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FED'S MONETARY POLICY IN RESPONSE TO THE COVID-19 PANDEMIC AND POLICY RECOMMENDATIONS FOR VIETNAM

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Abstract: *The United States is the largest open economy in the world with a GDP of $25 trillion in 2022. The FED has a specific organizational structure that includes both public and private characteristics. The FED's monetary policy with the main goal of addressing employment and macroeconomic stability, but having an impact on all central banks of other countries; Since the Covid-19 pandemic, the FED has used 12 tools simultaneously, issued enforcement decisions through the maximum use of traditional tools, combined with urgent new measures to support capital flows to promote post-pandemic economic recovery. The FED's monetary policy has had a significant impact on Vietnam's monetary policy, fiscal policy, and capital markets. The analysis also gives recommendations for interest rate policy, exchange rate policy and synchronous coordination between fiscal policy and monetary policy of Vietnam in the coming time The United States is the largest open economy in the world with a GDP of $25 trillion in 2022. The Fed has a specific organizational structure that includes both public and private characteristics. The FED's monetary policy with the main goal of addressing employment and macroeconomic stability, but having an impact on all central banks of other countries; Since the Covid-19 pandemic, the FED has used 12 tools simultaneously, issued enforcement decisions through the maximum use of traditional tools, combined with urgent new measures to support capital flows to promote post-pandemic economic recovery. The FED's monetary policy has had a significant impact on Vietnam's monetary policy, fiscal policy, and capital markets. The analysis also gives recommendations for interest rate policy, exchange rate policy and synchronous coordination between fiscal policy and monetary policy of Vietnam in the coming time.*

• Keywords: *FED; monetary policy; credit support; emergency measures; Covid-19.*

Tóm tắt: *Mỹ là nền kinh tế mở lớn nhất thế giới với GDP năm 2022 đạt 25.000 tỷ USD. Fed có cơ cấu tổ chức đặc thù bao gồm cả đặc điểm công và đặc điểm tư. Chính sách tiền tệ của FED với mục tiêu chính là giải quyết việc làm và ổn định kinh tế vĩ mô, nhưng lại có tác động đến tất cả NHTW của các nước khác; từ khi xảy ra đại dịch Covid-19, FED đã sử dụng đồng thời 12 công cụ, ban hành các quyết sách thực thi thông qua việc vận dụng tối đa các công cụ truyền thống, kết hợp với các biện pháp mới khẩn cấp nhằm hỗ trợ các dòng vốn thúc đẩy phục hồi kinh tế hậu đại dịch. Chính sách tiền tệ của FED đã tác động không nhỏ đến chính sách tiền tệ, chính sách tài khoá và thị trường vốn của Việt Nam. Phân tích cũng đưa ra khuyến nghị cho chính sách lãi suất, chính sách tỷ giá và phối hợp đồng bộ giữa chính sách tài khoá và chính sách tiền tệ của Việt Nam trong thời gian tới.*

• Từ khóa: *FED; chính sách tiền tệ; hỗ trợ tín dụng; biện pháp khẩn cấp; Covid-19.*

1. Raised the issue

The Covid-19 pandemic has clearly exposed the vulnerabilities of the US economy, affecting all aspects of socio-economic life, wiping out the accumulated results calculated since the global economic crisis of 2009, especially the results of economic growth in the previous 5 years and from the first quarter of 2020, the US economy officially fell into recession.

On March 12, 2020, the stock market activity was interrupted for a time, and the Standard & Poor's Index fell 7% to 2.549,05 points, blowing billions of dollars away, activating the mechanism to suspend the market within 15 minutes.

Given that situation, the FED has used traditional tools and new measures to support capital markets, the FED's drastic action through monetary policy and emergency lending policy. The FED's main measures include: (1) Cutting key interest rates; (2) Applying a quantitative easing

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program (QE); (3) Lowering discounted lending rates and (4) Launching a currency swap plan for the central banks of the United Kingdom, Canada, Japan, Europe, and Switzerland.

