indicated that the context-related value had a positive effect on the content-related value, and in its turns, the content-related value had a positive effect on satisfaction. Consumer participation was found to have a positive impact on the context-related value, the content-related value, and satisfaction, and in particular, it positively moderated the relationships between these constructs. Some findings are new in marketing generally and MC domain specifically, which generates crucial theoretical and practical implications.

5. Conclusion

The result confirms the positive impact of the content-related value on satisfaction, which is consistent with most previous studies (Dong *et al.*, 2015; Karjaluoto *et al.*, 2019; Parasuraman and Grewal, 2000; Prebensen *et al.*, 2016; Pura, 2005; Williams and Soutar, 2009). However, this study integrates a new dimension of green value as additional utilitarian value (Belanche *et al.*, 2012; Chen and Chang, 2012) and confirms its decisive role in forming the content-related value and contributing to satisfaction toward MC. Also, this study extends these previous studies by including not only conditional value but also primarily providing empirical evidence supporting the distinction between novelty and knowledge value to specify the context-related value in predicting the content-related value (Gummerus and Pihlström, 2011; Pihlström and Brush, 2008; Pura, 2005).

In compliant with a multidimensional perspective of perceived value (Chen & Lin, 2015; Heinonen, 2004; Khadraoui & Gharbi, 2012; Wulfsberg et al., 2010), this study sheds light on the importance of specifying an appropriate structural model of perceived value in predicting satisfaction. By developing and testing a parsimonious specification of this construct including two reflective second-order constructs of the context- and the content-related value, this study highlights both the horizontal and vertical relationships of perceived value on its consequences. The finding confirms the context-related value keeping a role as a predictor for the content-related value in the mobile services as some previous studies' findings (Gummerus and Pihlström, 2011; Pihlström and Brush, 2008; Pura, 2005). More importantly, this study not only has additional contributions to understanding perceived value but also enhances our understanding in identifying new value dimensions in mobile marketing (Huang et al. 2019) to improve competitive advantages (Cossío-Silva *et al.*, 2016; Lusch *et al.*, 2007). Besides, this study is also the first to illustrate a relationship chain from the context-related value → the content-related value → satisfaction, which has created a simple view for a complex phenomenon about how different dimensions of value, especially new value dimensions, can help to increase satisfaction with MC.

While the role of consumer participation in explaining consumer perceived value and/or satisfaction is empirically validated in some domains (Dong *et al.*, 2015; Prahalad and Ramaswamy, 2004; Prebensen *et al.*, 2016), its corresponding role seems to be largely ignored in MC context. As a result, the findings showing the direct effects of consumer participation on the context-, the content-related value, and satisfaction should be seen as a significant contribution in the MC context. The results suggest that consumer participation, more specifically, the use of time, is likely to bring consumers more benefits and higher satisfaction toward MC transactions. Thus, this study is new to shed light the role of consumer use of time in participating in MC in explaining perceived value and satisfaction, which helps to better understand its importance in technology-based business systems (Wulfsberg *et al.*, 2010), including MC (Marinkovic and Kalinic, 2017).

For just a few studies have explored some aspects of consumer participation as moderators in service contexts (Dong *et al.*, 2015; Prahalad and Ramaswamy, 2004; Prebensen *et al.*, 2016), it is interesting to demonstrate consumer use of time as a moderator, which consolidates both the context- and the content-related values to lead to a higher ability of delivering value for consumer from the context- to the content-related value to generate satisfaction. The empirical evidence showing the moderating effect of consumer participation in the process of delivering value from the context- to the content-related value is totally new. The positive moderating effect of consumer participation on the relationships between the content-related value and satisfaction is also consistent with recent studies (Dong *et al.*, 2015; Prahalad and Ramaswamy, 2004; Prebensen *et al.*, 2016). However, different from the study by Prebensen et al. (2016) that was based on the perspectives of consumer experience, this study argues for a moderator mechanism of consumer participation based on strength-related attitudinal attributes (Fazio, 2007) that foster the move from consumer perceived value to satisfaction. It is also different from the findings of Dong et al. (2015), who used the person-job fit theory and found that the various aspects of consumer participation (readiness, ability, or role identification) can interact to enhance satisfaction. This finding is expectable since MC provides a variety of valuable information. This critical factor supports the psychological processes and evaluations as well as buffer the consumer's capability of handling alternatives and creating value. Thus, it brings consumers more additional benefits to consolidate perceived value.

The research results have some practical implications. This study helps managers have a more comprehensive view of how consumers perceive the benefits of MC. More specifically, this study generates a more in-depth understanding of how context-related values, can contribute to consumer content-related value and satisfaction. Generally, the present study demonstrated that green value as a new dimension of content-related value is an additional competitive advantage as well as illustrated the critical and distinctive roles of novelty, knowledge as components of context-related value. As such, to foster consumer perceived value and finally to gain consumer minds and hearts, marketers and managers should consider providing consumers with a variety of benefits or gains.

Regarding context-related value, it should be noted that conditional value is originated from the benefits provided in a specific situation. Thus, a possible solution to increase conditional value is the development of super apps which involve many different features such as shopping or online payment (e.g., bills, phone card). It is now becoming a trend that mobile apps have many features to serve their users in different situations. The more features that are integrated into the MC apps, the more content-related values the MC apps bring to MC users since these new features can fulfill content-realted values . The positive contribution of novelty value on satisfaction also requires MC marketers and managers to continuously build and develop new apps, services, or distributed brands. This strategy can help to extend new choice opportunities for MC consumers within the categories they can fulfil consumers' goals. Besides, MC providers can obtain competitive advantages by creating new methods of business that can produce more unique benefits. The findings also indicate that knowledge consumers gained from MC can increase the pleasure they feel. This finding suggests that providing consumer education programs or generating knowledge exchange means in the contexts of C2C or B2C in MC may be an appropriate strategy. These actions will help consumers obtain more benefits towards MC transactions through methods and ways of effective shopping. For new MC consumers, attempts to increase their knowledge which in turn, enhance their content-based perceived value, are essential. A communication strategy should focus much more on improving instruction and signing benefits for consumers with low knowledge than the others.

With the increase of environmental desires and expectations in a different area of consumption, the consideration and implementation of green value become an essential feature for MC to win consumers' minds and hearts. As such, MC marketers and managers should consider the green value as one of MC's competitive advantages to attract more consumers. This requires them to design and implement an effective and efficient promotion campaign to better communicate how MC can decrease, for example, environmental pollution, social losses (e.g., accident), and energy consumption. MC marketers and managers also need to pay attention to increasing consumer perception about the green features of MC by clarifying the physical and mental gains of MC as a green shopping channel. Although an emphasis on green characteristics of MC can stimulate to increase green transactions such as via MC, environmental-friendly value alone may not be enough to satisfy consumer needs for MC. Therefore, besides green value, MC marketers and managers also need to understand and promote other specific benefits as a bundle of simultaneous values that drive consumers to increase their shopping via MC. This is essential because, as indicated by this study that satisfaction is a function of multiple values (i.e., utilitarian, emotional, social, conditional, novelty, knowledge, and green as well). MC marketers can increase the perception of utilitarian value by demonstrating that MC helps them save time and effort in online shopping and save more money in comparison to other types of traditional commerce. Besides, the hedonic value should also be focused since fun, enjoyment, and flow are the strong motivations of users in joining MC. For the importance of social value, MC marketer and managers should consider integrating social networking features into the MC shopping environment. In sum, content-related values such as utilitarian, experiential, green and social value dimensions should be treated as fundamental values to satisfy consumers (Sheth *et al.*, 1991).

Finally, the finding that consumer participation not only positively affects perceived value (both context- and content-related values) and satisfaction but also positively moderates the relationship between these two constructs is essential to encourage consumers to use more time for MC in increasing consumer value and satisfaction. Thus, to increase time use, MC marketers and managers can, for example, provide useful information about the products and services as well as a communication campaign to attract MC users' interest. Also, generating premium online shopping experience keeps consumers stay longer since it satisfies their inner need for hedonic benefits. Last but not least, social networking features may play an essential role in increasing consumer participation since they make MC shopping apps/website a place where they can learn and share.

This study has some limitations. Firstly, the present research is based on a non-representative sample of Vietnamese consumers. Therefore, future studies should use more representative samples. This study focusses on the MC context in general; thus, future studies should investigate specific types of online or mobile services such as e-tourism or mobile banking. Consumer participation is a complex construct with different features, such as customization, information sharing, suggestion making, or involving decision making (Lusch and Nambisan, 2015). Thus, the exploration of the moderating effects of these features of consumer participation on the relationship between perceived value and satisfaction could have significant contributions. Finally, a cross-culture sample or applying the experiment design would consolidate and generalizes the findings.

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EFFECTS OF RELATIONAL BENEFITS ON RELATIONSHIP QUALITY AND CUSTOMER LOYALTY: A STUDY OF THE UNIVERSITY-BUSINESS RELATIONSHIP IN HCMC-VN

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ABSTRACT

This study aims to determine the direct influence of economic benefits (ECB) and social benefits (SOB) on relationship quality (RQ) and on customer loyalty (LOY) in the context of university-business relationship in a transition economy. A combination of online and in-depth interview instrument was adopted to gather the data from 486 enterprises. Estimation of structural model and hypothesis testing were performed via structural equation modeling. The research results find that ECB and SOB not only have a significant direct influence on LOY and on RQ, but also have a stronger effect on LOY when influenced via RQ mediation. Besides, the results also show that the ECB has a significantly stronger influence than the SOB when both affect on RQ and on LOY.

Keywords: Relational Benefits; Relationship Quality; Customer Loyalty; Service of University.

1. Introduction

The relationship between universities and businesses becomes necessary not only for universities and businesses but also nationally and regionally, not only increasing the ability to transfer technology and knowledge but also helping businesses newly developed on the spirit of entrepreneurship (Carayol, 2003; Gibb & Hannon, 2006). However, in Vietnam, while many universities try to connect with businesses for their own benefit, many businesses consider whether to benefit from this relationship. From the point of view of enterprises, their service relationship with the university is also the connection in business activities, in which enterprises use the services provided by the university such as training courses, internships, research projects, licenses, patents, product and service development, innovation, etc. (Dan, 2013). The main objective and motivation for doing business relationship is to create superior benefits for each party and share that benefits (Mandják et Durrieu, 2000). Therefore, when connecting with universities, businesses also expect to receive benefits. However, there have been no studies examining the benefits of enterprises when entering into a relationship with universities.

Meanwhile, the underlying assumption of the relational benefits approach is that for a relationship to form and last, it must benefit both the service organization and the buyers (Hennig-Thurau et al. 2002). When entering into a service relationship, the customer not only derives benefits from the service provided, but may also derive benefits from the relationship itself, which are the two basic types of customer motivations for establishing and maintaining relationships in services (Hennig-Thurau et al. 2000). The type of benefits derived from a relationship are called relational benefits (RB), which means the benefits that a customer can get from having a close relationship with a service supplier (Gwinner et al. 1998; Reynolds et Beatty, 1999; Hennig-Thurau et al. 2000; Hennig-Thurau et al. 2002). RB in service sector has been of great interest in recent times (e.g., Hennig-Thurau et al. 2002; Vázquez-Carrasco et Foxall, 2006; Palaima et Auruskeviciene, 2007; Molina et al. 2007; Lee et al. 2008; Ruiz-Molina et Gil-Saura, 2009; Han et Kim, 2009; Kim et Ok, 2009; Chen et Hu, 2010; Conze et al. 2010; Li Ling, 2011; Dimitriadis et Koritos, 2014; Koritos et al. 2014; Yang et al. 2017; Chou et Chen, 2018; Lien et al. 2018; Gremler et al. 2020). However, although many researchers have identified economic interests as the main driver of the relationship between businesses (Peterson 1995; Sheth et Parvatiyar, 1995; Gwinner et al. 1998), these studies above, especially the study by Gremler et al. (2020) with a review of 224 studies on relational benefits in services, are all lack of economic benefits.

The objective of this research is to approach the service relationship between universities and enterprises in Vietnam based on relationship marketing theory to explore the economic benefits of enterprises in this relationship and explore and compare the impact of economic benefits with social benefits when simultaneously affecting the RQ and loyalty of business customers, thereby contributing to perfecting the RB approach in relationship relationship marketing theory.

2. Theoretical background and hypotheses development

2.1. Relationship Marketing

The concept of relationship marketing (RM) was first formally introduced by Berry in 1983 and started a line of research that attracted both academia and professionals. The basic philosophies of RM are based on the assumption that supplier-buyer interaction strategies can create and maintain customer loyalty (Berry, 1995). Berry et al. (1983) consider RM as a strategy to attract customers, maintain attractiveness and develop relationships with customers. More specifically, Grönroos (1994) views relationship marketing as to establish, maintain and strengthen relationships with customers and other partners in order to meet the benefit goals of the stakeholders.

Business relationships are made between buyers and sellers and require varying degrees of effort in terms of investment, organizational learning, adaptation, coordination, commitment and build trust from both sides (Mandják & Durrieu, 2000). To assess business relationships, a variety of constructs have been mentioned, for example, relationship proximity (Barnes, 1997), relationship quality (Naudé et Buttle, 2000), relationship intensity (Golicic et Mentzer, 2006), relationship strength (Golicic, 2007). However, attached to the theme of RM is relationship quality (RQ). There have been many studies on RM focusing on understanding the factors affecting RQ (e.g., Moliner et al. 2007; Chen et al. 2008; Mysen et al. 2011a,b; Chu et Wang, 2012; Nguyen et Nguyen, 2014; Liu et al. 2017; Vize et al. 2017; Chang et al. 2018).

The Relationship between Universities and Businesses

Education researchers have shown that increasing knowledge and research in science and technology development has enhanced the role of universities in economic development (Etzkowitz et Leydesdorff, 2000). Indeed, the development of knowledge and science and technology has become increasingly integral to the development (e.g., Braczyk et al. 1998), both research and training activities of universities can also be studied by the market approach (Dasgupta et David, 1994).

Although many scholars support the view that universities can be seen as service organizations (e.g. Dolinsky, 1994; Kotler et Fox, 1995; Licata et Frankwick, 1996; Zammuto et al. 1996; Joseph et Joseph, 1997; Athiyaman, 1997; Hennig-Thurau et al. 2001; Segarra-Moliner et al, 2013) and based on the marketing approach, education and training services belong to the field of service marketing (Hennig-Thurau et al. 2001), the extent of interlinkage between education researches and marketing studies is scant (Hennig-Thurau et al. 2001). This research will extend previous efforts by approaching the service relationship between universities and enterprises based on RM theory to explore the relational benefits that enterprises can derive from this relationship.

2.2. Customer Loyalty (LOY)

According to Sheth (1996), the main objective of RM is to get more loyal customers. There are many definitions of customer loyalty (LOY); for example, Jacoby et Chestnut (1978) introduced more than 50 different statements about loyalty in their work. In the context of research on the university-business relationship, the author supports the point of view of Gremler et Brown (1996), and identifies business customer loyalty as the extent to which the business shows repeated behavior of using the service from a given university, has good faith showing a positive attitude towards that university, and intends to use the service only of that university. Many scholars have suggested that LOY is the result of RQ between suppliers and customers (e.g., Hennig-Thurau et al., 2001; Hennig-Thurau et al., 2002; Palaima et Auruskeviciene, 2007;

Caceres et Paparoidamis, 2007; Rauyruen et al., 2007; Gil-Saura et Ruiz-Molina, 2009; Vesel et Zabka, 2010; Naoui et Zaiem, 2010; Bojei et Alwie, 2010; Casaló et al. 2010; Liu et al., 2011; McDonnell et al., 2011; Aurier et Lanauze, 2011; Ruswanti et Lectari, 2016). Besides, Gwinner et al. (1998) found a significant contribution of RB to LOY. In this study, the author will test the effects of RB on RQ and on LOY in the university-business relationship.

2.3. Relationship Quality (RQ)

Since it was first introduced by Gümmesson in 1985 (Gümmesson, 2002) until now, RQ has become a fundamental concept in relationship marketing theory. According to Athanasopoulou (2013), a high RQ indicates a successful relationship and vice versa. Although there is no consensus on the definition of RQ, many scholars agree that RQ is a higher-order structure consisting of a number of components that support, reinforce and complement each other (e.g., Dwyer et al. 1987; Crosby et al. 1990; Dorsch et al. 1998; Hennig-Thurau et al. 2001; Roberts et al. 2003; Skarmeas et al. 2008; Gremler et al. 2020). Some researchers focus on two main aspects (eg, Crosby et al. 1990; Morgan and Hunt, 1994). However, in the study of the university-business relationship, the authors support the view of many researchers for that RQ has many structures, but satisfaction, trust, and commitment are the most common. (e.g., Smith, 1998; Dewulf et al. 2001; Roberts et al. 2003; Walter et al. 2003; Ivens, 2004; Ulaga et Eggert, 2004; Ivens et Pardo, 2007; Vieira et al. 2008; Walsh et al. 2010; Chu et Wang, 2012; Rafiq et al. 2013; Purnasaria et Yuliandoa, 2015; Gremler et al. 2020).

Satisfaction

There are many definitions of satisfaction. In the business-business relationship (B2B), Hansemark and Albinsson (2004) defined customer satisfaction as a customer's overall attitude towards a service provider, or emotional response to difference, distinguishing between what they expect and what they get, regarding the performance of some need, goal, or desire. A review of the author's studies shows that satisfaction is confirmed as an indicator of RQ (Dwyer et al. 198; Crosby et al. 1990). Indeed, customer satisfaction is important because satisfied customers will have a long-term relationship orientation (Jesús et Yolana, 2011), and have no intention of switching to another provider (Kotler et Gertner, 2002), leading to strong relationship between suppliers and customers (Grönroos et al. 1994). Hennig-Thurau et al. (1997) argue that customer satisfaction is a crucial factor in customer retention. In other words, it is a strong predictor of LOY (Liljander et Strandvik, 1995). Thus, satisfaction is considered an essential part of successful relationships (Morgan et Hunt, 1994; Skarmeas et al. 2008).

Trust

The importance of trust for RQ has been actively studied (eg, Parasuraman et al. 1985; Dwyer et al. 1987; Crosby et al. 1990; Hennig-Thurau et Klee, 1997; Hennig- Thurau et al. 2002; Ulaga et Eggert, 2004; Palaima et Auruskeviciene, 2007; Sugandini et al. 2017). There are many definitions of trust. Dwyer et al. (1987) suggested that in a relationship, trust occurs when one party expects that their partner will perform their duties and responsibilities. In the service sector, trust is the confidence that customers have when they believe that the service provider will meet their needs (Anderson et Weitz, 1989). Although wording varies, most definitions of trust in a relationship expresses one partner's belief that the other will act in his or her best interests. Indeed, a relationship lacking trust can hardly be considered high-quality, Morgan et Hunt (1994) asserted that trust is at the heart of a B2B relationship and is especially essential in developing a long-term partnership. Besides that, Parasuraman et al. (1985) also pointed out that trust is the clearest evidence of a successful relationship in service sector. In other words, trust is a core component of RQ (Muafi, 2015; 2016).

Commitment

According to Morgan et Hunt (1994, p.23), "relationship commitment as an exchange partner believing that an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it; that is, the committed party believes the relationship is worth working on to ensure that it endures indefinitely". However, many RQ studies have used the term commitment to express relationship commitment. For example, Golicic et Mentzer (2006) suggested that commitment is a wish to engage in a beneficial interconnection over the long term and relate to the willing to keep on with the relationship. Berry et Parasuraman (1991) argued that mutual commitment is the foundation on which relationships are built. However, commitment can also be formed when one party perceives that the relationship is important enough to devote maximum efforts to maintain it for as long as possible (Dwyer et al. 1987; Moorman et al. 1992; Morgan et Hunt, 1994). In research on RQ, commitment is the most commonly used variable (For example, Dwyer et al. 1987; Moorman et al. 1992; Hennig-Thurau et al. 2002; Ulaga et Eggert. 2004; Palaima et Auruskeviciene, 2007); many researchers have confirmed that commitment is a fundamental element of RQ (e.g., Morgan et Hunt, 1994; Grönroos, 1994; Hennig-Thurau et Klee, 1997; Sharma et Patterson, 1999; Hennig-Thurau et al. 2002; Caceres et Paparoidamis, 2007; Palaima et Auruskeviciene, 2007; Naoui et Zaiem, 2010; Mysen et al. 2011a; 2011b; Sugandini et al. 2017; Gremler et al. 2020). Besides, Pritchard et al. (1999) also confirmed that commitment directly affects LOY. Similarly, Rauyruen et al. (2007) and Cater et Zabkar (2009) also suggest that customer commitment in a B2B relationship contributes to the loyalty of customer.

Aurier et N'Goala (2010) have shown that the three structures of satisfaction, trust, and commitment all play important roles in maintaining and developing relationships; in which, in order to form a commitment, it is necessary to build trust first and both of these factors are driven by satisfaction (Segarra-Moliner et al. 2013). Many studies in the service sector have determined that RQ has a positive effect on LOY (e.g., Hennig-Thurau et al. 2002; Palaima et Auruskeviciene, 2007; Bojei et Alwie, 2010; Liu et al. 2011; Gremler et al. 2020). From the results of previous studies and the above arguments, the authors believe that the quality of the university-business relationship directly affects the loyalty of corporate customers and proposes a hypothesis:

HRQ: Relationship quality has a positive direct effect on customer loyalty.