The FED's response has partly worked with the US economy to combat the Covid-19 pandemic; however, it has had a significant impact on the monetary policies of other countries, including Vietnam. Therefore, the FED's monetary policy assessment analysis in response to the Covid -19 pandemic will help Vietnam learn lessons about policy responses to unpredictable social fluctuations.

2. Research approach and methodology

Regarding the approach: monetary policy has a short lag which is favorable for policy reversal from expansion to tightening and vice versa. However, since the outbreak of the Covid-19 pandemic until now; The FED has adjusted its policy from "anti-recession" to "economic stability and anti-inflation". Therefore, the approach of the article is carried out in the following direction: analyzing the impact of monetary policy adjustment on the US economy and society and other economies from which to draw recommendations policy for Vietnam in adjusting its policies appropriately.

In terms of research methods, the article comprehensively uses research methods: interdisciplinary research, qualitative research through statistical and comparative methods, and comprehensive historical comparison based on reliable secondary data from domestic and international research institutions.

3. Research content

3.1. Structure of the FED

The Federal Reserve System was created on December 23, 1913, after President Woodrow Wilson enacted the Federal Reserve Act. As the central bank of a country, the FED functions similarly to the central banks of all other countries in the world. However, because the structure of the FED is quite different from other central banks, the FED's system includes both public and private characteristics made up of three subjects:

(1) The Board of Governors as a federal government agency based in Washington, D.C., consisting of seven members appointed by the President with the advice and consent of the Senate, is accountable to Congress and provides general guidance to the system and oversees the 12 Federal Reserve Banks;

(2) The Federal Reserve Banks in 12 states of the United States: Boston, New York, Philadelphia, Washington D.C., Cleveland, Richmond, Atlanta, Chicago, St. Louis, Minneapolis, Kansas City, Dallas, and San Francisco, Selected states to place regional reserve banks from 1913 based on economic and commercial sector criteria. All state reserve banks are subject to the guidance and direction of the Federal Board of Governors;

(3) The Federal Open Market Committee (FOMC) was created on the basis of the 1933 and 1935 FED Amendments; the committee consisted of seven members of the Federal Board of Governors and five branch bank presidents. The main function is to carry out the purchase and sale of securities and valuable papers on the open market. The committee meets eight times a year to set interest rates and decide on changes to the money supply.

3.2. Objectives and role of the FED

The FED's overall objective is to address employment and macroeconomic stability in the U.S. economy. However, to achieve this goal, the FED performs some of its functions: (1) Enforcing national monetary policy; (2) Stabilizing the national financial system; (3) Regulating and supervising the activities of financial institutions and banks; (4) Promoting the safety and efficiency of the settlement payment system; (5) Protecting consumers and developing the community.

The role of the Federal Reserve is expressed through the role of three components of the Federal Reserve, specifically: For the Federal Reserve Board of Governors: The seven members of the Federal Board of Governors are members of the FOMC, which has a term of 14 years; however, the president and the vice president serve only four-year terms appointed by the President through Senate consultation. The Board of Governors is responsible for the supervision and regulation of the 12 regional reserve banks and jointly manages and oversees the operations of financial institutions and banks throughout the country. The Board of Governors provides guidance, directs oversight of regional reserve banks, and coordinates regional reserve banks to perform FED functions.

The role of regional reserve banks: this system consists of 12 regional reserve banks and 24 branches performing the function of supervising and inspecting state member banks, banks and savings companies, designated non-bank financial institutions; lending to deposit institutions to ensure the liquidity of the entire financial system, providing financial services towards Fedwire payment platform[1] and automatic clearing system - ACH[2], in addition, regional reserve banks also provide services to the US Treasury.