Relational Benefits (RB)

Customers choose goods or services on the basis of their desire for benefits (Haley, 1968; Reynolds et Gutman, 1984). For customers, besides receiving benefits from the core service, they can also receive a second type of benefit which is called relational benefits, because they already have a close relationship with the service supplier (e.g., Gwinner et al. 1998; Reynolds et Beatty, 1999; Gutek et al. 1999; Hennig-Thurau et al. 2000). At first, Gwinner et al. (1998) proposed four types of relational benefits including: (i) Social benefits; (ii) Psychological benefits; (iii) Economic benefits include both monetary benefits (such as discounts, etc.) and non-monetary benefits (such as time savings, faster service delivery, etc.); and (iv) Customization benefits involve customizing service delivery, receiving additional services, or developing a transaction history. Besides, there are many types of relational benefits were added as identity-related benefits (Fournier, 1998); functional benefits (Reynolds et Beatty, 1999); quality improvement benefits (Sweeney et Webb, 2002); respect benefits (Chang et Chen, 2007); value-added benefits and collaborative benefits (Li Ling, 2011; Li Ling et al. 2012); hedonic benefits (Meyer-Waarden et al. 2013); convenience benefits, competence benefits and benevolene benefits (Dimitriadis et Koritos, 2014); safety benefits (Yang et al. 2017). However, these additional benefits are less likely to appear in experimental studies, so the authors focus on the benefits introduced by Gwinner et al. (1998) and confirmed by Hennig-Thurau et al. (2002); Palaima et Auruskeviciene (2007); Li Ling et al. (2012); and Gremler et al. (2020).

2.3.1. Confidence Benefits

Confidence benefits are briefly mentioned in the theory. According to Gwinner et al. (1998), Confidence benefits refer to the customer's feeling of anxiety reduction and comfort in knowing what to expect in the service encounter. In this study, confidence benefits are considered as factor "trust" of RQ as argued above. Therefore, in the study of relational benefits, the authors only consider the remaining relational benefits that have been reported by Gwinner et al. (1998) includes special treatment benefits, economic benefits and social benefits.

2.3.2. Special Treatment Benefits (STB)

In the study of the relationship between service providers and end consumers (B2C), Gwinner et al. (1998) argues that special treatment benefits (STB) are benefits that consumers can receive in the form of discounts, faster services or special extra services because they already have a relationship with the supplier. In the same context, Hennig-Thurau et al. (2002) also argue that STB for customers include the benefits of faster service, better prices, discounts or special offers compared to most customers, when there is a waiting line will get higher priority, and receive special services not available to other customers. Accordingly, economic interests were pooled in STB. This aggregation may be appropriate for the B2C relationship but should be reconsidered in B2B relationship because Peterson (1995), Sheth et Parvatiyar (1995), and Gwinner et al. (1998) argued that the economic benefits that customers can get when participating in a relationship are the main drivers for developing B2B relationships. It would be incomplete to study the benefits of B2B relationships without paying attention to the economic benefits, which are the important motivation of customers. However, studies on relational benefits in the context of B2B relationships by Palaima et Auruskeviciene (2007), Li Ling (2011), and Gremler et al. (2020) all lacked economic benefits. According to Gremler et al. (2020), STB include receiving discounts, special offers, better prices, gifts, free products/services, special information or reports, get faster service, save time or special extra services. However, according to the initially classification of Gwinner et al. (1998), all components of STB listed by Gremler et al. (2020) all are economic benefits, with the exception of benefit received special extra service.

2.3.3. Economic Benefits (ECB)

Peterson (1995) argues that saving money is the main motivation for engaging in relational exchanges. Indeed, economic benefits are the inevitable motivation of business when entering into business and marketing relationships. There have been a few researchers mentioning economic benefits in the relationship in service sector. Gwinner et al. (1998) argues that the economic benefits that customers can get when participating in relationship exchanges include benefits both in money and in the form of time savings. Besides, the study of Li Ling et al. (2012) is one of the very few empirical studies that mentioned to economic benefits in the context of B2B service relationships; The economic benefits mentioned by Li Ling et al. (2012) are mainly monetary-based, that are preferential price, special promotions or discounts for customers who already have a relationship, payment terms are also considered as economic benefits. Beside the direct mention of economic benefits by Gwinner et al. (1998) and Li Ling et al. (2012), some scholars have mentioned the values that can bring economic benefits in the B2B relationship. Additionally, our theoretical overview shows that there exist several economic benefits for customers when entering into a relationship with the supplier are mentioned : (i) Cost reduction, discounts, promotions(Williamson, 1988; Heide et John, 1992; Kalwani et Narakesari, 1995; Sheth et Parvatiyar, 1995; Gwinner et al. 1998; Madhok, 2002; Li Ling et al. 2012); (ii) Save time (Gwinner et al. 1998; Madhok, 2002); (iii) Faster R&D cost recovery (Sheth et Parvatiyar, 1995); (iv) receive technology, information and market sharing (Wilson, 1995); (v) Acquiring knowledge from partners (Badaracco et Badaracco, 1991; Wilson, 1995). In order to confirm the concept of economic benefits of corporate customers when entering into a relationship with a university, the author conducted a qualitative study. The results of our qualitative research have confirmed that for enterprises, economic benefits are very important, and all the above-mentioned benefits are considered by enterprises as economic benefits, even the benefits of customized services or special additional services are also recognized as economic benefits because these benefits can help businesses reduce costs, save time or increase competitive advantages.

Consequences of Economic Benefits

The results of research by Gwinner et al. (1998) confirmed that customers in a B2C relationship can receive STB (including economic benefits and service customization benefits), and this benefit has a significant relationship with satisfaction. Besides, the empirical research results of Li Ling et al. (2012) also confirm that economic benefits have an effect on trust and commitment through relational outcomes. Meanwhile, the study by Gremler et al. (2020) confirmed that STB (including economic benefits and receiving special additional services) have an impact on relationship quality. Based on the previous research results and the above arguments, the authors argue that economic benefits directly affect the quality of the relationship between universities and enterprises and propose a hypothesis:

HEC1: Economic benefits have a positive direct effect on relationship quality

Until now, there have been no studies examining the direct influence of economic benefits (ECB) on corporate customer loyalty, only a few empirical studies confirming the indirect effect of ECB on customer loyalty (LOY), such as the study by Li Ling et al. (2012) confirmed that ECB have an indirect effect on LOY through relationship outcomes and RQ. Similarly, the study by Gremler et al. (2020) also confirmed that STB (including ECB and receiving special additional services) indirectly affects LOY through RQ mediation. However, Peterson (1995) and Sheth et Parvatiyar (1995) have argued that ECB are the main driving force for developing business-to-business relationships. Similarly, Madhok (2002) also agrees that economic interests are an important driver for firms to enter into business marketing relationships. Besides, the qualitative research results of the authors have determined that economic benefits are very important for customers who are enterprises. From this theoretical basis and qualitative research results, the authors expect that there is a direct influence from the cause (economic benefits are the main driving force) to the outcome of the relationship (loyalty of the customer) and suggest that the economic benefits of the university-business relationship have a direct positive impact on corporate customer loyalty and proposes hypothesized:

HEC2: Economic benefits have a positive direct effect on customer loyalty.

2.3.4. Social Benefits (SOB)

Social benefits (SOB) focus on the relationship itself rather than the outcome of the transactions, SOB are thought to include a feeling of familiarity, personal recognition, friendship, relationship, and social support (Barnes, 1994; Berry, 1995). Service encounters are also social encounters, naturally repeated contacts between individuals (Czepiel, 1990), which help address the basic human need to feel important (Jackson, 1993). Many studies show that customers derive social benefits from long-term relationships with service firms (Czepiel, 1990; Berry, 1995; Gwinner et al. 1998; Hennig-Thurau et al. 2002; Palaima et Auruskeviciene 2007; Gremler et al. 2020).The importance of the social dimension in the relationship between customers and service providers has been recognized in theory (Parasuraman et al. 1985; Surprenant et Solomon, 1987; Goodwin et Gremler, 1996).

Consequences of Social Benefits

Zeithaml (1981) argues that customers with a service relationship often find that by maintaining a relationship with a service supplier they can obtain optimal satisfaction. Gremler et Gwinner (2000) also showed that the relationship between customer and service staff has a significant influence on satisfaction with service providers. Besides, Gwinner et al. (1998) suggested that confidence benefits (trust) can grow when customers perceive SOB, this hypothesis is supported by the empirical study of Palaima et Auruskeviciene (2007). Meanwhile, researchers have suggested that social benefits are positively related to customer commitment (Goodwin et Gremler, 1996; Gwinner et al., 1998). Similarly, Berry (1995) also suggested that the social relationship between the customer and the service staff makes the customer has a higher level of commitment to the service supplier organization. In addition, several studies have shown that SOB have a positive impact on commitment (e.g., Liljander et Roos, 2002; Hennig-Thurau et al. 2002; Palaima et Auruskeviciene, 2007). Based on the results of previous studies and the above arguments, the authors argue that the social benefits of the university-business relationship directly affect RQ and propose the hypothesis:

HSB1: Social benefits have a positive direct effect on relationship quality

Many researchers argue that SOB have an influence on LOY (e.g., Goodwin et Gremler, 1996; Price et Arnould, 1999), and Reynolds et Beatty (1999) suggest that SOB directly affect LOY. These researchers suggest that there is a strong relationship between the social aspects of the supplier-customer relationship and LOY. Meanwhile, Berry (1995) also recommends that social links between customers and service providers can be used to promote LOY. Besides, the results of qualitative research of Liljander et Roos (2002) and quantitative study of Hennig-Thurau et al (2002) have shown that SOB have an effect on LOY. Based on the results of previous studies and the above arguments, the authors expect that the social benefits of the university-business relationship directly affect the loyalty of business customer and propose the hypothesis:

HSB2: Social benefits have a positive direct effect on customer loyalty

3. Research models

Hypothetical relationships are presented in the research model in Figure 1.

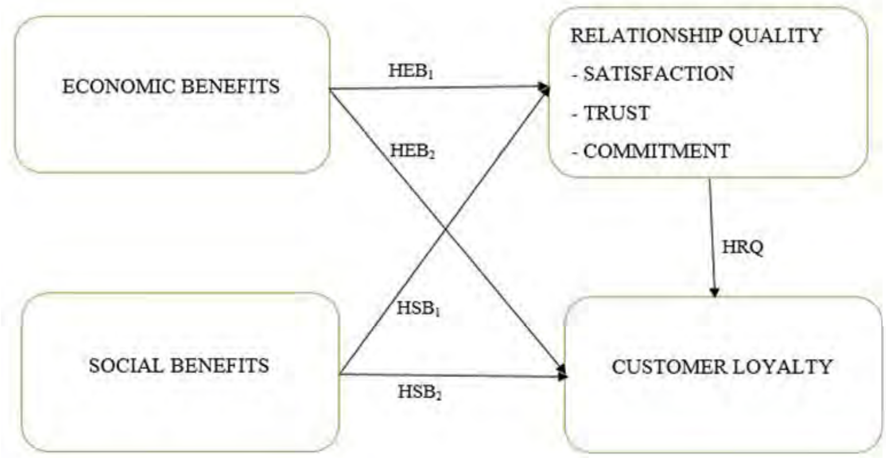

Figure 1. Hypothesized relationships of the model

4. Research method

4.1. Selection of respondents

There are 67 universities and colleges in Ho Chi Minh City (HCMC). Among them, there are 47 public institutions (accounting for 70%) that are training for over 600,000 students (equivalent to 75%), the remaining 20 private institutions (30%) are training for over 200,000 students (25%). Except for 9 public institutions in the military, security and fine arts-art sectors, all 58 institutions have activities connected with businesses, of which 26 institutions (45%) have specialized organizations on connection activities with enterprises.

The sample of the study is businesses located in HCMC that have relationships with at least 1 of 58 universities and colleges in HCMC. The sample was selected by the convenience sampling method with two control attributes: (1) having a service relationship with universities or colleges and (2) geographical location where the business operates. The study used email survey combined with face-to-face interviews. Leaders of enterprises or officials of enterprises managing connection activities with selected universities were chosen for interview.

4.2. Collection of responses and sample size

All questions in the email survey are made mandatory. In case the question is not answered, the respondent is noted and asked to complete all answers. Data cannot be sent if all questions have not been answered. This helps avoid missing values that can cause estimation problems in the structural equation model (Diamantopoulos et Siguaw, 2005; Kline, 2005; Schumacker et Lomax, 2004). A total of 114 responses collected by face-to-face interviews were used for the pilot study. There are 486 valid responses gathered via email with full validity to be used for formal research. Structural Equation Modeling (SEM) requires a large sample size to ensure the necessary reliability estimates of the model (Raykov et Widaman, 1995). Kline (2005) suggests that the number of samples should be 10 times larger than the number of parameters. In this study, the ratio was 486:34 (>14), which met the threshold.

4.3. Sample Characteristic

Among the 486 enterprises that responded, 199 enterprises have a relationship with the university of 5 years or more (41%) and 287 enterprises have a relationship of less than 5 years (59%); there are 348 enterprises with private capital (71%) and 138 enterprises with state capital (28%); there are 224 enterprises with revenue below 20 billion VND (46%), 130 enterprises with revenue from 20 to 100 billion VND (27%) and 132 enterprises with revenue over 100 billion VND (27%).

5. Results.

Through reliability testing with Cronbach's alpha, 2 observed variables SAT4 and TRU4 were eliminated. The results of the EFA analysis of independent and dependent variables showed that all indicators met the requirements, in which, group of independent variables ECB (Economic Benefits) and SOB (Social Benefits) has coefficient KMO = =0.916 >0.5; KMO and Bartlett's tests in factor analysis have the results sig=0.00; extracted 2 components at eigenvalue = 1,831, extracted variance is 59,451% (>50%). Through analysis of the dependent variable LOY (Customer Loyalty), we see that the coefficient KMO = 0.875>0.5, the KMO and Barlett's test in the factor analysis have the result sig=0.00, extracted 1 component at eigenvalue = 3,300, the extracted variance is 66.005% (>50%). However, the EFA analysis of the intermediate variable RQ (Relationship Quality) has the coefficient KMO = 0.875, the KMO test and Barlett's in the factor analysis has the result sig = 0.000, which can only extracted 2 components at eigenvalue = 1.738; extracted variance is 60.924% (>50%), in which, the observed variables belonging to the SAT (satisfaction) and TRU (trust) groups are grouped into 1 factor (Table 1), proving that RQ is a multi-directional scale with 2 components.

Table 1. Component Matrix[a]

	Component	
	1	2
SAT1	**.744**	-.258
SAT2	**.723**	-.238
SAT3	**.684**	-.323
TRU1	**.776**	-.227
TRU2	**.712**	-.200
TRU3	**.702**	
TRU5	**.773**	-.311
COM1	.558	**.512**
COM2	.492	**.601**
COM3	.561	**.564**
COM4	.592	**.598**

Extraction Method: Principal Component Analysis.[a]
a. 2 components extracted.

Source: Official quantitative research results

Besides, the results of testing discriminant validity in RQ by Confirmatory Factor Analysis (CFA) (Table 2) also show that only AVE (COM) > MSV (COM), while AVE (TRU) < MSV (TRU) and AVE (SAT) < MSV (SAT). This results reflect that the two concepts of satisfaction and trust are understood equally in the research context in HCMC, VN.

Table 2. Model Validity Measures

	CR	AVE	MSV	MaxR(H)	TRU	COM	SAT
TRU	0.821	0.534	0.914	0.827	**0.731**		
COM	0.805	0.509	0.274	0.817	0.523***	**0.714**	
SAT	0.763	0.520	0.914	0.779	0.956***	0.476***	**0.721**

Validity Concerns

Discriminant Validity: the square root of the AVE for TRU is less than its correlation with SAT.

Source: Official quantitative research results

The results of CFA show that the model responds well to market data. The correlation between the factors shown in Table 3 shows that reliability (CR), extracted variance (AVE) of all components are >0.5 (AVE of SOB = 0.498 ≈ 0.5 should be acceptable); all AVEs > corresponding MSVs. However, relationship quality (RQ) in this research context is a multi-directional concept with 2 components, in which SAT and TRU are 2 different concepts in theory, but in fact 2 components are understood to be the same and the author named this new component satisfaction-trust (SATTRU) with 7 observations. The correlation between the factors in the model shown in Table 3 shows that we can conclude that the pairs of concepts are different. Convergence test results show that all weights of variables are > 0.5 and statistically significant at 99.9%. The results of the correlation analysis show that the correlation of the variables is < 1 and the difference is statistically significant.

Table 3. Model Validity Measures

	CR	AVE	MSV	MaxR(H)	SATTRU	SOB	ECB	COM	LOY
SATTRU	0.887	0.530	0.254	0.891	**0.728**				
SOB	0.855	0.498	0.418	0.859	0.374***	**0.705**			
ECB	0.869	0.527	0.494	0.875	0.444***	0.561***	**0.726**		
COM	0.806	0.510	0.427	0.810	0.504***	0.606***	0.600***	**0.714**	
LOY	0.872	0.577	0.494	0.875	0.490***	0.647***	0.703***	0.653***	**0.760**

Source: Official quantitative research results

5.1. Testing the theoretical model

As discussed above, the scales in the theoretical model of this study have been evaluated and the results are appropriate. The SEM results in Figure 2 show that the model's indexes meet the requirements. Chi-squared = 641.045 with 342 degrees of freedom with p= 0.000; CMIN/df= 1,874 (< 2); RMSEA= 0,042 (< 0,05) and GFI=0,916; CFI=0,954; TLI=0,950 are all > 0.9. Thus, we conclude that the model fits the market data.

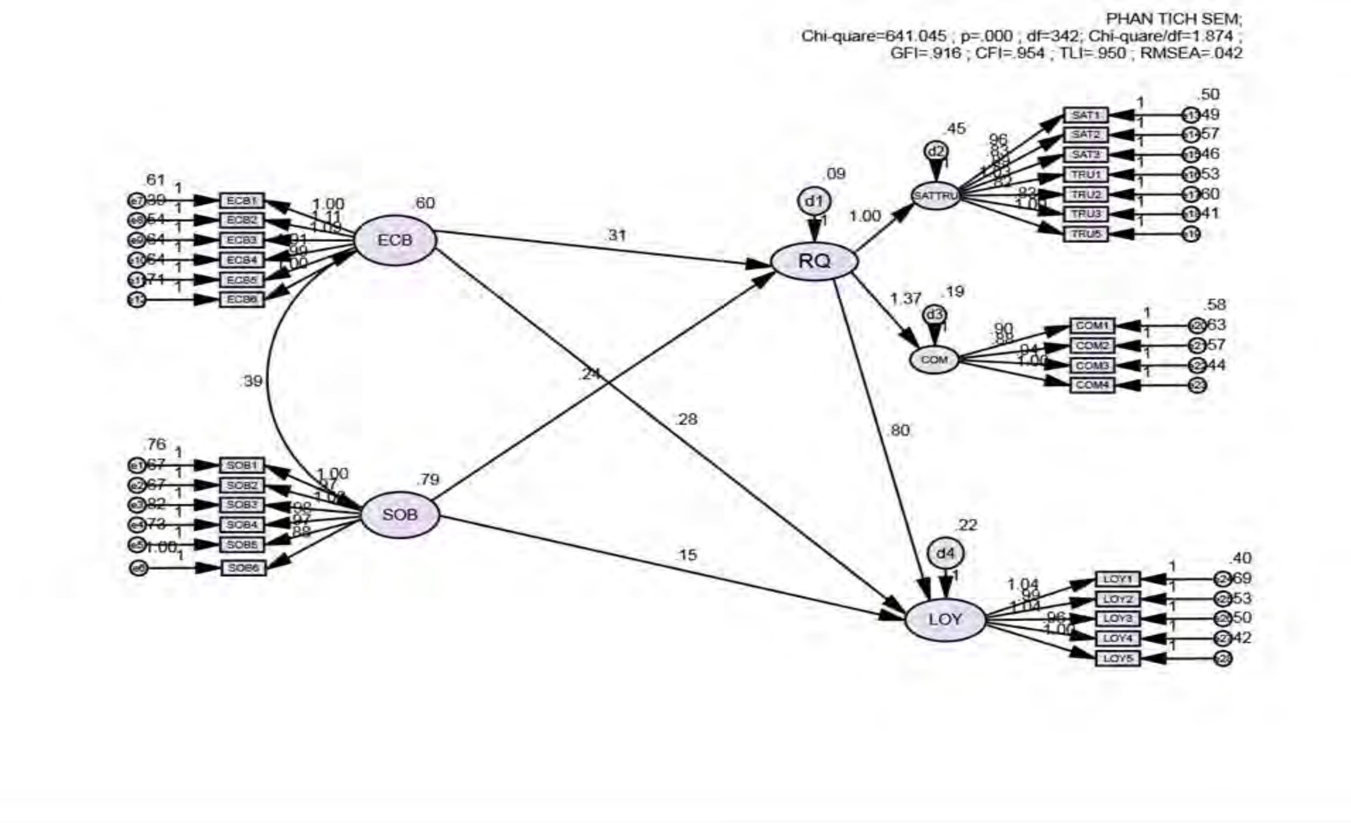

Figure 2. SEM results

Source: Official quantitative research results

The results of the estimation of the main parameters are presented in Table 4. This result shows that the hypothetical relationships are statistically significant at the 5% significance level.

Table 4. SEM test results

			Estimate	S.E.	C.R.	P	Label
RQ	<---	ECB	.309	.048	6.410	***	
RQ	<---	SOB	.238	.041	5.855	***	
LOY	<---	ECB	.278	.084	3.328	***	
LOY	<---	SOB	.149	.068	2.205	.027	
LOY	<---	RQ	.799	.206	3.873	***	

Source: Official quantitative research results

5.2. Bootstrap Estimation

In this study, the author used the Bootstrap method for multi-group analysis with group 1 being enterprises with a relationship of 5 years or more, group 2 being enterprises with a relationship of fewer than 5 years. Estimation results by Bootstrap are averaged with deviation, and most of the deviations are very small and not statistically significant (Table 5). From the results, we can conclude that the estimates in the model can be trusted.

Table 5. Estimation results by Bootstrap with N=1000

Parameter			Estimate	SE	SE-SE	Mean	Bias	SE-Bias	CR	P	CONCLUSION
RQ	<---	ECB	0.481	0.065	0.002	0.478	-0.003	0.003	-1.0000	0.3178	STABLE
RQ	<---	SOB	0.425	0.067	0.002	0.429	0.005	0.003	1.6667	0.0962	STABLE
LOY	<---	ECB	0.263	0.085	0.003	0.256	-0.007	0.004	-1.7500	0.0808	STABLE
LOY	<---	SOB	0.162	0.099	0.003	0.153	-0.009	0.005	-1.8000	0.0725	STABLE
LOY	<---	RQ	0.485	0.147	0.005	0.498	0.013	0.007	1.8571	0.0639	STABLE

Source: Official quantitative research results

5.3. Hypothesis testing

All the hypothesized correlations in the research model are proved by testing the SEM model. The relationships in Table 4 show that economic benefits (ECB) and social benefits (SOB) both have a direct and positive impact on relationship quality (RQ) and on customer loyalty (LOY). Besides, relationship quality (RQ) has a direct positive impact on customer loyalty (LOY). The effects recorded above are consistent with the proposed research hypothesis and are statistically significant because all have $p < 0.05$. With this result, the author can conclude that the measurement scales of the concepts in the model reach the theoretical value.

Figures 2 and Table 4 show that ECB have a direct and positive effect on RQ (0.309), stronger than the influence of SOB on RQ (0.238). At the same time, ECB also have a direct and positive influence on LOY (0.278), stronger than the influence of SOB on LOY (0.149). Besides, RQ has the strongest positive effect on LOY (0.799). These results support the hypotheses in the research model, except that there is a difference in the concept of relationship quality. According to the theory mentioned, satisfaction, trust and commitment are the 3 main constructs of relationship quality. However, in this study, satisfaction (SAT) and trust (TRU) have a high intrinsic unity and converge into a component named by the author as satisfaction-trust (SATRU).

6. Conclusion

The findings of this study are different from the results relational benefit study of previous studies in the B2C context (e.g., Gwinner et al. 1998; Hennig-Thurau et al., 2002; Gremler et al. 2020), these scholars have confirmed that the benefits of satisfying social interaction needs are more important than economic benefits for individuals using the service (with economic benefits included in special treatment benefits). However, for service customers who are businesses, the empirical results of this study have determined that economic benefits have a direct impact significantly on relationship quality (0.309) and on customer loyalty (0.278), stronger than the direct impact of social benefits on relationship quality (0.238) and on customer loyalty (0.149). These results support the view that economic benefits is an important driver for firms to enter into business-marketing relationships (Madhok, 2002) and a key driver for developing business-to-business relationship (Peterson, 1995; Sheth et Parvatiyar, 1995). Moreover, these results also show that economic benefits have a much stronger influence on loyalty when impact through relationship quality mediation (total impact = 0.525 – Table 6). Similarly, social benefits also have a stronger influence on loyalty when impact through relationship quality mediation (total impact = 0.339 – Table 6). This result implies that with the same degree of relational benefits, service providers with better relationship quality will acquire more loyalty customers. This is the first empirical study that has determined that economic benefits have a significant direct effect on relationship quality and customer loyalty in the context of B2B service relationships, contributing to perfecting the relational benefits approach in relationship marketing theory. This result can be used by relationship marketing researchers and university administrators to manage corporate customer loyalty.

Table 6. Direct, indirect and total impacts

Dependent variable	Impact	ECB	SOB	RQ
RQ	Direct	.309	.238	
	Indirect			
	Total	.309	.238	
LOY	Direct	.278	.149	.799
	Indirect	.247	.190	
	Total	.525	.339	.799

Source: Official quantitative research results

The results show that the components that contribute to the concept of relationship quality include satisfaction, trust and commitment. However, satisfaction and trust have a high internal unity and converge into one component. This result reflects the fact that in Vietnam, businesses that have relationships with universities have identified the two concepts of satisfaction and trust. This difference may be due to the way it is shown. In Vietnam trust is very important in business, enterprises only believe in partners that they are really satisfied with through previous transactions. When satisfied and trusted, enterprises often rate this partner as trustworthy instead of expressing satisfaction and trust in that partner. Thereby, it shows that there is a different perception of the concept of relationship quality in the context of B2B relationships in a new service sector in a transition economy. However, to confirm the universality of the results in this study, it needs to be tested in other business and service industries in Vietnam, and this may be the direction of further research to perfect the model measure of relationship quality in a transition economy.

7. Limitations and Future Research

Like any study, this study has its limitations. As discussed, this study only considers and tests the direct influence of economic benefits and social benefits on relationship quality and on customer loyalty in the context of B2B relationship in a new service sector; although this study confirmed the significance of the concepts involved in the theoretical model but there may be other statistically significant relational benefits that need to be explored. Besides, this study is only conducted for businesses that are using the services of universities in HCMC - Vietnam, the generalizability of the research results will be higher if it is repeated with the sample structure including enterprises in other large cities of Vietnam.

8. Appendix

Appendix A. Summary of some researches on relational benefits in services

Stydy (in chronological order)	Publishing year	Research context	Method	Relational Benefits (RB)					The influence of relational benefits
				Confident Benefits	Social Benefits	Special Treatment Benefits	Economic Benefits	Others RB	
Vázquez-Carrasco & Foxall	2006	B2C	Quantitative	x	x	x	_	_	RB acting as intermediate variable
Palaima & Auruskeviciene	2007	B2B	Quantitative	x	x	x	_	_	Directly effect on commitment and indirectly on customer loyalty
Molina, Martín-Consuegra & Esteban	2007	B2C	Quantitative	x	x	x	_	_	Directly effect on satisfaction
Lee, Ahn & Kim	2008	B2C	Quantitative	x	x	x	_	_	Directly effect on customer loyalty
Han & Kim	2009	B2C	Quantitative	x	x	x	_	_	Indirect effect on behavioral intention
Kim & Ok	2009	B2C	Quantitative	x	x	x	_	_	Indirect effect on behavioral intention
Ruiz-Molina & Gil-Saura	2009	B2C	Quantitative	x	x	x	_	_	Directly effect on customer loyalty
Chen & Hu	2010	B2C	Quantitative	x	x	x	_	_	Directly effect on customer loyalty
Conze , Bieger, Laesser & Riklin	2010	B2C	Quantitative	x	x	x	_	Variety Seeking Benefits	Directly effect on customer loyalty
Li Ling	2011	B2B	Quantitative	_	x	_	_	Value-Added Benefits; Collaborative Benefits	Directly effect on satisfaction
Li Ling, Ford, Zhai & Xu	2012	B2B	Quantitative	_	_	_	x	Value-Added Benefits; Collaborative Benefits	Indirect effect on RQ & customer loyalty
Dimitriadis & Koritos	2014	B2C	Quantitative	x	x	x	_	convenience, competence& benevolene benefits	Directly effect on satisfaction
Koritos, Koronios & Stathakopoulos	2014	B2C	Quantitative	x	x	x	_	Functional benefits	Directly effect on satisfaction
Yang, Song, Chen & Xia	2017	B2C	Quantitative & qualitative	x	x	x	_	Safety Benefits	Directly effect on commitment and customer loyalty
Chou Shihyu & Chen Chi-Wen	2018	B2C	Quantitative	x	x	x	_	_	Directly effect on RQ
Lien, Wu, Hsu & Wang	2018	B2C	Quantitative	x	x	x	_	_	Relational benefits act as a moderating variable
Gremler, Van Vaerenbergh, Brüggen & Kevin (a meta-analysis of 224 research papers on relational benefits in services)	2020	42 B2B & 182 B2C	Quantitative & qualitative	122 / 224	171 / 224	194 / 224	_		RB influence both directly and indirectly on RQ and through RQ affect on customer loyalty

Source: Authors compiled from studies

Appendix B. Scale of research concepts

Code of indicator	Dimension	Questionnaire statement	Source
ECB1	Economic Benefits	XYZ university offers a discounted price/service fee for my company thanks to its relationship with XYZ university.	Adapted from Williamson, 1988; Heide et John, 1992; Kalwani and Narayandas, 1995; Sheth et Parvatiyar, 1995; Gwinner et al. 1998; and Li Ling et al. 2012
ECB2	Economic Benefits	My company saves time in searching for other service providers thanks to its relationship with XYZ university.	Adapted from Gwinner et al. 1998
ECB3	Economic Benefits	Thanks to the relationship with XYZ university, my company is able to recover Rand D costs faster than without the relationship.	Adapted from Sheth et Parvatiyar, 1995
ECB4	Economic Benefits	XYZ university is willing to share technology, information and market access opportunities with my company thanks to its relationship with XYZ university.	Adapted from Wilson, 1995
ECB5	Economic Benefits	Thanks to the relationship, my Company can get useful knowledge updates from XYZ university.	Adapted from Badaracco et Badaracco, 1991; Wilson, 1995
ECB6	Economic Benefits	Thanks to the relationship, my Company can receive special additional services of XYZ university	Adapted from Gwinner et al. 1998; Gremler et al. 2020; and qualitative research
SOB1	Social Benefits	Leader of my company is invited to attend and honor in XYZ university events	Adapted from Gwinner et al. 1998; Hennig-Thurau et al. 2002; and qualitative research
SOB2	Social Benefits	Leader of my company like certain social aspects of the relationship with XYZ university (enjoy participating in the educational environment, showing corporate social responsibility, ...)	
SOB3	Social Benefits	Leader of my company have developed a friendship with XYZ university's representatives.	
SOB4	Social Benefits	Leaders and representatives of XYZ university know the name of the leaders of my company.	
SOB5	Social Benefits	Through the relationship with XYZ university, my company is able to access other business opportunities.	
SOB6	Social Benefits	The relationship with XYZ university helps to increase my company's brand awareness.	
SAT1	Satisfaction	We are satisfied with the services provided by XYZ university.	Adapted from Crosby et al. (1990); Ling et Ding (2006); Liu et al. (2011)
SAT2	Satisfaction	We are completely satisfied with the processes and procedures that XYZ university has done with us	

SAT3	Satisfaction	The communications between my company and the representative of XYZ university always make us feel satisfied.	
SAT4	Satisfaction	Overall, I think XYZ university is a good service provider	
TRU1	Trust	The staff of XYZ university follow what XYZ university promises to my company	Adapted from Crosby et al. (1990); Morgan et Hunt (1994); Ulaga et Eggert (2004); Wong et Sohal (2006); Auruskeviciene et al. (2010)
TRU2	Trust	I believe that XYZ university considers the best benefit of my company	
TRU3	Trust	I feel that I can always trust XYZ university.	
TRU4	Trust	I believe XYZ university will do everything correctly.	
TRU5	Trust	XYZ university's staff are honest.	
COM1	Commitment	The relationship with XYZ university is very important to our operations.	Adapted from Morgan et Hunt (1994); Hennig-Thurau et al. (2002); Wong et Sohal (2006); Ulaga et Eggert (2004); Auruskeviciene et al. (2010)
COM2	Commitment	The relationship with XYZ university is worthy of my company's highest effort to maintain.	
COM3	Commitment	We will maintain the current relationship with XYZ university for an infinite time.	
COM4	Commitment	Our relationship with XYZ university is like a family.	
LOY1	Customer Loyalty	My company hopes to expand the scope of cooperation with XYZ university.	Adapted from Sharma et Patterson (1999); Palaima et Auruskeviciene (2007)
LOY2	Customer Loyalty	My company intends to develop more projects with XYZ university	
LOY3	Customer Loyalty	Most likely in the nearest future, we will choose another partner university. (reversed)	
LOY4	Customer Loyalty	I would recommend XYZ university to other companies.	
LOY5	Customer Loyalty	If someone tells me that the quality of XYZ university's provided service is poor, I will try to prove that it is not true.	

All constructs are measured on a five-point scale, ranging from strongly disagree with statement (1) to strongly agree with statement (5).

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PURCHASE INTENTION IN CROSS-BORDER E-COMMERCE: THE CASE OF VIETNAMESE CONSUMERS

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ABSTRACT

The fast-moving economic integration and technology development has lead to the development of Cross-border E-commerce (CBEC). As its nature of more complicated interaction processes in comparison with domestic e-commerce, consumer attitudes and perceptions also changed and be affected by additional different factors. Given the increasing rapid development and extension of CBEC into emerging markets, there is lack of research attentions toward customer's intention in these regions. Therefore, this study reviews previous studies on consumer's purchase behaviour to propose model in identifying factors influencing Vietnamese consumer's purchase intention in CBEC context. This study also discusses the challenges of CBEC in emerging markets and attempts to introduce a conceptual model in understanding the consumer's purchase intention in CBEC of the Vietnamese consumer especially during the covid-19 pandemic.

Keywords: Cross-border E-commerce, Foreign traveling, CBEC experience, Consumer purchase intention.

1. Introduction

In the fast-moving economic integration and technology development process, the world is becoming a smaller and more connected, bringing about various opportunities for global commerce and service. It not only raises the awareness of online shopping, but also the shopping destinations, leading to the development of Cross-border E-commerce (CBEC). In general, CBEC is construed as when online transactions and deals are conducted in different countries by using communication and information technologies (Wang, 2014). Along with the potential of reducing trade obtacles, CBEC has become an important channel to promote international trade (Mou et al., 2017). The number of cross-border online shoppers is growing worldwide, and cross-border growth is twice the rate of domestic e-commerce in 2019 (Accenture, 2019). The CBEC market is expected to account for USD 900 billion Gross merchandise volume (GMV), nearly three times as much as it was in 2015, occupying about 22% of global e-commerce market share. Brands, as well as products that are not available in local markets, become more and more visible, preferable, and deliverable (Cleveland et al., 2013).

While the CBEC in developed countries is already mature and seems to be saturated (Statista, 2020), the developing countries, especially Southeast Asia is emerging as the center of CBEC market (eTail and Vinculum, 2019). In fact, Southeast Asia e-commerce market is developing strongly with incredible growth index, which can be accredited to the younger and more demanding consumers in comparison with their counterparts in Europe and the Americas (IPC, 2018). Although these are the fruitful markets for E-commerce enterprises to expand the operating areas and customer base, they still imply certain limits on economic development, economic infrastructure, as well as policy stability (Odedra-Straub, 2003). Hence, to effectively exploit the potential of these markets, a need for a comprehensive and in-depth study is required. It is important to note that CBEC is no longer a topic that is discussed only in western developed nations but has been flocked towards emerging and developing markets.

The extant studies have widely investigated on the success of domestic e-commerce, while CBEC has received less attention (Mou et al., 2017). Compared with domestic form, the CBEC is considered as more complicated interaction processes, which may generate different consumer attitudes and perceptions (Koh et al., 2012; Wagner et al., 2016). Despite the potential benefits international customers can gain with CBEC, such as access to high-quality foreign items, wider product offerings, and monetary savings (Chiu et al., 2014; Pei et al., 2016), the additional risks and uncertainties might arise when consumers digitally cross-national borders. Indeed, geographic and cultural distances bring about stronger concerns of communication, privacy, financial as well as delivery risks (Mou et al., 2017). The consumer intentions for purchasing items from foreign online stores, therefore, are affected by more factors other than domestic context. Apart from the benefits and risks, the seller-buyer relationships in CBEC are also determined by the trust, which was considered a critical factor in the international trading environment (Koh et al., 2012). Among the determinants of CBEC's success, consumer behavior stands out as a key factor. In other words, the success of CBEC depends on companies attracting more customers, hence increasing market share (Mou et al., 2017). This requires understanding about key factors, including both determinants and moderators that combined to influence CBEC customers' intention, marking an important information source for both academia and industry. Given the increasing rapid development and extension of CBEC into emerging markets and lack of research attention toward customer's intention on this field, there is a critical need for studying about this especially during the covid-19 pandemic. The primary objective of this study is the exploration of factors that influence the consumer's purchasing intention of Cross-Border Online Shopping, with the main focus on Vietnam, a developing country, in which CBEC is in the early development stage and has yielded great potentials. The Vietnamese internet-economy market size is found to achieve the second-fastest growth in Southeast Asia, which is expected to grow from 9 billion USD in 2018 to 33 billion USD in 2025 (McKinsey & Company, 2019). Through literature process, a proposed model that is suitable for investigating such cross-border online shopping intention behavior in this research context can be conceptualized. This study developement would bring managerial implications, not only for practitioners but also for academicians.

2. Theoretical framework

2.1. Theoretical background

Cross border E-commerce (CBEC) is a type of electronic commerce, where customers purchase a product from a retailer in a different country (Kim and Park, 2013). CBEC happens when a transaction has been concluded by several parties from different customs areas, involving cross-border logistics and through e-commerce platforms, in which, the typical parties are buyers, sellers, e-commerce platforms and third-party service companies, such as payment or logistics providers (Tmogroup, 2015). CBEC removes traditional trade boundaries and create opportunities for distributors and retailers to broaden markets and develop business strategies, especially for cross-border platform firms. Along with potential gaining, distributors and retailers have to face with fierce competitions to attract customers in the CBEC environment and many CBEC companies failed in 2016 such as Metao.com, which was established in 2013 (Mou et al., 2017).

The participation of consumer in CBEC differs from domestic online shopping due to its international factor and from physical international out-shopping as there is no traveling activity (Wagner et al., 2016). The consumer purchasing intention also tends to be different because it is affected by several factors such as consumers' attitude towards foreign products and brands, ethnocentrism or the language skills (Boeuf and Senecal, 2014). Indeed, the literature indicates number of research that take into account the consumer purchasing intention in the CBEC context. Han and Kim (2019) supposed that consumer informedness can yield positive influence on purchase intention. Rohm and Swaminathan (2004) indicate that consumer who perceives more benefits than risks from online shopping tend to make more purchases and vice versa.

2.2. Research conceptual

In this section, the conceptual research framework (Figure 2) and hypotheses will be discussed based on two background frameworks using in this study, which are the extended valence framework and consumer culture theory, and the research questions. The research hypotheses are as below:

2.2.1. The extended valance framework

Previous studies applied the valence framework in explaining the intention as well as behaviors of consumers, with the basic idea of considering the simultaneous effects of perceived risk and benefit (Kim et al., 2008; Lu et al., 2011; Gao and Waechter, 2017). This framework assumes that consumers perceive a product having both positive and negative features, which motivates them to evaluate and make final decisions to maximize the net valence (Peter and Tarpey, 1975). Later in the field, many studies found out that trust was a key driver for the success of companies in the e-commerce sector (Gefen, 2000; McKnight and Chervany, 2002; Kim et al., 2005). In 2008, Kim Dan J. and his colleague proposed an extended valence framework (Figure 1), which added trust when regognizing the impacts of perceived benefit and perceived risk on the purchasing intention in e-commerce sector (Kim et al., 2008). Figure 1 shows that trust is assumed to affect both directly and indirectly consumer purchasing intention through perceived benefit and perceived risk. Consumers will be more likely to involve in online shopping when perceived benefits and trust are high and when perceived risks are low. The perceived trust will also raise the intention indirectly by increasing perception of benefit while reducing the risk perception (Kim et al., 2008).

H1: The perceived benefits of cross-border online shopping have a positive effect on CBEC purchasing intention;

H2: The perceived risks of cross-border online shopping have a negative effect on CBEC purchasing intention;

H3: The perceived trust of cross-border online shopping have a positive effect on CBEC purchasing intention;

H4: The perceived trust (a) positively affects the perceived benefit and (b) negatively affects the perceived risk of cross-border online shopping;

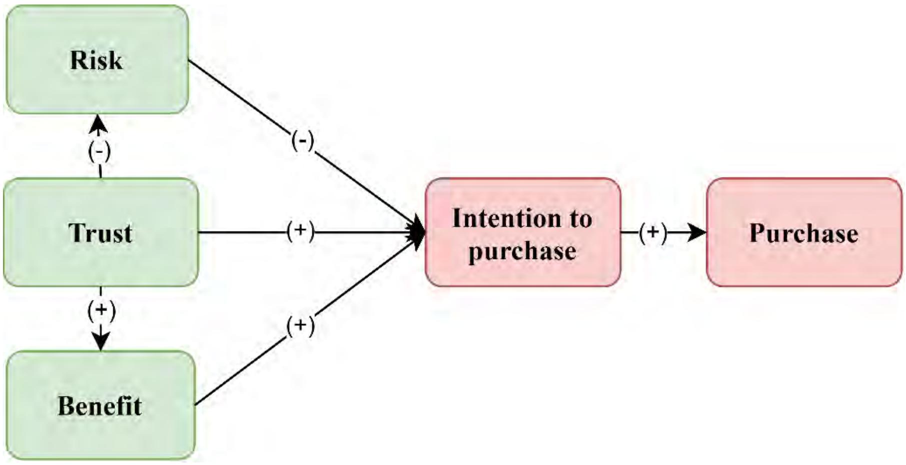

Figure 1. Extend Valence Framework (Kim et al., 2008)

2.2.2. The consumer culture theory and the role of foreign traveling

The consumer culture theory (CCT) is about a collection of theoretical perspectives addressing the relationship among consumer behaviors, marketplaces, and cultural significance (Arnould and Thompson, 2005). According to CCT, foreign traveling is considered as a relevant factor since consumers' experiences of foreign cultures can broaden their horizons toward international marketplaces (Cao et al., 2014). Nijssen (1999) have indicated that the actual oversea traveling experience yields the most profound influence on information as well as knowledge about other lifestyles and cultures, therefore, increase foreign products receptivity. Increased travel can create widely understood symbols and meanings of global brands, thereby communicating the global culture and global consumer community memberships (McCracken, 1986; Appadurai, 1990; Hannerz, 1990). This is critical for the research context of small countries, where people will generally be more aware of and exposed to other cultures (Nijssen et al., 1999). Previous studies have mentioned traveling abroad with the ability to enhance the experience and also the perceptions of specific products and brands of countries (Samiee et al., 2005; Kinley et al., 2012).