The role of Federal Open Market Committee (FOMC), which consists of 12 voting members (7 members of the Federal Board of Governors, 1 member as the president of the New York regional reserve bank and 4 members elected from the presidents of other regional reserve banks). This committee has the function of directly operating and controlling the operation of open market operations - OMO. As such, the FOMC's decision directly impacts the key interest rate, the size of the FED's holdings, its monetary supply, credit, and exchange rates.

3.3. Tools of the FED

In order to implement its monetary policy, the Fed has conducted traditional monetary policies and exceptions based on the following specific instruments:

First, the discount book and the discount interest rate. The impact of the discount policy is mainly to change the discount rate through the number of discounts, thereby affecting the volume of discounted loans, the amount of base money, and the money supply. In addition, it also performs the function of lending to the rescue of the central bank, in order to save commercial banks from default. The discount rate is the rate at which the FED lends to commercial banks. Borrowing commercial bank money from the central bank is called discount borrowing.

Second, the reserve is obligatory. This is the amount of cash that commercial banks must deposit in the FED's reserves. The required reserve ratio is the ratio of the amount of reserve money required throughout the banking system to the amount of checkable deposits generated by commercial banks.

Third, the reverse acquisition agreement overnight (ON RRP). When the FED implemented ON RRP overnight, it sold a security to a qualified counterpart and simultaneously agreed to buy back that security the next day.

Fourth, open market operations: Buying and selling of securities on the open market by the central bank (Fed.gov).

Fifth, commercial paper funds. The purpose of the fund is to support the credit activities of households and businesses. In difficult times, this regulation can be implemented to provide support credit to these economic agents in order to stabilize jobs in the market.

Sixth, the securities lending fund is secured by term assets. The fund's goal is to issue asset-backed securities to support student loans, auto loans, credit card loans, and small business loans.

Seventh, the fund supports money market liquidity. The fund was established by the FED on March 18, 2020, for the purpose of providing credit support for households and businesses. The Federal Reserve Bank of Boston will provide loans to eligible financial institutions. The operation of the fund will help the market operate smoothly while helping to expand the amount of credit provided to the economy.

Eighth, currency swap. Through agreements with foreign central banks, the FED implemented currency swaps aimed at making the U.S. dollar easier to inject into the world, thereby improving the world's access to the dollar. Through swap agreements with five central banks: Canada, the EU, the United Kingdom, Japan, and Switzerland, the dollar was quickly pumped out to financial institutions in difficult times; and through temporary agreements with nine other central banks, the FED provided a high amount of dollars to meet the high demand for the dollar in the world.

Ninth, Activate the liquidity support funds. Through Primary Dealer Credit Facility (PDCF), Money Market Mutual Fund Liquidity Facility (MMFLF), the fund to buy corporate bonds on the Primary Market Corporate Credit Facility

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[1] *Fedwire is a real-time central bank gross payment system used by the FED's banks to transfer funds electronically between member institutions.*

[2] *ACH is an automatic clearing system that serves the needs of clearing payment transactions (debit/account) for low value retail, processing in want and in batches among participating members.*

(PMCCF), the fund to buy corporate bonds on the Secondary Market Corporate Credit Facility (SMCCF).

Tenth, the liquidity assistance program, the Paycheck Protection Program Liquidity Facility (PPPLF). With the mission of supporting the payroll protection program of the Small Business Administration (PPP), the FED has authorized the PPPLF to be designed to provide liquidity to financial institutions that make loans under the PPP program.

Eleventh, the Main Street Loan Program (MSLP). This is a program designed to support credit capital for small and medium business owners.

Twelfth, the urban Municipal Liquidity Facility (MLF) program. This is a program to provide credit to states and localities, implemented on April 9, 2020 to effectively manage the flow of capital to serve households and business firms in their management.