As being reported by Pitney Bowes Inc. (2016), the "In-store Global - Online Local" shopping was showing a rapid upward trend. This refers to the case when a consumer continues to do shopping online cross-border after visiting the physical store during their traveling time. In fact, the year 2016 experienced about 63% of consumers who have shopped across the border were participating in this trend. This clearly shows the positive influence of foreign traveling on the purchasing intention in the CBEC context and merchants can seize this opportunity to create future loyal cross-border shoppers with the current tourists who visit their stores (Pitney Bowes, 2016).

H5: Foreign traveling (a) increases the effect of perceived benefits, (b) decreases the effect of perceived risks and (c) increases the effect of perceived trusts on Cross-border purchasing intention;

In addition, previous purchasing experience with a specific shopping format has been investigated as a consumer characteristic (Park and Stoel, 2005). Online purchasing experience, in general, means that consumers already have prior experience in shopping through the internet (Lu et al., 2011). Consumer experience with internet shopping has a critical role in driving the growth of e-commerce (Elliot and Fowell, 2000). According to Broekhuizen and Huizingh (2009), it reflects the consumer familiarity with online shopping and strongly influences online attitudes as well as subsequent behavior. The relationship duration of a consumer with a business can moderate the relationships between important constructs and the volume of products or services purchased. With regards to the cross-border context, the online purchasing experience becomes more essential and stands as a more important moderator in the relationship between perceived values and purchasing intention (Yu and Lee, 2019). Indeed, the previous experience serves as a form of internal information (Park and Stoel, 2005), which is very reliable and critical because of the great wide-scale and additional uncertainties involved in this new shopping channel. Once consumers have experiences, their acquired understanding, knowledge and skills are more advanced, increasing their shopping efficiency (Bucklin and Sismeiro, 2003; Johnson et al., 2003) and also their level of confidence and comfort (Meuter et al., 2005). Therefore, their attitude about the importance of the key determinants toward purchasing intention changes accordingly. In other words, the role of these determinants with consumer's intention varies with the consumer's level of experience (Broekhuizen and Huizingh, 2009).

In addition, the more experienced shoppers feel the perceived risk with a less inhibiting role because they are more used to the shopping attributes and situations, such as the online technologies and payment-methods (Broekhuizen and Huizingh, 2009). Moreover, the risk perceptions may be traded-off by bigger advantages that consumer perceive from reality (Kleijnen et al., 2007). Previous studies have investigated and expressed that risks tend to become less salient along with each subsequent successful online purchase (Shim et al., 2001; Monsuwe et al., 2004). On the contrary, while previous consumer experience reduces the role of perceived risks in online shopping, it positively affects the influence of perceived benefit and perceived trust and repurchase intention (Nasution and Nugroho, 2018). As online shopping in general and cross-border channel in particular, are vulnerable to risk, if consumers get the impression that the previous transactions run well, they will have a tendency to trust the service provider and hence, make repeat purchases. At that time, the repurchase intention is based more on the trustworthiness, which means trust relationship to the repurchase intention is strengthened by past shopping experience of consumer (Nasution and Nugroho, 2018). It is the same case for perceived benefit, when previous studies have indicated that benefits positively affected the intention to perform cross-border online purchases only in the case of customer with foreign online shopping experience (Wagner et al., 2016). Some others research also indicates the strengthen impacts of consumer experience to perceived benefit-purchasing intention relationship in particular situations. Gefen et al (2003) proved that the relationship between perveiced usefulness and behavioral intention becomes stronger as consumers gain actual experiences with information technology.

H6: Cross-border E-commerce experience (a) increases the effect of perceived benefits, (b) decreases the effect of perceived risks and (c) increases the effect of perceived trusts on Cross-border purchasing intention;

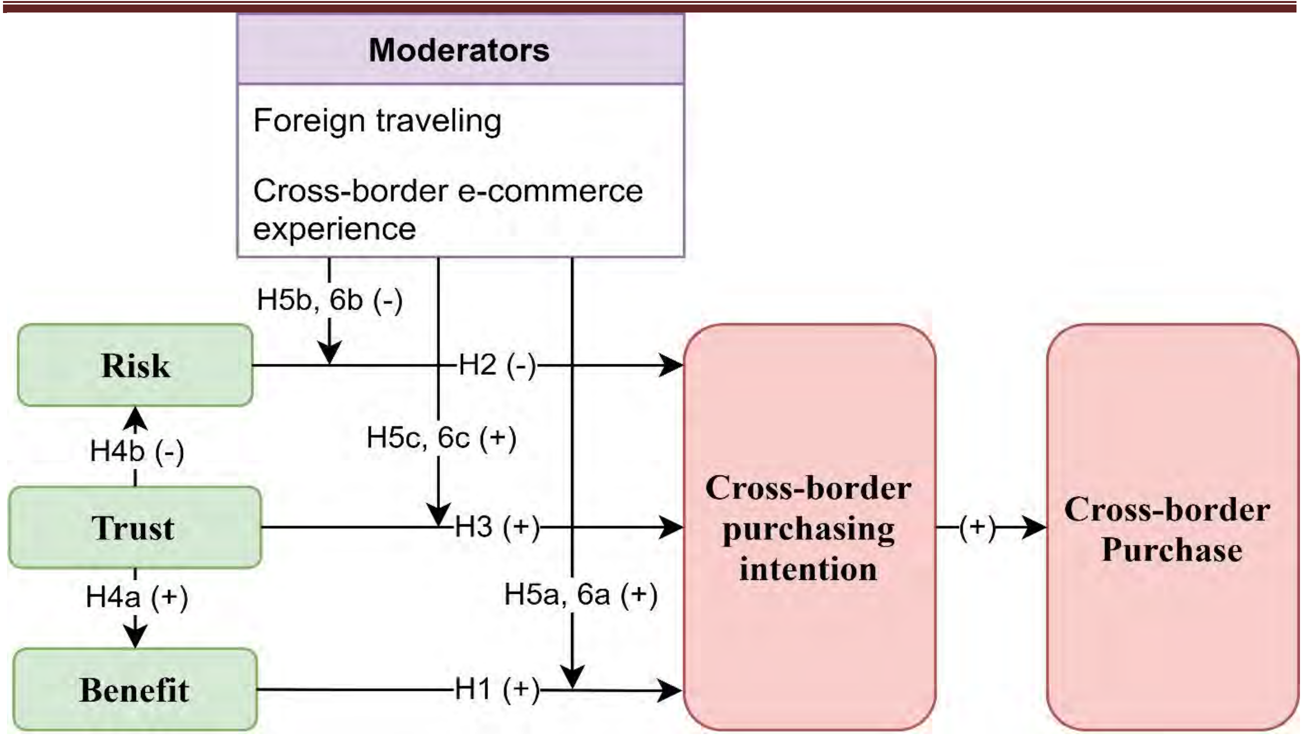

Figure 2. Conceptual model

3. Discussion and conclusion

This study reviewed previous works that explore the factors influencing consumer's purchase behaviour. Futhermore, this study also proposed a conceptual model to fill the existing research gaps with respected to the extended valence framework in identifying factors influencing Vietnamese consumer's purchase intention in CBEC context (Figure 2). The authors propose that three explanatory variables, including perceived benefit, perceived risk and perceived trust are affected by two moderators which are foreign traveling and CBEC buying experience. This hypothesis is interesting as Vietnamese consumers tend to highly appreciate foreign products, brands and also vendors because of the utilitarian benefit such as product quality and the hedonic benefit such as needs for self-enhancement. Also, in the Vietnamese context, where there are various scandals about low-quality or counterfeit products. Due to the crisis of belief in domestic goods, as well as relating parties, the consumers tend to base stronger on the trust of foreign vendors to make the decision. Therefore, perceived trust toward foreign products would has strong effect on the Vietnamese consumer's willingness to purchase through the foreign sites. This can be infered due to the ability of trust that positively affects the consumer's perception of benefit. It means, when a consumer attaches faith in a vendor, he or she will hold a more positive attitude and be more willing to search or experience its products or services. Hence, he or she will perceive more benefits, or the benefits are clearer and easier to grasp (Kim et al., 2008). Also, Coronavirus and travel restrictions such as social distance, movement control, and lockdown, force many consumers to use internet and make it their daily habit activities (Bhatti et al., 2020). There is an aggressive shift toward online purchasing during the pandemic (UNCTAD, 2021). According to the statistics from UNCTAD (2021), emerging economies make the greatest shift including Southeast Asia regions. Thus, shopping apps in Thailand saw a rapid increase of 60 percent in just one week. The impact of Covid-19 not only make consumers purchase more than usual but also change their behaviors (Khanijoh et al., 2020). The consumers tend to be more cautious in shopping behavior (Chen and Yang, 2020) and many consumers will use online cross-border channel to buy necessary products such as medical items (Lin et al., 2020). This situational factor also should be considered in the future studies on Vietnamese consumers.

This study provides theorical and managerial implications on how international e-commerce enterprises could allocate their resources to positively push the consumer purchasing intention. Furthermore, future study will help to suggest valuable implications for enterprises for the future development of CBEC. Based on the development, the research suggests practical solutions for e-comnemce businesses to effectively implement the strategies and tactics to broaden international customer base while appropriately and economically make use of the company's resources. Apart from the constructive contributions, this study also has some limitations. Firstly, the theoretical in this study is new and has not been previously tested in the Vietnamese context. Thus, they are quite subjective, depending on the researcher's viewpoint. Secondly, differentiate type of foreign website, such as online marketplaces (eBay, Amazon or Rakuten) and independent online stores (Nike or L'oreal Paris), also should be considered. Finally, future investigation should consider the impacts of classified dimensions of each determinant. For example, the utilitarian and hedonic benefits, as well as product-based and transaction-based risks should be analyzed separately to better evaluate the influences on CBEC purchase intention. In conclusion, apart from the limitations and the directions for future study, the theorical development from this study could be considered as a useful reference for the business activities towards developing countries in general and Vietnam in particular.

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MANAGEMENT ACCOUNTING FOR DECISION – MAKING IN VIETNAMES MECHANICAL MANUFACTURING ENTERPRISES: FACTORS AFFECTING AND IMPACT ON FIRM PERFORMANCE

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ABSTRACT

In this study, we used Structural Equation Modeling (SEM) to analyzed 232 questionnaires collected from senior executives, chief accountants and accountants of enterprises under the Vietnam Association of Mechanical Industry to find out the factors affecting management accounting for decision-making and the impact of management accounting for decision-making on the firm performance of these enterprises. From the research results, the authors have proposed some recommendations to promote the role of management accounting for decision-making in Vietnamese mechanical manufacturing enterprises in the context of the Industrial Revolution 4.0.

Keywords: Firm performance, Management accounting for decision-making, Vietnamese mechanical manufacturing enterprises (VMMEs).

1. Introduction

Mechanical manufacturing is a fundamental industry of every countries. In recent years, the number of Vietnamese mechanical manufacturing enterprises (VMMEs) accounts for nearly 30% of the total processing and manufacturing enterprises in Vietnam (General Statistics Office of Vietnam, 2019). So, the Government has issued many policies to develop the mechanical manufacturing industry sustainably. However, due to the impact of the world economy's recession and the Covid-19 Pandemic, the industry in general and mechanical manufacturing in particular are facing many difficulties: lack of investment capital, machinery and equipment, manufacturing technology, human resource level… The signed trade agreements have taken effect, the price of input material has been fluctuating and market competition among domestic enterprises with foreign ones has been increasing. In the new context, VMMEs must change to be able to adapt and develop. Administrators of these enterprises have a great demand for modern management knowledge and the support of these tools. In particular, management accounting (MA) is an effective tool that provides useful information for administrators. The perception of the managers about the role of MA has also changed for many years. It directly affects management accounting practices in these enterprises. In Vietnam, in recent years, there have been many studies on management accounting in manufacturing enterprises. However, there hasn't been study on the factors affecting the application of management accounting for decision making and influence on firm performance in mechanical enterprises - an important industry for the development of the economy. In order to have a basis for providing solution to promote the role of management accounting for managers' decision-making in VMMEs, we study the factors affecting accounting work adequately.

The article will answer 2 questions: (1) *What factors affect management accounting for decision-making in VMMEs*; (2) *Does the application of management accounting for decision- making affect the firm performance in VMMEs*?

The remainder of the paper is structured as follows: section two presents the theoretical background, followed by the research hypotheses' development. The research methodology, data analysis and hypothesis testing are described in section four and five respectively. Finally, the conclusions along with the implications of the study is discussed in section six.

2. Theoretical background

MA was appeared in the early 19th century in the USA due to the need for corporating governance information in the market economy, especially large-scale businesses. Although many studies, which related to MA, have been conducted by professional organizations and researchers all over the world, there is no official concept widely accepted. From the perspective of managers, MA is an accounting division, which providing information to the managers to serve the administrative functions (Kaplan & Atkinson, 1998; Hilton, 1999; Garrison et al., 2012). The second approach is from the perspective of the owners, MA is seen as an interplay between finance and strategic management, with a focus on creating, protecting, preserving and adding value to the owners (CIMA, 2005). From the perspective of professional organizations, IMA (2008) showed that MA is a profession that involves partnering in management decision making, devising planning and performance management systems, and providing expertise in financial reporting and control to assist management in the formulation and implementation of an organization's strategy. IFAC defined management accounting as "the process of identification, measurement, accumulation, analysis, preparation, interpretation, and communication of information (both financial and operating) used by management to plan, evaluate, and control within an organization and to assure use of and accountability for its resources (IFAC, 1989). Although there are many different opinions, but most definitions of MA show that it is one of the tools associating with the management activities, playing a role in advising managers, executing its management functions in order to achieve the owner's goals. With the approach under functional information, the content of management accounting for decision-making in enterprises includes: (1) Collecting management accounting information for decision-making; (2) Processing and analyzing management accounting information for decision-making; (3) Providing management accounting information for decision-making (Hilton, 1999; Garrison et al., 2012).

Most previous studies based on some theories like Contingency Theory, Cost - Benefit Theory and Psychology Theory to explain the influence of factors on MA with two popular approaches: The first approach is to study the factors affecting the application of MA techniques; the second one is to study the impact of factors on MA from an organizational perspective. Besides, they have also clarified a relationship between management accounting practices and firm performance.

2.1. Contingency Theory

Contingency Theory is a behavioral theory developed by economic researchers since the mid-1960s. Research by Otley (1980) shows that there is not the best way to design an organization. The best way to organize a business is based on the concordance with contingency factors, including internal and external situation. Applying Contingency Theory in studying MA is based on the idea that it is not possible to organize a standardized MA system that is suitable for all enterprises. Some authors have used Contingency Theory to explain the influence of the contingency factors on management accounting practices, such as: market competition, organizational structure, size of the firm, business strategy, manufacturing technology, product diversification, business environment, power of customers and foreign ownership (Sulaiman & Alwim, 2004; Waweru et al, 2005; Abdel-Kader & Luther, 2008; Ahmad & Zabri, 2015; Doan, N.P.A, 2016). Besides, in the current context, the application of information technology is also a contingency factor that affects the application MA. Because the changes in technology, which is used by enterprises will lead to the changes in management requirements, including organising MA (Al-Eqab & Ismail, 2011).

2.2. Cost - Benefit Theory

The basis of Cost - Benefit Theory is the manager's consideration of the correlation between the benefits achieved and the costs had been spent. This theory will affect the application of management accounting for decision - making in the enterprises in 2 aspects: (1) the investment of resources (human, infrastructure, technical...) in collecting, processing, analyzing and providing management accounting information; (2) the benefits managers gained from using management accounting information. In general, enterprises of different sizes have different requirements for information. It is clear that in the small-sized businesses, the number of decisions is not much, the managers' information need is simple, so investing much in accountancy organization and using complex techniques to collect, process, analyze and provide information will not be appropriate. Because the benefits are not commensurate with the costs spent. Meanwhile, in larger firms, it is acceptable to invest a compatible budget to ensure the quality of accounting information. Based on this theory, the studies of Abdel-Kader & Luther (2008) in 122 British food companies, Ismail& King (2007) in small and medium sized Malaysian manufacturing firms, Joshi (2001) in 60 Indian companies, Sulaiman & Alwi (2004) in selected Asian countries (Malaysia, Singapore, China and India), Thai (2019) in Vietnamese manufacturing enterprises have identified the factors affecting management accounting practices including size of firm, administrators' imformation need and owners/ managers participation.

2.3. Psychology Theory

According to the Psychology Theory, making decision is an inevitable task of managers. However, the content of decision must be based on socio-psychological factors. In every organizations, employees have relationships with each other and with the administrators. The effectiveness of the management process depends on how these relationships are resolved. When an individual's behavior is consistent with the organization's goals, it will contribute to promote firm performance. Based on this theory, decisions are made not only to focus on saving costs but also to care about balancing the relationship among managers, employees and departments in the business. The factors belonging to socio-psychological affect management accounting practices inclunding: corporate culture, awareness of environmental instability, accountants' competence – the people creat management accounting information and owners/ managers participation – the people use management accounting information to make decisions (Ismail & King, 2007, Ahmad & Zabri, 2015; Tran, 2016; Thai, 2019)

3. Development of Research Hypotheses

After reviewing previous studies, we summarized eleven factors affecting MA in enterprises mentioned in many studies. The group of internal factors consists eight factors: owners/managers participation, accountant's competence, size of firm, organizational structure, corporate culture, foreign ownership, manufacturing technology, business strategy and awareness of environmental instability. The group of external factors includes three factors: market competition, the application of information technology and customer resources.

The application of management accounting for decision - making not only depends on the administrators' need but also must be suitable for the features of the business. Therefore, in order to have a basis to propose a research model, we held group discussions with 8 experts (administrators, chief accountants of VMMEs and management accounting researchers). According to experts, the specificity of MA is to provide information only for internal users, so when we identify factors affecting MA, it is necessary to pay attention to internal factors such as: managers participation, accountants' competence, manufacturing technology. The application of management accounting methods and techniques is not only high costly but also change some activities of enterprises. Therefore, participation and support of the managers is very necessary. Besides, mechanical manufacturing is an industry with complex technological processes, automation and requiring very high accuracy. Therefore, manufacturing technology will have a directly impact on the management accounting for decision-making.

There is little evidence through specific studies in Vietnam and all over the world on the influence of other factors: organizational structure, customer resources, foreign ownership, business environment and awareness of environmental instability. For instance, the factor of foreign ownership has been tested in the research model of Tran (2016) but the survey subjects of this study are VMMEs, no foreign elements. Therefore, this factor should not be included in the model. Also, all experts agree that it is very difficult to determine the criteria to measure the strength/weakness of customer resources. It is not feasible to measure the impact of customer resources on management accounting for decision - making. The business environment and awareness of environmental instability have similarities, or at least they are influenced by market competition. When the level of market competition increases, the operating environment of business will become more difficult. Managers will feel the market instability to a higher degree. In other words, these factors belong to the subjective perception of the owners and depend on a number of other factors, such as: political environment, peace or war, etc. Hence, they are not suitable for the research context in Vietnam.

From the above arguments, with the context of the study in VMMEs, we identify 5 factors affecting management accounting for decision - making: (1) Market competition; (2) Managers participation; (3) Accountants' competence; (4) Manufacturing technology; (5) Application of information technology. These factors combine to affect management accounting for decision- making. The impact of applying management accounting for decision-making is firm performance.

3.1. Market competition and management accounting for decision-making

In the market economy, enterprises have to compete with others on the source of raw materials, labor, product diversification, quality of products, services, prices, ect. Over the years, empirical studies on the relationship between market competition and application of MA have been conducted in many countries. However, the results of them are not the same. The majority of studies have indicated that market competition is a contingency factor that affects management accounting practices. The higher the level of market competition is, the more enterprises use different MA techniques for decision-making (Sulaiman & Alwi, 2004; Waweru et al, 2005; Guilding et al, 2008; Ahmad & Zabri, 2015). In contrast, William & Seaman (2001) found that competition had no significant impact on management accounting pactices. Market competition is one of the biggest difficulties for VMMEs. This motivates these enterprises applying more modern management tools, including MA. Thus, we hypothesize the first hypothesis:

H1: Market competition has an impact on management accounting for decision-making.

3.2. Managers participation and management accounting for decision-making

Applying MA not only incurs costs but also changes some activities of the business. Therefore, it is necessary to have a support and participation from the managers. Managers participation will be involved in the management activities of the firm but the level of this participation might vary and this might be a factor which influences the application of management accounting for decision making (Lybaert, 1998). Therefore, their views, information needs and support are the guiding factors for the application of MA. Researches by Ahmad et al. (2015) and Ismail & King (2007) have pointed the relationship between managers participation and MA. If managers have no need or do not appreciate the role of MA, or knowledge of MA is limited, the application can only be deployed in certain contents, or even not mentioned. In contrast, in enterprises where managers' awareness of the role of MA is higher, managers are more involved in the organization of the management accounting system, the need for management accounting information for decision making will increase. We expect that managers participation will increase the application of MA. Therefore, we formulate our second hypothesis:

H2: Managers participation has an impact on management accounting for decision-making.

3.3. Accountants' competence and management accounting for decision-making

Research by Saxunova (2017) about accountant skills and conpences in contemporary environment shows that accountants'competence not only includes their qualifications and experience but also demonstrated through soft skills, such as: communication skills, openness to learning new things, the ability of exploiting and applying information technology and new knowledge in oganising of accountancy. Moreover, they are trustworthiness, strong ethics and integrity, creativity and inquisitiveness (Thai, 2109). Some prior studies suggest a relationship between accountants' competence and management accounting pactices. For instance study of Ismail & King (2007) in Malaysian manufacturing firms found that traning accountants will lead to success in applying MA. Accountants are the people who directly collect, process, analyze and provide management accounting information. If they are not knowledgeable about MA or do not have enough capacity and professional qualifications to apply, they will be afraid to apply or the application is not effective (Sulaiman & Alwi, 2004). Therefore, we propose the third hypothesis:

H3: Accountants' competence has an impact on management accounting for decision-making.

3.4. Manufacturing technology and management accounting for decision-making

For couple of year, the usage of traditional MA techniques in business is limited to some extent. It is expected that MA just provides information on historical, financial and internal matters, so it is considered as having a narrow scope (Chenhall, 2003). Though, MA has been evolving to transform according to new competitive conditions. The new MA techniques provides wider scope of information that is related to both external and non-financial matters. These alterations are essential so that the claims of Tayles ad Dury (1994) among others can be corrected, that figures generated by MA is outdated and should be altered so as to adapt to new conditions of business. The implementation of advanced manufacturing technology would necessitate the usage of management accounting practices that could assist their implementation. The gap was addressed by Alves (2010) that managerial usage of MA needs to be tested in new situations which includes the utilization and assessment of new production technology i.e. JIT manufacturing systems and CAD/CAM. Moorthy et al. (2012) also found that manufacturing technology is considered as a driving force behind the variation in MA in Poland. Ahmed (2012) has also described the positive and significant link between using advanced manufacturing technology and practising MA. The outcome of MA of Ahmad et al.'s research have found a significant and positive relationship between a rapid evolution of manufacturing technology and management accounting practices in textile sector in current decade (Ahmad et al., 2015). According to experts, mechanical manufacturing is an industry that business environment is emphasizing higher quality products and services at a lower cost as well as efficient accounting and management processes. The mechanical product is diverse. In order to manage enterprises, this inevitably requires the high degree of application MA techniques for decision-making. Hence, through this study the researcher has attempted to fill the gap with respect to VMMEs by analyzing the given hypothesis:

H4: Manufacturing technologies has an impact on management accounting for decision-making

3.5. Application of information technology and management accounting for decision-making

The application of information technology in MA is becoming an essential part of accounting to cater the current needs of immediate business analysis and performance. According to a research study by Alves (2010), the business world is changing at a faster and faster pace and the reasons for this is globalization, high information technology investments and the rapid pace of technological change. The researcher further stated that organizations are responding in different ways and at different rates to the wide range of information technology based opportunities and pressures. Moorthy et al. (2012) suggested the influence of application of information technology in MA is inescapable in today's world, as it would result in competitive advantage and growth in business. In addition, according to Moorthy et al. (2012) the introduction of information technology has made management accounting to be more prominent to organization's internal users and decisionmakers. Whilst accountants once entered transactions by hand, information technology has made it possible to record information in real time, compile information from numerous sources and automate repetitive tasks. This has allowed accounting professionals to focus more on giving financial advice and monitoring performance. At the same time, information technology developments have helped businesses save time, reduce errors and make better financial decisions (IFAC, 1998). Therefore, in modern time too, more organizations have integrated accounting software in their operations and are able to predict, risks and overall ensure efficiency. In the VMMEs, this is even more evident. Because of the complexity of the operation, the amount of data that MA needs to collect, process and convert into useful information is very large. We expect applying information technology (computer systems, hardware devices, telecommunications networks, accounting software and management software...) in accounting will help the process of collecting, processing, analyzing and providing information in a timely manner and meeting users' requirements. Hence, we assume that:

H5: Application of information technology has an impact on management accounting for decision-making

3.6. Management accounting for decision-making and firm performance

Firm performance is the economic, political and social benefits that an enterprise gains in its operation (Peyrard, 2005). The most common evaluation firm performance is assessed through the system of financial and non-financial indicators such as revenue growth, profits, return on investment capital, new product development, research and development activities, quality of the product, distribution schedule, market share, etc (Peyrard, 2005; Atkinson et al., 2012; Pham et al., 2020)

Ismail & King (2007) investigated small and medium sized Malaysian manufacturing firms, and found that the appropriate application of MA will have a positive impact on innovating and developing the market, reducing negative effects on reputation and financial performance. Similar results are found in another study by Doan (2012) about the factors affecting management accounting practices and its effect on firm performance with a sample of 220 medium and large Vietnamese enterprises. The conclusion is that management accounting practices is closely related to firm performance by providing information to administrators in operating the business. With the information which had been collected, processed, analyzed, and provided by MA, the managers will make the decisions correctly, thereby improving firm performance. Oluwagbemiga (2014) surveyed 40 manufacturing companies listed on the Nigeria stock exchange during the period of 2003 to 2012. The empirical findings investigates the relationship between management accounting practices and firm performance. They also pointed out that the companies, which have effective management accounting system, the management process will be better than other ones do not apply properly. To clarify the role of management accounting for decision-making in VMMEs, we have the sixth hypothesis:

H6: There will be a positive relationship between management accounting for decision-making and firm performance

The theoretical framework was developed as shown in the Figure 1:

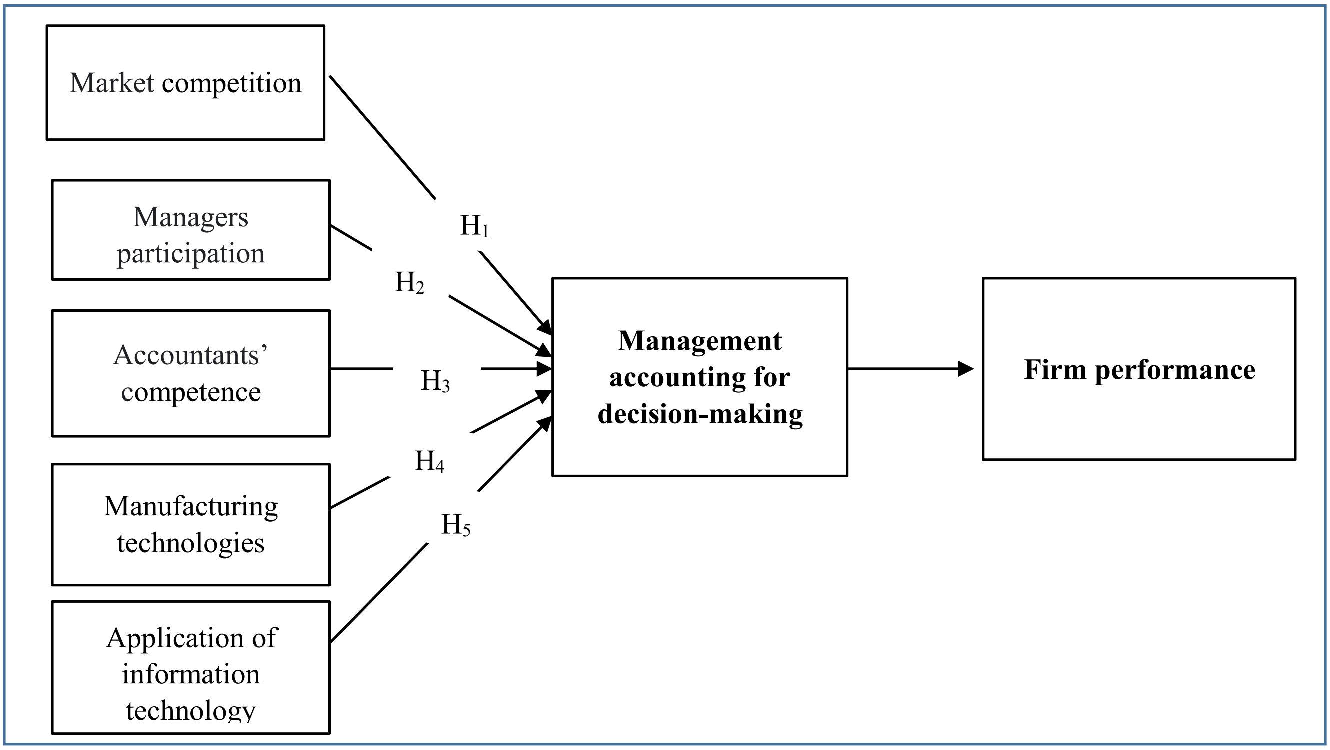


Figure 1. Theoretical framework of the study

4. Research methodology

4.1. Designing questionnaire and selecting scales

We designed the questionnaire with 3 parts:

- Part 1: Information about respondents (Name, gender, position, seniority...).

- Part 2: Surveying the the factors affecting management accounting for decision-making.

- Part 3: Determining the relationship between applying management accounting for decision-making and firm performance in VMMEs.

Survey questions in Part 1 are short forms of answers. Part 2 and 3 of the questionnaire is a table of 27 measurement questions for the variables in the proposed research model. These questions are based on the questions used in the previous studies and adjusted (withdrawn, added) to fit the actual characteristics of Vietnamese mechanical manufacturers.Respondents will also base on the actual situation of their business to choose the appropriate answer. The answers for these questions are measured by a Likert scale with 5 levels, the lowest is "1 - Strongly disagree" to "5 - Strongly agree".

To test the suitability of the questions, we investigated the pilot testing by sending 60 questionnaires to the managers, financial directors, chief accountants and accountants of 12 mechanical manufacturing companies. With 43 collected questionnaires, we have checked the reliability of the scale with two tools: Cronbach's Alpha and Corrected Item-Total Correlation. Both of these two coefficients need the requirements: Cronbach Alpha of all variables are greater than 0.7, the Corrected Item-Total Correlation of observed variables are greater than 0.3 (Hair et al., 2010). After that, we officially surveyed the enterprises of the research object. The questions (corrected) in the research model are described in Table 1 below:

Table 1. The study variable

Factor/ Study Variable	Sources	Code	Observation variables
Market competition (COM)	Sulaiman et al. (2004), Ahmad (2015)	COM 1	The large number of competitors in the same segment
		COM 2	Competition on revenue/ market share
		COM 3	Competition on price
		COM 4	Competition on distribution channels
Managers participation (MAN)	Ismail & King (2007), Ahmad (2015)	MAN 1	Manager has a high demand for the application management accounting techniques for decision-making
		MAN 2	Manager has knowledge of management accounting techniques for decision-making
		MAN 3	Manager accepts the cost to apply management accounting techniques for decision-making
		MAN 4	Manager supports the organization of management accounting for decision -making
Accountants' competence (ACT)	Ismail & King (2007), Saxunova (2017)	ACT 1	Degrees/certificates of accountants are suitable for professional work
		ACT 2	Accountants have the ability to use accounting and management softwares
		ACT 3	Accountants have the capacity and qualifications to analyze, solve problems and advise managers to make decisions.

Factor/ Study Variable	Sources	Code	Observation variables
Manufacturing technologies (PPC)	Chenhall (2003), Ahmad (2012)	PPC 1	The design and production process is strictly controlled
		PPC 2	Production system is flexible
		PPC 3	The machine is controlled by digital
		PPC 4	Products are designed and manufactured to maximize the added value to the customers.
Application of information technology (ITC)	Alves (2010), Moorthy (2012)	ITC 1	The business has modern computer systems and telecommunications networks to support collecting, processing, analyzing and providing management accounting information.
		ITC 2	Accounting software of business can be flexibly changed and upgraded as required
		ITC 3	Business has used ERP software
		ITC 4	Business has applied Big Data technology
Management accounting for decision-making (MAMD)	Atkinson et al.(2012), Garrison et al. (2012)	MAMD 1	Collecting management accounting information for decision-making
		MAMD 2	Processing and analyzing management accounting information for decision-making
		MAMD 3	Providing management accounting information for decision-making
Firm performance (PER)	Peyrard (2005), Oluwagbemiga et al. (2014)	PER 1	Revenue growth
		PER 2	Profit growth
		PER 3	Quality of the products
		PER 4	Labor productivity
		PER 5	Research and development

4.2. Sample and data collection method

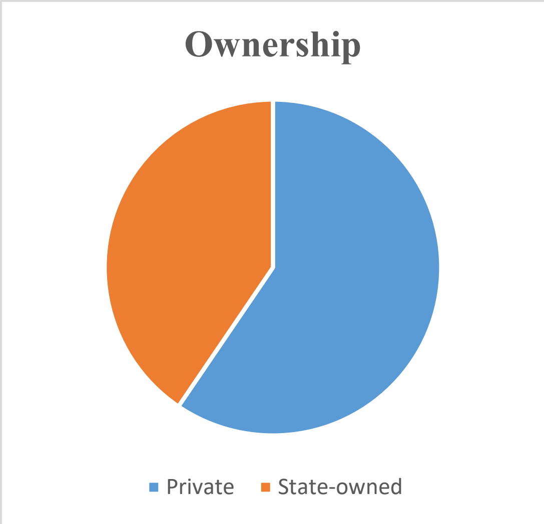
According to data published by the Ministry of Industry and Trade, up to the end of 2019, there are approximately 3,100 VMMEs in operation. Due to the inability to collect information of all enterprises, we chose samples are the companies under the Vietnam Association of Mechanical Industry (VAMI), focusing on 3 sub-sectors: manufacture of machinery and equipment, Auto/ Vehicle components suppliers, and Electronics Manufacturers. In order to ensure that the respondents have relatively sufficient knowledge to answer the survey questions, we selected potential respondents: enior executives, chief accountants/Head of Accounting Department and workshop foremans.

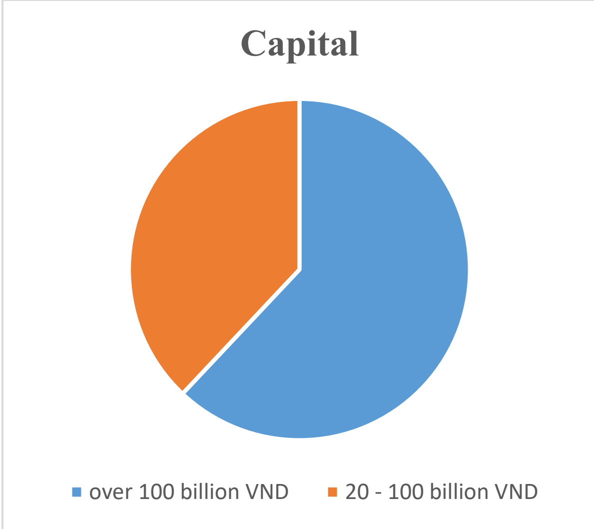
5. Results of data analysis and discussion

5.1. Describe the research sample

After adjusting the survey questionnaire and identifying the survey object, during 5 months of survey from December 2020 to April 2021, we contacted the enterprises of the Vietnam Association of Mechanical Industry (VAMI) and directly sent the survey questionnaires to the survey subjects via email using the googledocs tool. A total of 79/146 enterprises under VAMI in the cities of Hanoi, Hai Phong, Hai Duong and Bac Ninh, Ninh Binh agreed to participate in the survey and ready to provide necessary documents. In which, there are 55 private enterprises (69.62%) and 24 Government enterprises (30.38); 30/79 enterprises with capital size from 50 billion to 100 billion VND (40.25%), the rest (59.75%) with capital size over 100 billion VND.

Classification enterprises is as follows:





Source: Author's analysis

We had sent 400 questionnaires and received 327 ones (81.75%). However, only 232 questionnaires were used for analysis purposes. Classification results is as follows:

The survey subjects are mechanical enterprises, so there is a big difference in gender of respondents. This disparity is very evident in the group of managers. Out of 94 managers survey, 78 managers are male (83%). For the group of accountants, the gender disparity rate is lower (64.80% male, 35.20 % female).

46.90% respondents have more than 10 years 'working experience, 37.85% of them have 5 - 10 years' working experience and only 15.25% have less than 5 years of working experience. Over 60% had graduated from university and 34.88% have postgraduate degrees.

5.2. Reliability and Exploratory Factor Analysis

To test the reliability of observed variables, we used Cronbach's Alpha and Corrected item-total correlation. The results of the reliability analysis showed that all variables have Cronbach's Alpha groups from 0.615 to 0.875. However, the variable "Application of information technology" (ITC) has a Cronbach's Alpha at 0.615 > 0.6 but there is one observed variable ITC1 has Corrected Item- Total Correlation lower than 0.3 (0.053). If this observed variable is removed, the Cronbach's Alpha coefficient will increase to 0.792. Therefore, the observed variable ITC1 will be removed from the ITC factor component.

The results of Exploratory Factor Analysis (EFA) after removing the observed variable ITC1 show that the KMO coefficient is 0.797 greater than 0.5, indicating that the research data is suitable for analysis. The Chi-Square statistic of Bartlett's test reached the value 3918,354. The Barlett test has a p-value less than 0.05 showing that observed variables are correlated with each others in the population. Based on the Eigenvalue table, the factors with the Eigenvalue coefficient ≥ 1 are kept in the analytical model, so 7 components corresponding to 7 variables are extracted as the research model proposes. Total Variance Explained was 0.7383 > 0.5. Factor loading > 0.5 shows that all observed variables have good statistical significance and there is no disturbance, separation, factor aggregation. Thus, all variables in the research model ensure reliability, convergence, and satisfy the conditions to be included in the analysis in the next steps.

5.3. Structural Equation Modeling Analysis and Hypothesis Testing

We used Confirmatory Factor Analysis (CFA) to evaluate the fit of the research model with collected data. CFA results indicated that Chi-square/df = 2.086 < 3; CFI = 0.947; TLI = 0.932; IFI = 0.948, all were greater than 0.9; RMSEA = 0.074 < 0.08. The normalized regression weights were greater than 0.5, the Composite Reliability (CR) were greater 0.8 indicating that all factors are sufficiently credible (Hair et al., 2006). Testing Discriminant validity representing the level of square roof of Average Variance Extracted (AVE) of factors was greater 0.5 indicating that the factors have convergent value, the latent variable is well explained by its observation variables (Hair et al., 2006).

Table 2. Result of Confirmatory Factor Analysis (CFA)

Factor	Number of observation variables	Composite Reliability	Average Variance Extracted	Minimum normalized regression weight
Competition (COM)	4	0.831	0.509	0.612
Managers participation (MAN)	4	0.866	0.618	0.733
Accountants' competence (ACT)	3	0.830	0.621	0.736
Manufacturing technologies (PPC)	4	0.839	0.568	0.650
Application of information technology (ITC)	3	0.813	0.622	0.514
Management accounting for decision-making (MAMD)	3	0.800	0,575	0,629
Firm performance (PER)	5	0.872	0,580	0,666

Source: Authors' calculation with AMOS 22.0

The estimated results of relationships among factors are shown in Figure 2.

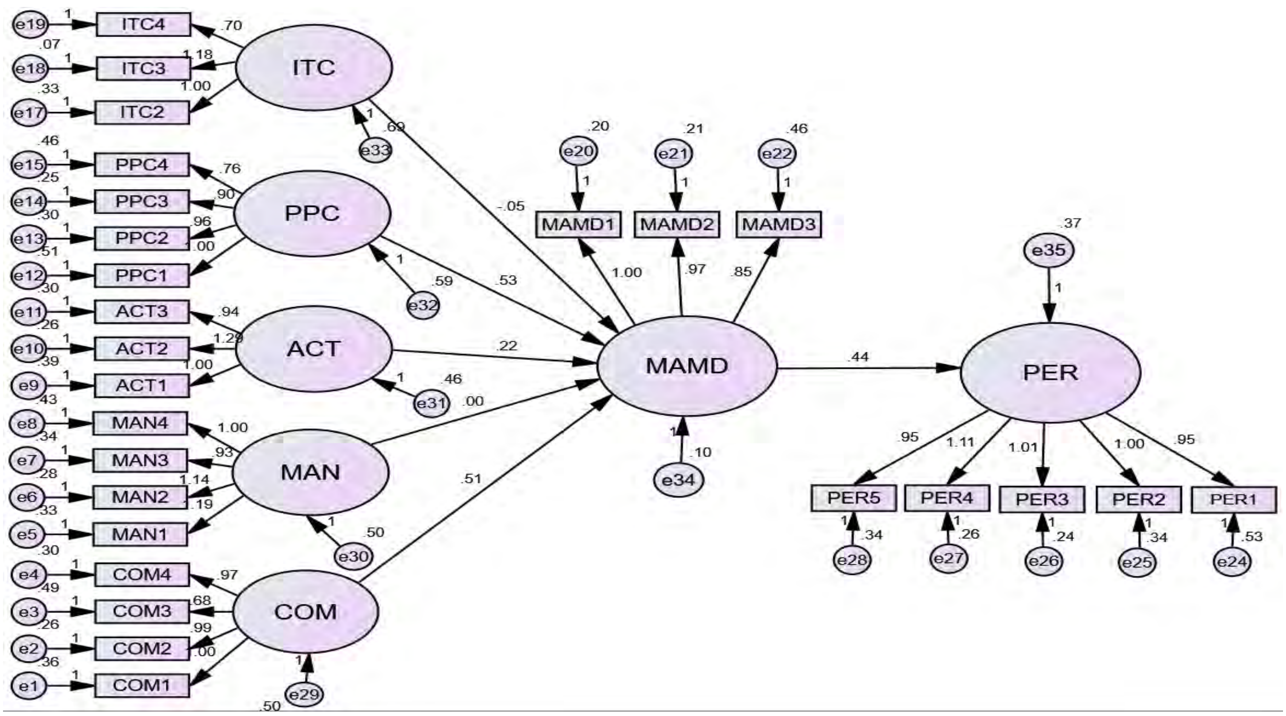


Figure 2. Standardized structural equation modeling analysis

Source: Authors' calculation with AMOS 22.0

Next, we analyze the impact of the independent variables on the dependent ones:

Table 3. Regression analysis and hypothesis results

Hypothes			Estimate	S.E.	C.R.	P	Co
MAMD	<---	COM	0.501	0.061	8.336	***	Accept
MAMD	<---	MAN	0.004	0.048	0.086	0.931	*Reject*
MAMD	<---	ACT	0.217	0.054	4.033	***	Accept
MAMD	<---	PPC	0.527	0.060	8.813	***	Accept
MAMD	<---	ITC	-0.051	0.040	-1.272	0.203	*Reject*
PER	<---	MAMD	0.444	0.080	5.567	***	Accept

Source: Authors' calculation with AMOS 22.0

"Manufacturing technologies" (PPC) is the most influential factor promoting VMMEs to increase application MA techniques for collecting, processing, analyzing and providing information with a Beta coefficient of 0.527. In our opinion, this result is completely consistent with the features of the VMMEs. Because, mechanical manufacturing is an industry requiring very high manufacturing technologies. Mechanical product quality is affected by many factors: production conditions, quality of input factors... These features require the businesses to collect, process, analyze and provide information with appropriate techniques to control technological processes. From there, businesses can make the most effective decisions.