3.4. Response of the Federal Reserve to the Covid-19 pandemic

The pandemic has pushed the US into an economic recession, from the outbreak of the pandemic to April 2020, more than 22 million workers lost their jobs, a higher record than in the Great Depression of the 1930s; The unemployment rate increased to 14.7% in April 2020, while the average 50 years ago was 3.5%. In the second quarter of 2020, a series of macroeconomic indicators of the economy simultaneously decreased compared to 2019, signaling the US economic recession since the global economic crisis of 2008-2009, GDP decreased by more than 30%, officially wiping out the achievement of economic growth of 5 years (2016-2020)[3].

Faced with that situation, the FED has responded to the impact of the pandemic through the issuance of enforcement decisions through the maximum use of traditional tools, and combined with urgent new measures to support capital flows to promote post-pandemic Covid -19 economic recovery.

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[3] *U.S. Department of Labor (2021), the Employment Situation, Transmission of material in this news release is embargoed until 8:30 am (ET) Friday, July 2, New Release Bureau of Labor Statistics U.S. Department of Labor.*

On the implementation of monetary policy

Cut interest rates: with the goal of maximum employment and macroeconomic stability, three interest rate cuts and on March 3, 2020, a 0.5 percentage point reduction; on March 15, 2020, a second interest rate cut and continue to reduce 1 percentage point to the target range of 0-0.25%.

Increased interest rates: However, by December 2021 after a meeting of the Federal Open Market Committee (FOMC), when the employment target was nearing its target and the economy was seeing an increase in inflation, the Fed signaled an increase in interest rates and in 2022 the Fed changed interest rates seven times to start fighting inflation in the US economy. Especially, On March 16, 2022, the Federal Open Market Committee (FOMC) - the Council of FED officials responsible for monetary policy - decided to raise the Fed's basic lending interest rate range to about 0.25-0.5%; the second time on May 4, 2022, the FED raised the interest rate range by 0.5%, raised the basic lending interest rate range to 0.75-1%; the third time on June 15, 2022, the fourth time on July 27, 2022, the fifth time on September 21, 2022, the sixth time on November 2, 2022, each time to 0.75%, and the last of 2022, the Fed raised the interest rate range by 0.5%, raising the basic lending interest rate to 4.25-4.5%, the highest level in the past 15 years; It is expected to be about 5-5.25% by the end of 2023.

Quantitative easing (QE): On March 15, 2021, at the same time as announcing interest rate cuts, in order to promote economic recovery, the Fed announced a new QE round. With the announcement of an initial QE program of $80 billion immediately ($40 billion on Monday and $40 billion and Tuesday), the Fed pledged to buy about $700 billion of assets in the coming months without a cap; however, by June 10, 2020, the Fed has been tapering off and will buy at least $80 billion of treasury bonds and $40 billion of mortgage-backed securities until further notice. Thus, from March 2020 to December 2020, the portfolio that the Fed holds has increased from $3.9 trillion to $6.6 trillion.

Emergency Loan Policy

In order to extend credit to banks, households, businesses, localities, and sectors of the economy, the Fed relied on the Treasury Department's

approval under section 13 (3) of the Federal Reserve Act, which convened emergency lending agencies through the following credit assistance programs:

Table 1: Fed credit support programs from April 2020 to March 2021

TT	Agenda	Type	Publication Date	End Date	Capacity (billion USD)
1	Commercial Paper Funding Facility (CPFF)	Restore	3/17/2020	31/3/2021	NA
2	Primary Dealer Credit Facility (PDCF)	Restore	3/17/2020	31/3/2021	NA
3	Money Market Mutual Fund Liquidity Facility (MMLF)	Restore	3/18/2020	31/3/2021	NA
4	Term Asset-Backed Securities Loan Facility (TALF)	Restore	3/23/2020	31/12/2020	100
5	Primary Market Corporate Credit Facility (PMCCF)	New	3/23/2020	31/12/2020	750
6	Secondary Market Corporate Credit Facility (SMCCF)	New	3/23/2020	31/12/2020	750
7	Paycheck Protection Program Liquidity Facility (PPPLF)	New	4/29/2020	31/3/2021	NA
8	Main Street Loan Program (MSLP)	New	4/29/2020	08/01/2021	600
9	Municipal Liquidity Facility (MLF)	New	4/9/2020	31/12/2021	500