"Market competition" (COM) is the second factor that promotes VMMEs to implement management accounting for decision making. The result of this research are also consistent with the findings of previous studies found in Vietnamese enterprises by Doan (2016), Tran (2016), Pham (2018), Do (2019)... In the condition that other factors are constant, an increase of market competition by 1 unit will promote the application of management accounting for decision making in VMMEs by 0.501 units. According to the authors, this can be explained by the fact that currently VMMEs have to compete with joint venture and foreign-invested enterprises (from Japan, Korea, etc.) in many aspects: input materials, selling price, market share, labor skills, production equipment, distribution, product diversification ... Moreover, the market is always fluctuated, consumer tastes change rapidly, product life cycle is shortened, production technology is becoming more modern, the proportion of direct labour costs in total product costs is significantly reduced. These things have made the process of creating added value in production and business activities of enterprises change rapidly and complicatedly and are the driving force for enterprises to increase the application and gradually improve the contents of management accounting.

"Accountants' competence" (ACT) is also evaluated as a factor affecting on management accounting for decision-making **(**MAD) in VMMEs with a Beta coefficient of 0.217. When other factors unchange, the level of accountants' competence increases by 1 unit, that will promote the application of management accounting for decision making in VMMEs up to 0.501 unit.

Based on the results presented in table 3, the factor *"Managers participation*" (MAN) and "*Application of information technology*" (ITC) are not significant for the effects on management accounting for decision-making (MAMD) in VMMEs with level sig. > 0.05, which do not support Hypothesis 2 and 5. This is a significant difference compared to previous studies conducted in the enterprises in other fields. In our opinion, this result can be explained as follows:

Administrators in VMMEs are the people who are develped from engineers and technical workers. They are professionally trained, have many years of dedication to the business and then thay are promoted to management positions. They have a lot of experience but the skills of managing and organizing production resources are not their strengths, even more limited compared to managers of other enterprises, especially foreign ones. These limitations are a big barrier for them to apply model management tools, including MA. Therefore, the survey subjects in this study did not clearly feel the role of the "*managers participation*" in applying techniques to collect, process, analyze and provide management accounting information for the decision - making.

On the other hand, "*application of information technology*" in accounting work in VMMEs is currently mainly for financial accounting without supportting collecting, processing, analysing and providing management accounting information. It is very difficult to prepare and present MA reports on ordinary accounting software. It requires the support of the specialized software, such as ERP. However, there are not many mechanical enterprises using ERP software and applying Big Data technology to support business administration and accounting work. The volume of information and data in mechanical manufacturing enterprises is very large, the management accounting reports are made manually by Microsoft Excel software, so the level of data synthesis and analysis is still limited, not meet the requirements of managers. Moreover, the hardware and software management are always changing and easily replaced by the more model ones. Whilst businesses have not paid much attention to innovating and upgrading the system of means of supporting accounting work.

In addition, the research results also indicated that applying "*management accounting for decision-making*" (MAMD) has an effect on "*firm performance*" (PER) with P-value less than 0.05, Beta coefficient is 0.444. The positive sign of the Beta coefficient shows that the relationship between "*management accounting for decision-making*" and "*firm performance*" is a positive relationship. When other factors do not change, the application of management accounting for decision- making increase by 1 unit, firm performance will raise to 0.444 units.

6. Conclusion

From the results of multi-structure analysis, we have found a positive and statistically significant impact of 3 factors: "*manufacturing technologies", "market competition" and "accountants' competence*" to the application management accounting for decision- making in VMMEs. We also found that in VMMEs, management accounting for decision-making also improves firm performance on both financial and non-financial perspective. Therefore, administrators in these enterprises should promote the investment in advanced manufacturing technology and and apply measures to increase the competitiveness of enterprises, facilitate the implementation of management accounting practices for decision-making.

In order for the application of management accounting for decision making to be effective and convenient, in the current context, VMMEs need to apply the achievement of the 4.0 industrial Revolution to the manufacturing technology. The application of scientific advances will help enterprises rationally and efficiently use production resources, improve product quality, labor productivity, and indirectly contribute to increasing competitiveness and firm performance. In addition, businesses need to focus on solutions to increase competitiveness and pay attention to improving the accountants' competence. Well qualified accountants will play a role in providing useful and grounded information to advise managers to make decision. Since then, managers change their perception of accountants' work and actively participate in intensive training courses to be able to update their knowledge not only for themselves but also for both employees and the whole enterprise. From a macro perspective, we need to have appropriate policies to enhance the advantages of management accounting, thereby encouraging enterprises to implement management accounting for decision-making. To do this, it is important to pay attention to the role of professional associations, as well as universities and training centers in introducing, disseminating, and guiding the work process of accounting management and related techniques for enterprises.

This study also has several limitations. First, although the data sample was representative of more than 50% of the enterprises under VAMI. Second, some factors is control variables affecting on management accounting for decision-making have not been studied in the article, such as such as firm age, firm size,…. Further research can extend sample of mechanical enterprises and evaluate the influence of control variables in the research model.

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FACTORS INFLUENCING THE BEHAVIOURAL INTENTION TO USE AND RECOMMEND MOBILE WALLETS IN VIETNAM

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ABSTRACT

This research aims to understand the role of five factors in the DOI model including relative advantage, compatibility, complexity, observability, and trialability in explaining intention to use and intention to recommend the mobile wallets in Vietnam. Survey data is obtained from 192 mobile - wallet users in Vietnam. The research results show that there is a positive impact of five factors in the DOI model on the intention to use mobile wallets. Meanwhile, except for the compatibility factor, the remaining four factors in the DOI model are confirmed that has a positive impact on mobile - wallet usage intention.

Keywords: Mobile wallet; Intention to use, Intention to recommend, Diffussion of Innovation, Vietnam.

1. Introduction

In recent years, Vietnam's economy has witnessed remarkable growth, the application of industry 4.0 technologies, and the growth of e-commerce have contributed to creating favorable conditions to promote the growth of e-payment. According to adsota's Vietnam digital advertising market report, Vietnam belongs to the top 15 markets with the highest number of smartphone users in the world, equivalent to 43,7 million people using smartphone devices in 2020 (accounting for 44,9% Vietnam's population)[1]. Compared to 2019, the number of internet users in Vietnam increased by about 6,2 million (an increase of over +10%) to 68,17 million internet users in January, 2020 (accounting for 70% of Vietnam's population)[2]. According to Hai Dang (2020), the number of consumers using e-payment in recent years has increased rapidly, with more than 85% Vietnamese consumers owning at least 1 e-wallet or the payment application, and over 42% consumers use mobile contactless payments. In 2020, transactions taking place via the Internet and mobile phones had an impressive growth of 238% (Vietnam IT landscape, 2020). According to the journal of the bank, the implementation of electronic payment in vietnam is increasing significantly, estimated to increase by 35% per year with the significant contribution to the growth of e-wallets (Anh Ngoc et al., 2020). By the end of the first quarter of 2020, Vietnam has 13 million e-wallets accounts activated and used with a total wallets balance about 1.36 trillion VND, along with that, there are about 225,6 million transactions via e-wallet with a total value of 77.7 billion dong (Q1/2020) (the State Bank of Vietnam, 2020). Cashless payments including e-payments and mobile payments have begun to be used more widely in retail public services, and other sectors such as healthcare and education. According to a survey by State Bank of Vietnam (SBV) (3/2019), the number of financial transactions carried out via online platforms increased by about ?iod in 2018; the number of financial transactions carried out through mobile phones grew by about 98%, the transaction value increased by 232.3% over the same period in 2018.

A mobile wallet is defined as a type of payment service that via mobile devices allows individuals and businesses to receive and send money (Kumar et al., 2020). It is a digital version of a physical wallet designed to be used on convenient and easily accessible mobile devices. The m-wallet is also identified as mobile money or mobile money transferred via digital wallet or electronic wallet. There are three main types of m-wallets: open wallets is used directly via a third party or by a bank; closed wallets are associated with specific merchants, and users can only use the funds to make payments for specific merchant-related transactions; and semi-closed wallets allows users to use the money in the wallet pay for transactions with multiple merchants, as long as there is an existing contract between the merchant and the mobile wallet company, the user can also withdraw the money into a bank account [3]. Some benefits of m-wallets such as easy accessibility, simple to load money, range of uses, split bill facility, ensure timely payments, incentive and promotions, and quick transfer to funds [4]. As everyone knows, the use of smartphones is increasing significantly in Vietnam, and this increase directly contributes to the large presence of mobile wallet systems. Vietnam had 43,7 million smartphone users in 2020 (accounting for 44,9% Vietnam's population).

There are serveral researches are conduct on electronic wallets in Vietnam such as Trong Nhan Phan et al., (2020), To & Trinh (2021). However, the researchs most focused on the factors affecting consumer's decision in use M-wallets. Besides, the study only focused on mobile wallets with no comparison with other payment instruments or cash. Thus, the objective of this research is to help organizations providing m-wallets in Vietnam to understand which factors and how they impact on customer's intentions to use and recommend, as well as determine their strategy to promote the customer's behavior in use and recommend mobile wallets.

The remainder of the paper is structured as follows. Section 2 introduces theoritical framework. Section 3 describes the research methods and Section 4 presents the analytical results. Section 5 draws conclusions.

2. Theoretical framework

2.1. M-wallets

A mobile wallet is defined as a type of payment service that via mobile devices allows individuals and businesses to receive and send money (Kumar et al., 2020). It is a digital version of a physical wallet designed to be used on convenient and easily accessible mobile devices. The m-wallet is also identified as mobile money or mobile money transferred via digital wallet or electronic wallet. Mobile wallet is understood as an app that users install on a smartphone which stores debit card, credit card, coupons, and loyalty card information (Kenton, 2020). Every time purchase is made, the user simply takes funds from the wallets and pays. M-wallets can be utilised to transact across multiple channels such as Consumer to consumer, consumer to business, consumer to machine, and online consumer (Kumar et al., 2020). There are three main forms of mobile wallets such as scanning the screen of a payment terminal, sending money directly from the user's account to the merchant's, or scanning a store's QR payment code via smartphone (Hoang, 2021).

Previous studies performed to study mobile wallets include: the impact of M-wallets on payments system (Das et al, 2018), Customer satisfaction of Mobile wallets services (F.Saviour, 2019), the use of social media in mobile wallets service providers (Grover et al., 2017), Mobile wallets and entrepreneurial growth (Agarwal et al., 2018), and the impact of mobile wallets in hospitality industry (Lew et al., 2020). Especially for research on mobile wallets, the most popular research topic is the study of factors affecting the adaptability of mobile wallets of consumers such as: Hanudin Amin, 2009; Puneet Kaur et al., 2020; Kurmar et al., 2020.

2.2. The Diffusion of Innovation Theory (DOI).

Deriving from communication, the diffusion of innovation (DOI) theory was designed to explain how, over time, a product or service gains momentum and diffuses through a social system (Rogers, 2003; Jonhson et al., 2018). Diffusion in DOI theory is processed through innovation propagandists in a social system over time and the end result of diffusion is people in a social system adopting a new product or service (Rogers, 2003). Innovation in Rogers's opinion is offering relatively advantageous, compatible, low complex, observable, and triable solutions that were able to be adopted rapidly. Therefore, having five components that affect adopted an Innovation: Relative advantage, complexity, compatibility, trialability, and observability. In recent research, DOI is used to examine customer's adoption to Mobile wallets (e.g. Johnson et al., 2018; Puneet Kaur et al., 2020, Kumar et al., 2020 and so on). Conclusion, we use DOI theory as the basis of understanding drivers affecting the diffusions of mobile wallets.

The table below provides descriptions of the five components in DOI model:

Table 1. Five components in DOI theory

COMPONENTS	DESCRIPTION
Relative Advantage	The innovation, product, or service provides added advantage under consideration compared to its predecessors.
Compatibility	Prospective user's perception of the relevance of innovation to their needs and beliefs

Complexity	Prospective user's perception of how difficult they are understand and use innovation
Observability	The degree to which innovation produces tangible results leads to increased visibility.
Trialability	The degree to which a user can experiment an innovation before making a final decision to adopt this.

2.3. Hypotheses Development.

2.3.1. Relative advantage (RA), intentions to use (ITU), and intentions to recommend (ITR)

The results of prior showed between relative advantage and intentions to use having a considerable positive relationship. Puneet Kaur et al. (2020) showed that relative advantage plays a key role in predicting Indian users' adoption in relationship with their use of Mobile wallets and they proved that relative advantage positively affects users' usage intentions. Johnson et al. (2020) revealed that relative advantage was a considerable positive factor predicting behavioral adoption in US users. Longyara & Van (2015) found relative advantage in Mobile NFC positively affecting Korea and Thailand users' to use Mobile NFC. In Longyara & Van (2015), they argued that Perceived Usefulness in TAM theory was similar to relative advantage. Kumar et al. (2020) showed a positive relationship between relative advantage (i.e. perceived usefulness in TAM theory) and rural Indian users' intentions to use m-wallets. Usefulness in mobile banking positively impacted Iran user's adoption that was proved by Mehrad and Mohammadi in 2016. In addition, according to Chanchai (2015), Thailand user intentions to use m-payments was positively affected by perceived usefulness. Based on the results that were proved about mobile wallets and mobile-based products above, we believed that the relative advantage of mobile wallets (e.g. convenient, effective and efficient) over Internet or cash payments would have a positive relationship with intentions to use. Thus, we proposed:

H1: Relative advantage is positively related to intentions to use m-wallets.

There were fewer researchers examining the effect t of relative advantage to intentions to recommend (or Word-of-mouth). For instance, Handayani and Arifin (2017) showed that relative advantage had a direct positive impact on online package users in Indonesia and Puneet Kaur et al. (2020) also showed that relative advantage positively impacted on users' adoption of m - wallets in India. In contrast, Agag and El-Masry (2016) showed that relative advantage indirectly affected online travel community user's intentions to recommend through users' attitudes. Although there were conflicting findings between researches, we expected relative advantage associated with intention to recommend for two reasons. First, the positive relationship was confirmed in prior literature. Second according to Olivieria et al. (2016) and Miltgen et al. (2013), being likely to raise users' recommendation intention via high usage intention for a technology. Thus, we hypothesized:

H2: Relative advantage is positively related to intentions to recommend m-wallets.

2.3.2. Compatibility (CPT), Intentions to use (ITU), and intentions to recommend (ITR).

Researchers showed that compatibility is a positive predictor of mobile wallet user's adoption in India (Puneet Kaur et al., 2020). Similar to mobile wallets context, Longyara and Van (2015) also showed the positive relationship between relative advantage and mobile wallets users' usage intention in Korea and Thailand. In addition, chanchai (2015) proved Thailand user intentions to use m-payments was positively affected by compatibility. Thus, we assumed that user's ITU mobile wallets would be affected by compatibility with potential user's needs, values, beliefs, and experiences. Thus, we hypothesized:

H3: Compatibility is positively related to intentions to use m-wallets.

The relationship between compatibility and ITR was examined less than ITU and it was often an indirect correlation. For example, Agag and El-Masry (2016) showed that compatibility indirectly affected ITR via online travel users' attitude. Despite the lack of finding the direct correlation between compatibility and ITR mobile wallets, however, researchers reported that consumers generally recommend products or services to others, especially in the age of social media (Mangold and Faulds, 2009; Mahapatra and Mishra, 2017). In addition, according to Chu and Kim (2011), recommendation in users could help connect users' social. Relied on discussion, we predicted that potential users were likely to recommend when they had any compatibility with m-wallets. Thus, we hypothesized:

H4: Compatibility is positively related to intentions to recommend m-wallets.

2.3.3. Complexity (CPL), Intentions to use (ITU), and Intentions to recommend (ITR).

Previous research showed the positive relationship between low complexity and ITU m-wallets in India users (Puneet Kaur et al., 2020) or the negative relationship between complexity and ITU mobile near field communication (NFC) in Korea and Thailand (Longyara and Van, 2015). According to Longyara and Van (2015), the complexity component in DOI theory was similar to perceived ease of use in TAM theory and they assumed that to foster usage intention, the level of complexity in innovation should be reduced as much as. Previous research showed the perceived ease of use has direct correlation with ITU mobile-based products or services such as m-wallets (Kumar et al.,2020 and Amin, 2009), and mobile payments (Wong and Mo, 2019). Researchers also showed that Perceived ease of use had no direct correlation with users' ITU mobile payments in Thailand (Chanchai, 2015). Since complexity reflects Prospective user's perception of how difficult they were to understand and use innovation (Venkatesh et al., 2003). We predicted if m-wallets are highly complex in participants' perception, they would lower intentions to use m-wallets. Thus, we expected that if potential consumers' perception about m-wallets was easier for them to make purchases by more quickly, more efficiently and more convenient payments then their ITU m-wallets are higher. We proposed:

H5: Low complexity is positively related to intentions to use m-wallets.

Similar to other components in the DOI model, there were few researchers examined the correlation between complexity and recommendation intentions. One of them, Puneet Kaur et al. (2020) showed the positive association between low complexity and users' adoption of mobile wallets in India. Becides, Lovett et al. (2013) showed contradictory findings with a positive correlation in offline context and a negative correlation in an online context between complexity and ITR. We believed that complexity had impact on participants' ITR as higher users' adoption was likely to increase users' recommendation intentions (Miltgen et al., 2013). Thus, we proposed:

H6: Low complexity is positively related to intentions to recommend m-wallets.

2.3.4. Observability (OB), intentions to use (ITU), and intentions to recommend (ITR).

Puneet Kaur et al., 2020 showed that observability had a positive impact on users' usage intentions toward m-wallets in India. Therefore, in present research we expected that observability had a positive association with users' ITU m-wallets. Thus, we hypothesized:

H7: Observability is positively related to intentions to use m-wallets.

According to Berger and Schwartz (2011), observability had a positive impact immediately as well as over a period of time on users' recommendation intentions. Puneet Kaur et al. (2020) showed a positive correlation between observability and recommendation intentions toward m-wallets. Based on prior researches' results, we believed that observability would have a positive impact on ITR. Thus, we proposed:

H8: Observability is positively related to intentions to recommend m-wallets.

2.3.5. Trialability (TR), intentions to use (ITU), and intentions to recommend (ITR)

Researchers examined the correlation between trialability and ITU, however, their findings in these researches were conflicting. For instance, Puneet Kaur et al., 2020 showed that had no correlation between trialability and user's adoption to m-wallets while Johnson et al., 2020 showed that trialability had a positive correlation with users' adoption to mobile self-checkout systems. According to Rogers (1983), trialability gave potential users a degree of product comfort therefore it increases usage intentions and to try product reduces users' fears about using a proposed new technology. Based on the findings and the researchers' discussion, we expected that trialability had a positive impact on increasing user's ITU m-wallets. Thus, we hypothesized:

H9: Trialability is positively related to intentions to use m-wallets.

Having very few researchers examined the correlation between trialability and users' behavior to recommend products or services. According to Agarwal and Prasad (1998) and Chang et al. (2005), personal innovativeness was highly appreciated by users then that users were willing to try new innovations. Therefore, people who had a high level of personal innovativeness like trialability. Jamal et al. (2012) showed brand innovativeness considerably impacted on users' recommendation intentions. Researchers revealed the impact of word-of-mouth on innovation recommendation (Mason et al., 2007). Therefore, we anticipated trialability had a positive influence on m-wallets users' recommendation intentions. We proposed:

H10: Trialability is positively related to intentions to recommend m-wallets.

3. Research method.

3.1. Mesurement.

Quantitative research and qualitative research were used in this research. In particular, qualitative research was carried out with the focus group of 5 m-wallets users to ensure that the scales or observed variables are clear and easy to understand. The results of the qualitative research are a completed questionnarire with 23 observed variables used to measure the factors in the research model (Table 2).