Source: Board of Governors of the Federal Reserve

On March 17, 2020, the Fed reinstated the CPFF and PDCF programs to provide liquidity to the commercial paper market and an overnight repurchase agreement. CPFF is a program that was activated from October 2008 to February 2010 and ended completely in August 2010; to restore this program, the Fed has granted a credit worth 10 billion USD from the Exchange Stabilization Fund (Board, 2020). The PDCF program, which ran from March 2008 to February 2010, so far the Fed has restored in order to provide liquidity to the overnight repurchase market in an effort to ease the stress on key dealers; This program is different from the previous one that is only available to main dealers (Board, 2020).

On the basis of the AMLF operating from September 2008 to February 2010; with the management of the Federal Reserve Bank of Boston (FRBB), on March 18, 2020 with $10 billion support from the Treasury, the MMLF is designed to support the Money Market and Mutual Fund (MMMF).

The TALF program, which ran from November 2008 to June 2010, was funded by the Treasury with a $10 billion contribution under the troubled asset relief program and placed under the management of the Federal Reserve Bank of New York (FRBNY). TALF aims to create loans amounting to about $100 billion, with the aim of providing credit liquidity to the market used by two actors, households and small businesses.

For large businesses, the Fed provides credit to large businesses through the PMCCF and SMCCF programs starting April 23, 2020 (Board, 2020) with the support of $75 billion from the Treasury, both of which are under the management of the Federal Reserve Bank of New York, aiming to create a credit of about $750 billion.

Protecting wage workers to minimize the negative impact of the pandemic, the Fed has implemented the Basic Salary Protection program; The Fed has authorized PPPLF to design a program to provide liquidity for financial institutions to implement loans under the program starting April 29, 2020, the program is ended on March 31, 2021.

To support credit for small- and medium-sized business owners, the Fed has launched the Main Street Loan Program (MSLP); the program has acquired from private organizations 95% of the loans of business firms with less than 15,000 employees and annual revenue of $5 billion or less (Board, 2020); This is a program to support the two programs PMCCF and SMCCF aimed at supporting small business firms.

Finally, the urban government liquidity assistance (MLF) program, implemented to provide credit to state and local governments, was announced on April 9, 2020 with the goal of directly supporting state and local governments to effectively manage cash flow serve two economic agents, households, and business firms in their management. MLF is willing to purchase short-term debt from state and local governments as well as public businesses, thereby improving these

institutions' access to credit and stabilizing the municipal bond market.

3.5. The current situation of using monetary policy tools to combat the recession caused by the FED's Covid-19 pandemic

Discount rate: In fact, the secondary and primary discount rates are usually 0.5% different, so when implementing the Fed's monetary policies, there is often a relationship in the same direction. In the period 2019-2021, the primary discount rate decreased from 3% at the beginning of 2019 to 0.25% at the end of the first quarter of 2021; the secondary discount rate decreased from 3.5% to 0.75%. As such, considering the adjustment of the discount rate when the Covid-19 pandemic appears, both types of interest rates tend to decrease. In order to support credit for actors in the economy and deposit-receiving organizations; through timing interest rates that are often adjusted according to regulations every 14 days, the Fed has helped economic actors have easier access to credit sources, maintain short-term liquidity to respond to the Covid-19 pandemic, more flexible.

Mandatory Reserve Ratio: With this tool, the Federal Board of Governors makes mandatory reserve ratio downgrades for all three accounts required to calculate the required reserves of commercial banks and depository institutions when the US economy faces difficulties due to the impact of the covid-19 pandemic. For example, on March 26, 2020, the Federal Board of Governors decided to lower the mandatory interest rate on trading deposits above the low reserve level from 10% to 0%, and on trading deposits in the low reserve level from 3% to 0%; as of June 2020, the total amount of net trading accounts of all depositors across the United States was recorded at $3.866 billion. This action by the Fed has maximized the supply of money to the market, reducing the pressure on spending for consumption and production of the economy.