Table 2. Scale and factors in the research model

Factor	Observed variable	Original scale
Relative advantage	4	Puneet Kaur et al., 2020; Johnson et al., 2020; Longyara and Van, 2018
Compatibility	4	Puneet Kaur et al., 2020; Johnson et al., 2020; Oliveira et al., 2016; Longyara and Van, 2018.
Complexity	4	Puneet Kaur et al., 2020; Longyara and Van, 2018
Observability	2	Puneet Kaur et al., 2020.
Trialability	2	Puneet Kaur et al., 2020; Johnson et al., 2020.
Intention to use	5	Puneet Kaur et al., 2020; Johnson et al., 2020; Zhao and Bacao, 2020
Intention to recommend	2	Puneet Kaur et al., 2020

Quantitative research was carried out to collect data through questionnaires completed in the qualitative research step to provide data for the research with respondents selected according to convenience sampling and snowball sampling. After the data collection process, the collected data will be analyzed specifically depending on the research objectives.

3.2. Research model

In our research we examined relative advantage, compatibility, complexity, observability, and trialability components in DOI Theory, and were consistent with participants' usage intentions and recommendation intentions mobile wallets (see Fig.1).

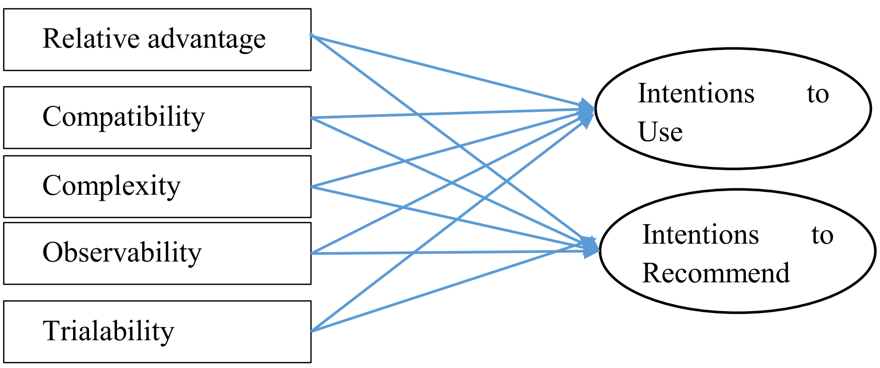

Figure 1. Research Model

4. Results and discussion

4.1. Results

4.1.1. Sample characteristics

The respondents that our group conducted the survey are customers who have been using m-wallets, or have knowledge about m-wallets in Viet Nam. Specifically, with 302 questionnaires distributed, the group collected 292 responses (96.7%). However, some responses were inappropriate due to respondents not paying attention, leaving answers blank, or choosing only one answer for multiple consecutive questions. Therefore, our group eliminated the error responses, keeping 192 responses as the sample results.

Among the 192 people surveyed, the majority of respondents were female (59.9%), aged between 18 and 39 years old, the age group under 25 accounts for the majority (87%), in which the number of people aged 21 was the majority (37%), monthly income below 5 million VND (61.1%), university degree (83.3%), were students (68.8%). The specific characteristics of the study sample are presented in detail in the tables at appendix.

4.1.2. Scale reliability

From the results of evaluating the reliability and validity of the scales by Cronbach's Alpha coefficient, it showed that the coefficient ranges from 0.632 to 0.824. The results of EFA analysis by Principal Axis Factoring extraction method with Promax rotation showed that KMO = 0.896 (> 0.5) with the Sig. = 0.000 < 0.05 (the Bartlett test is significant so observed variables are correlated with each other in the population), there were 7 factors extracted with 23 observed variables at Eigenvalue = 1.0002 with the total extracted variance reaching 70.641 (> 50%). The results of running EFA showed that 7 Factors with 23 observed variables met the criteria for the next step of the analysis process.

Table 3. Mean (M), Std Deviation (SD), Factor loading (λ) observed variables.

Factor	Mean	Std.Deviation	Factor loading
Relative advantage: Composite reliability (CR) = 0.884, Average variance extracted (AVE) = 0.656			
M-wallets are more advantages than cash or internet payment systems	5.55	1.201	0.811
M-wallets are more convenient than cash or internet payment systems	5.70	1.044	0.815
M-wallets are more efficient than cash or internet payment systems	5.34	1.086	0.822
M-wallets are more effective than cash or internet payment systems	5.52	1.111	0.792
Compatibility: CR = 0.916, AVE = 0.732			
Using an m-wallet is compatible with all aspects of my lifestyle	5.06	1.192	0.847
Using an m-wallet is completely compatible with my current situation.	5.44	1.170	0.879
Using an m-wallet is well suitable with the way I like to buy	5.29	1.175	0.870
Using an m-wallet fits my lifestyle.	5.28	1.275	0.824
Complexity: CR = 0.893 , AVE = 0.677			

Using an m-wallet would make it easier to purchase items.	5.70	1.065	0.773
Using an m-wallet would enable me to pay for items more quickly	5.89	1.035	0.856
Using an m-wallet would make it more effective for me to pay for items.	5.73	0.980	0.849
Using an m-wallet would be more convenient when making purchases.	5.78	1.006	0.810
Observability: CR = 0.790, AVE = 0.654			
I have seen others using m-wallets	5.94	1.105	0.749
I have usually seen others using m-wallets.	5.60	1.170	0.864
Trialability: CR = 0.790 , AVE = 0.653			
I know more about new products before other people do.	4.96	1.286	0.804
I am usually among the first to try new products.	5.28	1.280	0.812
Intention to Use: CR = 0.894, AVE = 0.629			
I expect m-wallets usage will increase in the future.	5.73	1.086	0.860
I intend to use m-wallets in the future.	5.90	1.026	0.827
If I have a chance, I will use an m-wallet.	6.00	0.971	0.810
I will always try to use an m-wallet.	5.40	1.176	0.662
I plan to use m-wallets frequently.	5.50	1.063	0.790
Intention to Recommend: CR = 0.846 , AVE = 0.737			
I will recommend to my friends to subscribe to m-wallet	5.44	1.222	0.974
If I have a good experience with m-wallets, I will recommend it to my friends.	5.88	1.114	0.725

The results of CFA analysis showed that saturated model fits with the the market data when Chi – square = 436.342; df = 206; p = 0.000; Chi – square/ df = 2.118; GFI = 0.832; TLI = 0.905; CFI = 0.092; RMSEA = 0.077. Besides, the unidirectionality and convergent value of the scales were guaranteed the factor loading for the scales should be greater than 0.50, Composite reliability (CR) must be greater than 0.70 and the Average variance extracted (AVE) for all research variables should be greater than 0.50 (Hair et al., 2013). The results (shown in Table 5) illustrated that our data met the above conditions to ensure unidimensionality and convergent validity of the scales with all factor loadings were greater than 0.50 and statistical significance (p = 0.000), CR > 0.70 and AVE > 0.50. In addition, to ensure the discriminant validity of the scales, the correlation between any two scales must be less than 0.80, the AVE for the research measures muse be greater than the maximum shared variance (MSV) and Square root of AVE must be greater than inter – construct correlations. Our data had discriminant validity of the scales when all above conditions were met (shown in Table 4).

Table 4. Mean, standard deviation, convergent and discriminant validity (n = 192)

	CR	AVE	MSV	MaxR(H)	1	2	3	4	5	6	7
CPT	0.916	0.732	0.437	0.918	**0.856**						
RA	0.884	0.656	0.389	0.885	0.538	**0.810**					
CPL	0.893	0.677	0.437	0.897	0.661	0.567	**0.823**				
ITU	0.894	0.629	0.435	0.903	0.659	0.624	0.646	**0.793**			
TR	0.790	0.653	0.330	0.790	0.541	0.467	0.363	0.575	**0.808**		
ITR	0.846	0.737	0.418	0.951	0.400	0.432	0.441	0.646	0.449	**0.858**	
OB	0.790	0.654	0.293	0.809	0.368	0.332	0.352	0.541	0.459	0.384	**0.809**

4.1.3. SEM analysis results and hypothesis testing.

The SEM analysis results show that the research model is consistent with market data: Chi – square = 437,085; df = 206; Chi – square/ df= 2.122; GFI = 0.832; TLI = 0.904; CFI 0.922; RMSEA = 0.077. The results of estimation and hypotheses testing from H1 to H10 are presented in Table 5.

Table 5. The research hypothesis testing (n = 192)

Hypothesis	Path	β	SE	CR	P	Support
H1	RA → ITU	0.208	0.071	2.937	0.003	Yes
H2	RA → ITR	0.236	0.102	2.307	0.021	Yes
H3	CPT → ITU	0.156	0.065	2.391	0.017	Yes
H4	CPT → ITR	-0.037	0.094	-.393	0.694	No
H5	CPL → ITU	0.218	0.078	2.797	0.005	Yes
H6	CPL → ITR	0.231	0.113	2.047	0.041	Yes
H7	OB → ITU	0.241	0.064	3.789	0.001	Yes
H8	OB → ITR	0.215	0.089	2.409	0.016	Yes
H9	TR → ITU	0.123	0.060	2.047	0.041	Yes
H10	TR → ITR	0.192	0.088	2.176	0.030	Yes

Except for the hypothesis that compatibility was positively related to Intention to recommend which was not accepted (β = -0.037, p = 0.694), all the remaining hypotheses were accepted. In particular, 5 components of the DOI theory included: Relative advantage (β = 0.208, p = 0.003); Compatibility (β = 0.236, p = 0.021); Complexity (β = 0.218, p = 0.005); Observability (β = 0.241, p = 0.001); and Trialability (β = 0.123, p = 0.041) were positively associated with Intention to use. In addition, except for compatibility (β = -0.037, p = 0.694), the remaining components of DOI model including Relative advantage (β = 0.236, p = 0.021); Complexity (β = 0.231, p = 0.041); Observability (β = 0.215, p = 0.016); and Trialability (β = 0.192, p = 0.030) were positively associated with Intention to recommend.

4.2. Discussion

The research model had 7 factors including: Relative advantage; Compatibility; Complexity; Observability; Trialability; Intention to use; and Intention to recommend. After implementing Cronbach's Alpha, EFA, and CFA analysis, the scales with 23 observed variables ensure reliability and no observed variable was excluded compared to the original. After analyzing the SEM model, the research results showed that there were 9 hypotheses accepted including: H1; H2; H3; H5; H6; H7; H8; H9; H10 and H4 was not accepted. Specifically:

With the results from analysis we accepted H1 with Relative advantage was positively related to Intention to use and this result was consistent with the results of previous studies on the relationship between Relative advantage and Intention to use (e.g. Puneet Kaur et al., 2020; Johnson et al., 2020; Longyara & Van, 2018). With the H2 hypothesis, the results from the study also supported a positive association between Relative advantage and recommendation intention, which was also supported by previous studies (e.g. Puneet Kaur et al., 2020; Handayani & Arifin, 2019). Our finding shown that mobile wallets (with more advantages, more convenience, more efficiency, and more effectiveness compared to other payment methods) would be a positive predictor of mobile wallet usage intention as well as the advantages of m-wallets that users experience would create users' intention to recommend m-wallets to the others.

We used H3 to test the positive relationship between Compatibility and usage intention and H4 to test the positive relationship between Compatibility and recommendation intention. From the research results, we accepted the hypothesis that H3 was similar to the results from previous studies (e.g. Puneet Kaur et al., 2020; Longyara & Van, 2018; Chanchai, 2016), while H4 hypothesis was rejected showing that there is no correlation between Compatibility and recommendation intentions which was inconsistent with the results from Puneet Kaur et al. (2020) whose results showed that Compatibility was positively correlated with Intention to recommend m-wallets. With these results we found that in order to influence users' intention to use mobile wallets, it is important to maintain compatibility between mobile wallets and users (including: maintaining match the mobile wallet to the user's lifestyle, situation, and preferences), while this was probably no effect on the user's intention to recommend mobile wallet to the others.

H5 and H6, which showed low complexity was positively associated with usage intention and recommendation intention, were accepted with the results obtained from the study. The positive relationship between low complexity and usage intention was confirmed to be similar to the results from prior studies (e.g. Puneet Kaur et al., 2020; Johnson et al., 2020; Wong & Mo, 2019; Kumar et al., 2020). The positive correlation between low complexity and recommendation intention was also consistent with the results from previous studies (eg: Puneet Kaur et al., 2020). With these positive relationships, users would be more willing to use and recommend mobile wallets to others if mobile wallets made them feel easier, faster, more efficient and more convenient when used for their purposes.

H7 and H8 were used to determine whether Observability positively associated with usage intention and recommendation intention. Our findings supported H7 which was associated with this relationship demonstrated by previous studies (e.g. Puneet Kaur et al., 2020). Accepting a positive relationship between Observability and recommendation intention was also consistent with the results from the study of Puneet Kaur et al. (2019). This showed that the popularity of mobile wallets in recent years in Vietnam (According to Hai Dang (2020), more than 85% Vietnamese consumers owned at least 1 e-wallet or the payment application, and over 42% consumers use mobile contactless payment) made it not difficult for consumers to see other people using mobile wallets using mobile wallets as well as witness the others use m-mwallets repeatedly. It was because of that Trialability became a positive predictor of usage intention and recommendation intention toward mobile wallet.

We used H9 and H10 to confirm a positive association of Trialability with usage intention and recommend intention and our findings supported these hypotheses. Our findings were in contrast to the findings from Punaeet Kaur et al (2020) whose results demonstrated that Trialability had no relationship or no effect on usage intention and recommendation intention. Meanwhile, a positive relationship between Trialability and usage intention was consistent with the findings from previous studies (e.g., Johnson et al., 2020; Jamal et al., 2012). With the findings from the research, it shown that the higher level of new technology acceptance and adoption users had, the greater impact on usage intention and recommendation intention toward mobile wallets it had.

5. Conclusion

This study was conducted to explore the influence of DOI components including: Relative advantage, Compatibility, Complexity, Observability, and Trialability on intention to use and recommend m - wallets to others. Accordingly, the research confirmed that the components in the DOI model have a positive effect on users' intention to use mobile wallets, while except for the compatibility factor had no impact on users' intention to recommend m-wallets, the remaining factors including (relative advantage, complexity, observability, and trialability) were positively related to the user's intention to recommend m-wallet to the others. This research contributed to clarifying the relationship between the factors in the DOI model and the diffusion of m-wallets through the impact of the factors in the DOI model on Intention to use and Intention to recommend m-wallets. In the context that Vietnam is encouraging the development of non-cash payment solutions (Nhi, 2020), clarifying whether five components of DOI model associated with users' intention to use and recommend m-wallets is the basis for mobile wallet providers to make decisions to expand their consumer network. In particular, the increase in the number of people using mobile devices is also a good sign for the results of the research and for mobile wallet providers.

The findings from our research will provide useful insights for mobile wallet providers in expanding user networks. Besides paying attention to the user's intention to use, our research also focuses on the user's recommendations intention, which is an important factor in raising the number of users. When people use mobile wallets, they become members of the provider's user network and making recommendation about m-wallets to others is the basis of expanding providers' user networks. Therefore, we make implications to m-wallet providers based on the results from the research. Firstly, Relative advantage is positively related to Intention to use and Intention to Recommend, so we come up with a solution that needs to interact with customers more to make mobile wallets closer to customers. By advertising more in the media, making them understand that using mobile wallets will have more advantages, more convenience, more efficiency, more performance than other payment methods. Especially in the situation that the Covid-19 epidemic causes many obstacles in payment and purchase, using m-wallets is a solution that brings safety and convenience. Nextly, we also see that the Compatibility factor positively affects Intention to Use but does not affect Intention to Recommend. To solve this problem, we propose to set up a team to analyze in-depth customer behavior such as their lifestyle, situation, and preferences in using mobile wallets. Therefore, when developing features on a mobile wallet, the provider must ensure that the features fit the user's lifestyle, situation or preferences based on the data they have analyzed. Moreover, we see that the Low Complexity factor positively affects Intention to Use and Intention to Recommend. Currently, mobile wallet users are not only teenagers but also the elder. Therefore, we give advice in building interfaces in the mobile wallet application to make sure that it is easy to use and user-friendl. Because of that it is easier, more convenient, and faster for users to use and pay for purchases. In addition, the Observability factor also positively affects Intention to Use and Intention to Recommend. As mentioned above, it is easy for consumers to come across other people using mobile wallets and this affects their intention to use as well as their referrals. Thereby, we propose to promote the use of mobile wallets on social networking sites, paying for advertisements from celebrities. This can give m-wallet providers opportunities when raising the likelihood that potential users might see other people using mobile wallets. Because of that it will stimulate potential users' intention to use and recommend mobile wallets. Finally, Trialability is positively related to Intention to use and Intention to Recommend, so we offer a solution that should let customers have a first-hand experience of using mobile wallets by providing better experiences. When customers perceive the newness in payment technology of mobile wallets, it will affect their decision to use m-wallets and recommend m-wallets.

The current research still has limitations and future research needs to overcome these limitations. Firstly, compatibility has no effect on intention to recommend m-wallets, therefore it should be considered more because findings from previous studies identified a positive association between compatibility and recommendation intention. Secondly, the sample size that we analyze is 192 respondents, which is quite a small number, so the results of the research may not simulate the best for the population. Therefore, future researchers should use larger sample sizes to give the best simulation results for the population. Thirdly, our topic is researching the factors affecting on intention to use and recommend m-wallets of users in Vietnam, however, the survey respondents only focus on the under 25 age group (accounting for 87% of survey respondents) and they mainly use m-wallets for small value transactions (earning under 5 million VND accounted for 66.1%). It is because of that limited our findings, therefore, we realize that there is a need for future research to focus on respondents of different ages with more consistent proportions in each age group.

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MARKET ANOMALIES: EVIDENCE FROM VIETNAM STOCK MARKET

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ABSTRACT

In this article, we investigate the relationship amongst 18 of the most common anomalies reported for the cross-section of Vietnam stock returns from 2010 to 2019. We select shares listed on the Ho Chi Minh and Ha Noi Exchanges. We analyze the predictability power of each of the 18 anomalies using portfolio sorts and Fama-MacBeth regressions. We find that future stock returns are robustly predicted only by 5 of the 18 anomalies: beta, lliquidity, return reversal, cash-flow to price, and accruals.

Keywords: Anomalies; Market efficiency; Ho Chi Minh; Ha Noi; Vietnam stock market.

1. Introduction

Recent studies argued that we need to examine whether the discovered factors would come from data mining, such as Harvey et al. (2016), Harvey (2017), Hou et al. (2018). In particular, Hou et al. (2018) indicate that over 400 different anomalies explain the cross-section of expected stock returns in the United States. This topic also is conducted in other international stock markets, such as Maarten Jansen (2021) in the Chinese market, Han et al. (2020) in the Korean market, and Diaz- Ruiz et al. (2020) in the Mexico market. However, to the best of our knowledge, there is no study on how these anomalies jointly predict stock returns in the Vietnam stock market. Thus, the goal of this paper is to provide a detailed analysis on the predictability of 18 of the most common anomalies on the Vietnam stock market by studying 9 years of monthly returns and financial statements, from 2010 to 2019 for stocks listed and delisted in the Ho Chi Minh and Ha Noi Stock Exchanges. This is the first comprehensive study of the Vietnam market exploring the most popular anomalies documented for other markets. This paper provides valuable information for (foreign) investors and academics on the Vietnam stock exchange and the factors that drive stock returns.

We analyze 18 of the most common anomalies that reliably predict stock returns in the US market, as well as in the international market, such as the Chinese market. These anomalies are grouped into 9 categories as follows: i) betas, ii) market capitalization (Fama and French, 1993), iii) idiosyncratic volatility (Ang et al., 2006), iv) MAX (Bali et al., 2011), v) value-growth effect (Book-to-market ratio from Daniel and Titman, 2006; cash flow-to-price ratio from Lakonishok et al., 1994), vi) momentum (Jegadeesh and Titman, 1993) and reversal (Jegadeesh, 1990), vii) investment (asset growth from Cooper et al., 2008; accounting accruals from Sloan, 1996), viii) profitability (gross-profit from Novy-Marx, 2013; and ROA and ROE from Balakrishnan et al., 2010), and ix) trading frictions (Shares turnover from Datar, Naik, and Radcliffe, 1998 and illiquidity from Amihud, 2002). We analyze the predictability power of each of the 18 anomalies using portfolio sorts and Fama-Macbeth (Fama and MacBeth, 1973) regressions. Overall, we find that 5 anomalies predict the cross-section of stock returns in Vietnam: Beta in 12 months, liquidity, return reversal, cash-flow to price, and accruals.

The main contribution of our paper is to provide a detailed analysis of the relationship between Vietnam stock returns and potential market anomalies in the cross-section. The rest of the paper is organized as follows. Section 2 describes the data and the definition of the anomalies, and Section 3 documents the individual predictability of each anomaly. Section 4 concludes the paper.

2. Data and method

2.1. Data

This study utilizes the Vietnam Stock Market from the Datastream database, which contains listed and delisted stocks from July 2010 to June 2019. We select only shares in Ho Chi Minh and Ha Noi Exchanges in the Vietnam stock market. We limit the sample to companies outside of the financial industry and exclude companies that have suffered impairment of capital. Following Hou et al. (2018), our main anomalies in this study are categorized into nine groups as follows: Beta, Volatility, Lottery, Market capitalization, Value-growth effect, Momentum and reversal, Investment, Profitability, and Trading frictions. These anomalies are briefly described, as follows:

Beta: 1- and 12-month betas obtained from the standard CAPM using daily data for the corresponding 1-month and 12-month periods.

Volatility: we compute idiosyncratic volatility (IVOL) defined as the root mean squared residuals from the Fama and French (1993) three factors model (FF3) using daily return in the previous month, like Ang et al. (2006).

Lottery: MAX is defined as the highest daily return in the previous month following Bali et al. (2011).

Market capitalization: We use the log of market equity (SIZE) as the natural logarithm of equity market value for a firm in June.

Value-growth effect: The book-to-market value of equity (BM) is calculated using the book value of equity for the previous fiscal year and market capitalization at the end of December of the previous year.

Momentum and reversal: Momentum (MOM) is the periodic returns of stock from months *t- 7* through *t-2* to control for momentum effects following Jegadeesh and Titman (1993); Short-term reversal (REV) represents the lagged 1-month of stock return to control for the return reversal effects following Huang et al. (2010).

Investment: Share issuance (ISSUE) is measured as the monthly log change of adjusted shares outstanding as in Pontiff and Woodgate (2008); Asset growth (AG) is the year-on-year percentage change in total assets as in Cooper et al. (2008).

Profitability: Gross profits (GP) is total revenue minus cost of goods sold divided by total assets as in Novy-Marx (2013); Return on assets (ROA) is net income divided by total assets as in Balakrishnan et al. (2010); Return on assets (ROE) is net income divided by total equity as in Balakrishnan et al. (2010).

Trading frictions: Liquidity (LIQ) is measured by numbers of shares traded divided by the number of share outstanding of the previous 36 months and then, we calculate its natural logarithm as in Chordia et al. (2001); Illiquidity (AMIHUD) is computed as the absolute price change per dollar of daily trading volume as in Amihud (2002).

To ensure that we only use the information available to the investor at the time of trading, we match accounting data from year-end T − 1 with monthly returns from July of year T to June of year T + 1 as in Fama and French (1993).

2.2. Method

This study establishes the test hypothesis of the statistically significant relationship between stock characteristics and the future returns in the Vietnam stock market. Accordingly, the test hypothesis is that the H-L zero-cost portfolio through the difference between two portfolios for a given stock characteristic. We basically employ the deciles portfolio analysis and performance measurements of the excess return relative to risk-free rate and risk-adjusted return (FF3 alpha) which are based on the Fama and French (1993) three-factor model. Also, we conduct the Fama and MacBeth cross-sectional regressions with the dependent variable of the future excess return relative to past independence variables of influential variables such as size, book-to-market ratio, momentum, reversal return, and illiquidity.

3. Results and discussion

3.1. Univariate analysis of anomalies and stock returns

In this section, we analyze the relationship between each of the 18 anomalies and future stock returns in the Vietnam stock market. To understand the relations between anomalies and future returns, we perform univariate portfolio sorts and Fama-MacBeth regressions on each anomaly individually. We test the predictability of each anomaly on 1-month future returns. The anomalies we analyze are the most popular anomalies documented for the developed market following Hou et al (2020). These 18 anomalies are beta for 1 and 12 months (BETA, BETA12); idiosyncratic volatility (IVOL); size (SIZE); book-to-market (BM); cash flow-to-price ratio (CP); lagged 1- month, 6-month, and 12-month returns (RET1, RET27, and RET212); maximum return over the previous month (MAX, MAX5); Amihud's illiquidity (AMIHUD); turnover (TURN); accrual assets (ACC); asset growth (AG); gross profit (GP); Sale to price (S2P); return on equity (ROE), and return on assets (ROA). We analyze stock returns of portfolios sorted by each anomaly. For each anomaly, we group firms in deciles portfolios on month t, and we report the average return in month t + 1 for equal- and value-weighted portfolios. We also report the return of the high-minus- low portfolio, which is the portfolio that buys the high portfolio (Decile 10) and sells the low portfolio (Decile 1). We report the results in **Table 1**.

Table 1. Portfolio sorts: one-month returns

The table reports average 1-month ahead equal- and value-weighted portfolio returns after adjusting FF3 factors model (in %) from 2010 to 2019. We construct deciles portfolios based on the value of the characteristic on month t and report average portfolio returns on month t + 1. We report adjusted *t*-statistics for heteroscedasticity and autocorrelation following Newey and West (1987). The *t*-statistics are in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10%, respectively.

Anomalies	**Equal-weighted portfolios**				**Value-weighted portfolios**			
	Low	**Mid**	**High**	**High-Low**	**Low**	**Mid**	**High**	**High-Low**
BETA	0.0212	-0.0036	0.0213	0.0001	0.0073	-0.0057	0.0010	-0.0062
	(2.6632)	(-0.8591)	(2.7909)	(0.0043)	(0.8427)	(-1.3279)	(0.1440)	(-0.7287)
BETA12	0.0078	0.0056	-0.0028	-0.0106***	0.0002	0.0095	-0.0059	-0.0061
	(1.3919)	(1.1036)	(-0.4154)	(-2.8964)	(0.0288)	(2.1949)	(-0.7166)	(-1.1221)
SIZE	0.0121	-0.0014	-0.0034	-0.0156***	0.0048	-0.0031	-0.0001	-0.0050
	(1.8473)	(-0.2078)	(-0.4965)	(-3.6401)	(0.6441)	(-0.4422)	(-0.0222)	(-0.9563)
BM	-0.0101	-0.0015	0.0037	0.0138***	-0.0008	-0.0061	0.0093	0.0101
	(-1.4211)	(-0.2188)	(0.4560)	(3.6308)	(-0.1244)	(-0.8143)	(0.6727)	(0.8821)
RET27	0.0213	0.0011	-0.0033	-0.0245***	-0.0031	-0.0005	-0.0017	0.0014
	(2.5385)	(0.2100)	(-0.7003)	(-3.6626)	(-0.3518)	(-0.0697)	(-0.2754)	(0.1872)
RET212	0.0144	0.0033	-0.0018	-0.0162***	-0.0083	0.0038	0.0063	0.0146**
	(1.8539)	(0.6005)	(-0.3494)	(-2.7216)	(-1.1203)	(0.6001)	(0.9673)	(2.0310)
TURN	-0.0022	0.0015	0.0130	0.0152***	0.0051	0.0100	-0.0007	-0.0058
	(-0.3434)	(0.2470)	(2.7791)	(3.9534)	(0.8925)	(1.3722)	(-0.1676)	(-1.4179)
AMIHUD	0.0054	0.0023	0.0149	0.0095*	0.0042	-0.0051	-0.0134	-0.0176**
	(0.7939)	(0.3867)	(1.9678)	(1.8656)	(0.7023)	(-0.9927)	(-1.2035)	(-2.0039)
RET1	0.0295	0.0050	-0.0085	-0.0380***	0.0021	0.0056	0.0047	0.0026
	(3.9631)	(0.7238)	(-1.2085)	(-9.2169)	(0.2384)	(0.8827)	(0.5885)	(0.2692)
MAX	-0.0488	-0.0044	0.1014	0.1495***	-0.0420	0.0182	0.0867	0.1268***
	(-16.987)	(-0.6263)	(8.2792)	(14.5299)	(-9.8684)	(2.7653)	(4.9568)	(6.8546)
MAX5	-0.0520	-0.0205	0.1607	0.2116***	-0.0438	0.0006	0.1468	0.1887***
	(-20.283)	(-4.2604)	(14.5724)	(21.9529)	(-10.469)	(0.0738)	(8.6345)	(10.6653)
AG	0.0033	0.0033	-0.0025	-0.0058**	-0.0029	0.0099	0.0032	0.0061
	(0.5754)	(0.5835)	(-0.4044)	(-2.0424)	(-0.3693)	(1.3488)	(0.4999)	(0.8045)

CP	-0.0012	0.0034	0.0105	0.0118***	-0.0089	-0.0059	0.0093	0.0182***
	(-0.1738)	(0.6208)	(1.6753)	(3.9047)	(-1.1655)	(-0.7307)	(1.1564)	(3.7360)
GP	0.0042	0.0032	0.0033	-0.0009	0.0076	0.0099	0.0060	-0.0016
	(0.7238)	(0.5726)	(0.5815)	(-0.2962)	(1.3362)	(1.2914)	(0.7851)	(-0.2175)
S2P	0.0020	0.0021	0.0070	0.0050*	0.0002	0.0018	0.0008	0.0006
	(0.3616)	(0.3785)	(1.2177)	(1.9642)	(0.0302)	(0.2455)	(0.1190)	(0.1659)
ROA	0.0002	0.0037	0.0014	0.0012	-0.0028	-0.0018	0.0094	0.0122
	(0.0275)	(0.6324)	(0.2863)	(0.2613)	(-0.3422)	(-0.2365)	(1.6159)	(1.4728)
ROE	0.0009	0.0025	-0.0009	-0.0018	-0.0094	-0.0031	0.0098	0.0191**
	(0.1309)	(0.4298)	(-0.1700)	(-0.4225)	(-1.0721)	(-0.4345)	(1.6424)	(2.4364)
ACC	0.0054	0.0023	0.0149	0.0095*	0.0042	-0.0051	-0.0134	-0.0176**
	(0.7939)	(0.3867)	(1.9678)	(1.8656)	(0.7023)	(-0.9927)	(-1.2035)	(-2.0039)

We next perform univariate Fama-MacBeth regressions of the 1-month stock returns on each anomaly. The two-stage Fama-MacBeth (1973) regression has the advantage that it does not impose breakpoints for portfolio formation but allows for an evaluation of the interaction among anomalies and is defined as:

$r_{i,t+1} = \alpha_{t+1} + \beta_{t+1} ANO_{i,t} + \varepsilon_{i,t+1}$

where $r_{i,t+1}$ is the stock return for company i in month t + 1, and $ANO_{i,t}$ is the anomaly value for each firm i in month t. We evaluate the coefficient's significance using the Newey-West t-statistics with 4 lags. We report the average coefficients for each anomaly and the Newey-West t-statistics from the Fama-MacBeth regressions in Table 2.

Table 2. Cross-sectional regression

The table presents the results on each anomaly effect from the cross-sectional regression based on Fama and MacBeth (1973). Parentheses are t-values based on Newey-West (1987), and ***, **, and * indicate significance at the 1%, 5%, and 10%, respectively.

	Coefficient	***t*-stat**	**Intercept**	***t*-stat**	**Adj. R^2**
BETA	-0.0001	-0.2353	0.0063	0.9698	0.0027
BETA12	-0.0047	-2.0695	0.0097	1.6541	0.0071
SIZE	-0.0015	-1.3656	0.0186	0.9926	0.0082
BM	0.0051	2.1782	-0.0349	-2.093	0.0053
RET27	-0.0139	-2.2884	0.0072	1.1659	0.0100
RET212	-0.0076	-1.5727	0.0065	1.0217	0.0096
TURN	0.0050	1.0349	0.0055	0.7911	0.0102
AMIHUD	0.0002	0.3581	0.0095	0.7832	0.0113
RET1	-0.0555	-6.5035	0.0061	0.8467	0.0100
IVOL	0.0038	1.9773	0.0056	0.8303	0.0007
MAX	0.9545	9.8652	-0.052	-5.535	0.0931
MAX5	2.5386	8.6487	-0.0816	-6.825	0.1762
AG	-0.0008	-1.1038	0.0053	0.7893	0.0001
CP	0.0037	2.5948	0.0052	0.7484	0.0040
GP	0.0001	0.5162	0.0047	0.6836	0.0021
S2P	0.0002	0.9689	0.0049	0.7077	0.0029
ROA	-0.0072	-0.4538	0.0051	0.6738	0.0071
ROE	-0.0032	-0.7801	0.0056	0.7916	0.0051
ACC	-0.0121	-2.5289	0.0045	0.6543	0.0028

3.1.1. Betas

From **Table 1**, the equal-weighted portfolio's returns of the high-minus-low portfolio (H-L), the one that buys deciles 10 (High) and sells deciles 1 (Low), are positive but insignificant for BETA, while the H-L return of BETA12 coefficient is negative (-0.0106) and significant (t = -2.8964). For value-weighted portfolios, the H-L return is negative and insignificant for both betas. From univariate portfolio sorts, we conclude that the traditional CAPM in 1-month does not hold for the Vietnam stock market. However, there is a negative relation between betas in 12-month and stock returns.

From **Table 2,** the coefficients are negative in the two regressions. For example, the BETA coefficient is −0.0001 with an insignificant *t*-statistic of -0.2353, while BETA12 is -0.0047 with a significant *t*-statistic of -2.0695. Overall, we conclude that BETA12 predicts expected stock returns in the Vietnam market.

3.1.2. Size

Table 1 shows that H-L of SIZE is measured with the market capitalization of the firm. For equal-weighted returns, we find that the portfolio with small firms has a higher return than that for big firms. The H-L return is negative (-0.0156) and statistically significant (*t*=-3.6401). However, we do not find the SIZE effect on the value-weighted portfolio returns. **Table 2** reports Fama-MacBeth regression results that the coefficient of size is negative but insignificant. We conclude that FM93 regression shows no evidence of a size effect in the Vietnam stock market.

3.1.3. Value-growth effect

Following Hou et al. (2011), we measure the value-growth exhibit by different proxies such as book-to-market (BM), and cash flow-to-price (CP) ratios. From **Table 1**, within the BM results, the difference between H-L is positive and significant in equal-weighted portfolios. This result does not hold for value-weighted portfolios. When we move to **Table 2**, we also find the positive (0.0051) and significant (2.1782) of BM. Within the CP results, the results are the same in portfolio and regression. For example, CP predicts 1-month returns with a coefficient of 0.0037, significant at the 1% level. We conclude that the value-growth effect is partially present in the Vietnam market.

3.1.4. Momentum and reversal

Table 1 reports univariate portfolios sorted by lagged 1-month returns for RET1, RET27, and RET212. Within RET1, for equal-weighted portfolios, there is a negative and significant relation indicating the existence of return reversal. When we move to the value-weighted portfolio's returns, we can not see the existence of return reversal.

We next analyze the momentum strategy by forming portfolios based on lagged 6- and 12-month returns. **Table 1** shows that the momentum effect does not exist for both variables and equal- weighted portfolios. We find the significant value when sorting by lagged 12- month returns by using value-weight returns. For example, when sorting by lagged 12- month returns, the value- weighted return for deciles 1 is -0.0083 and increases to 0.0063 for deciles 10. The long-short portfolio return is 0.0146 with a *t*-statistic of 2.0310.

Table 2 presents the Fama-Macbeth coefficients when regressing future stock returns on lagged 6- and 12-month returns. The coefficients of lagged 6-month returns are significant when predicting 1-month future returns. The regression of the 1-month return on the lagged 6-month return is - 0.0139 with a *t*-statistic of -2.2884. The lagged 12-month returns predict 1-month returns and report an insignificant coefficient of -0.0076. Our overall conclusion is that the momentum effect does not present in the Vietnam stock market.

3.1.5. Lottery effect

Table 1 reports the results for univariate sorts by the maximum daily return, MAX (MAX5), over the previous month. When predicting 1-month returns, there is no evidence of a negative relation between MAX and future stock returns in both equal- and value-weighted returns. The H-L returns are positive in both cases and the equal-weighted is significant. Fama-MacBeth regressions in **Table 2** confirm the results from univariate portfolio sorts. The MAX return coefficient is positive and significant when the dependent variable is the 1-month return. We conclude that the lottery effect in the Vietnam market does not exist.

3.1.6. Volatility

From **Table 1**, we find a negative and insignificant relationship between idiosyncratic volatility and 1-month returns in both equal- and value-weighted long-short returns. **Table 2** reports the coefficient from the Fama-MacBeth regression of 1-month returns on idiosyncratic volatility. The regression coefficient for idiosyncratic volatility confirms the conclusion from **Table 1**.

3.1.7. Trading frictions

In this subsection, we analyze the relation between stock returns and market trading frictions, namely illiquidity measure (AMIHUD) and shares turnover (TURN). **Table 1** reports univariate portfolios sorted by market trading frictions proxies. We do not find evidence of the market trading frictions in the Fama-MacBeth regression. We conclude that there is no relation between trading frictions and stock returns.

3.1.8. Investment

To analyze the investment anomalies, we use measures of operating accruals (ACC), and asset growth (AG). From **Table 1**, for asset growth (AG), we find a negative and significant relation between AG and future return in the equal-weight portfolio sort; however, we do not find this relation in the value-weight return. Fama-MacBeth regressions in **Table 2** show a negative and insignificant coefficient for asset growth using 1-month returns. We conclude that asset growth (AG) predicts 1-month returns for equal-weighted portfolios

Next, we observe that there is a negative relation between returns and the accrual component of earnings for value-weighted portfolios in **Table 1**. The result of Fama-Macbeth coefficients in **Table 2** indicates that there is an anomaly based on accruals in the Vietnam stock market.

3.1.9. Profitability

The results in Table 1 (univariate portfolios over 1-month horizon) provide evidence of a positive relationship between expected returns and profitability. ROE, ROA, and GP are positively and insignificantly related to future stock returns. This result is confirmed in both **Table 1** and **Table 2**.

In general, we perform univariate portfolio sorts and Fama-MacBeth regressions on 18 anomalies. After analyzing each anomaly individually, we now conclude which anomalies predict stock returns at the 1-month horizon. We clearly observe that there are BETA, return reversal, accruals, and cash flow to price effects in the Vietnam stock market. In the next section, we proceed to include these variables in multivariate Fama-MacBeth regressions to conclude which ones robustly predict 1-month returns in the Vietnam stock market.

3.2. Multivariate analysis of anomalies and stock returns

In this section, we run multivariate regressions and double sorts using anomalies that predict 1-month returns in univariate analyses. Using the results of the univariate portfolios and Fama-MacBeth regressions, we select the variables that predict stock returns and further analyze them in multivariate Fama-MacBeth regressions to conclude which variables robustly predict stock returns in Vietnam. The anomalies we study are beta (BETA), size (SIZE), lagged 6-month return (RET27), turnover (TURN), idiosyncratic volatility (IVOL), maximum return (MAX), return reversal (RET1), cash flow to price (CP), and accruals (ACC). Multivariate Fama-MacBeth regressions include control variables in the regression as follows:

$$r_{i,t+1} = \alpha_{t+1} + \beta_{1,t+1}ANO_{i,t} + \beta_{2,t+1}CONTROLS_{i,t} + \varepsilon_{i,t+1}$$

where $r_{i,t+1}$ is the stock return for company i in month t + 1, $ANO_{i,t}$ is the anomaly value for each firm i in month t, and $CONTROLS_{i,t}$ is the control variables for each firm i in month t. We evaluate the coefficient's significance using the Newey-West t-statistics with 4 lags. We report the average coefficients for each anomaly and the Newey-West t-statistics from the Fama-MacBeth regressions in **Table 3**.

Table 3. Multivariate Fama-MacBeth regressions

The table presents the results on each anomaly effect from the cross-sectional regression based on Fama and MacBeth (1973). Dependent variable is the excess return in the future period. Parentheses are t-values based on Newey-West (1987), and ***, **, and * indicate significance at the 1%, 5%, and 10%, respectively.

Model	1	2	3	4	5	6
BETA12	-0.0041*	-0.0049**	-0.0044*	-0.0047*	-0.0038	-0.0038
	(-1.7399)	(-2.0484)	(-1.8687)	(-1.9297)	(-1.6314)	(-1.6395)
SIZE	0.0008	0.0005	0.0049***	0.001	0.0009	0.0009
	(0.8375)	(0.4905)	(4.9718)	(0.922)	(0.8795)	(0.9132)
BM	0.0022	0.0013	0.0018	0.0023	0.0022	0.002
	(0.9687)	(0.535)	(0.6789)	(0.9372)	(0.9455)	(0.8472)
RET27	0.0032	0.0068	0.0054	0.0029	0.0024	0.0029
	(0.4222)	(0.94)	(0.6723)	(0.3635)	(0.3103)	(0.3766)
TURN	0.0082**	0.0088**	0.0028	0.0092**	0.0079**	0.0078**
	(2.0777)	(2.2540)	(0.7260)	(2.3715)	(2.0715)	(2.0727)
IVOL		0.0003				
		(0.1661)				
MAX			1.0253***			
			(7.4112)			
RET1				-0.0533***		
				(-5.7023)		
CP					0.005**	
					(2.3642)	
ACC						-0.0124*
						(-1.8311)

Table 3 reports the results of multivariate Fama-MacBeth regressions of 1-month returns on the anomalies that predict stock returns independently. In the first regression, we include the most widely used variables that predict stock returns such as beta, size, book-to-market, momentum, and turnover. In Model 1, the relation with future one-month returns is negative for beta (weakly significant), and positive for turnover. In Model 2, we add idiosyncratic volatility to the multivariate regression, and its coefficient is positive and insignificant. In Model 3, we drop idiosyncratic volatility and add the maximum return to the regression given that they are highly correlated. The relation between MAX and future returns is positive (1.0253) and significant at 1% level. In Model 4, we replace MAX by RET1 and find that it is negatively significant. Finally, in Model 5, we substitute the RET1 by CP. In this multivariate regression, CP has a positive relation with future 1-month returns and significant at the 5% level. In Model 6, we replace CP by ACC and find that it is negatively significant at 10%.

4. Conclusion

This paper is the first comprehensive study on the cross-section of stock returns in the Vietnam stock market. Using data from 2010 to 2019, we study 18 of the most common anomalies reported for the developed market. These anomalies are grouped into the following 9 categories: 1) market betas, 2) market capitalization, 3) idiosyncratic volatility, 4) lottery stocks, 5) value-growth effect, 6) momentum and reversal, 7) investment, 8) profitability, and 9) trading frictions. We find that 5 anomalies predict the cross-section of stock returns in Vietnam: Beta in 12 months, liquidity, return reversal, cash-flow to price, and accruals. The predictability of these 5 variables robustly predicts stock returns using portfolio sorts and Fama-MacBeth regressions. Overall our study contributes to the literature on the cross-section of stock returns in emerging markets by outlining profitable trading strategies for the Vietnam stock market.

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