Open market operations: As of March 2020, the Covid-19 pandemic has affected the global economy; asset prices adjust to strong fluctuations in the market. The Federal Open Market Committee (FOMC) revised its key interest rate down 150 points through two sessions: 50 points on February 3, 2020 and 100 points on March 15, 2020, while the Federal Board of Governors reduced the excess

reserve rate and FOMC reduced the overnight repurchase agreement rate (ONRRP).

Treasury bonds: FOMC directs the purchase and sale of notes on the secondary market through the Federal Reserve Bank of New York. The Open Market Transaction will update the daily notice of bond trading activity with each transaction; The schedule of exchange results will be publicly announced by the Open Market Operation Department (Desk) in the middle of each month during the bond trading process. From mid-October 2019 to mid-March 2020, FOMC has directed the Desk to manage approximately $60 billion of monthly Treasury bills, with the goal of maintaining minimum reserves to support effective control of the base rate. Treasury bonds are traded on FOMC and OMO primarily through the following four forms:

(1) Reinvestment of Treasury bonds (Newyorkfed.com), the period from October 2019 to March 2020 Desk has reinvested principal payments from Fed bonds held at auctions of about $20 billion monthly to Treasury bonds through trading on the secondary market by maturity and type of bond.

(2) Reinvestment of principal payments of securities by authorized agencies, this type is made by FOMC in the first 3 months of 2020 with a total amount of $51 billion and a short-term payment period of $0\text{-}2^{1/4}$ years, long-term is 20-30 years.

(3) Mandatory management purchase, in the period from January to March 2020, the Desk has purchased mandatory management for about 180 billion USD, then the Desk does not carry out this activity anymore but invests in another type.

(4) Buying treasury bond assets, from March 2020, Desk is allowed to buy a large amount of treasury bonds through OMO; according to statistics, there were times at the end of March 2020, the scale of bond asset purchases reached $75 billion per day, reaching a total volume of $775.4 billion by the end of the month, to April, although the scale and speed reached a lower level, but still at a high level of $646 billion, this activity only decreased sharply after the FOMC meeting in June, until September, the scale was only about $4 billion/day; Thus, the total amount of treasury bond assets that Desk bought in 2020 reached $2000 billion. According to Newyorkfed.com, the

results of this activity are unexpectedly successful, the average number of loans to this stock reached $30 billion, the highest number since 1999, especially in March and April 2020, recorded loans reached $34 billion and $36 billion. Despite the downward adjustment in securities lending in the following months, the System Open Market Account (SOMA) still recorded a high level.

Overnight repurchase agreements - ON RRP, this activity helps to establish an overnight currency interest rate floor through the provision of an investment amount to lenders in the currency market, with the aim of increasing the secondary temporary capital of securities for the financial market. Responding to the covid-19 epidemic, FOMC directed the Desk to reduce ON RRP with the base interest rate close to the target interest rate of 5 percentage points and 1% respectively and maintain the 0% level at the end of 2020. According to Newyorkfed.com, since 2017, the trend of slow growth has averaged about $9 billion per day; However, by March 2020, the transaction level soared to nearly $285 billion on the last days of the month. April trading volumes remained high for the first few days of the month and tapered off in the following days, but overall the month remained high at around $936 billion. From May onwards the Desk significantly reduces the use of the ON RRP tool even at times at zero.

The overnight and term repurchase agreement operation (Repo), with the goal of providing mandatory maintenance while minimizing risks in the currency market, has the potential to adversely affect the FED's monetary policy. In the first two months of 2020, Desk boosted its term repo activities with a reserve of about 1.650 billion USD, mainly through the purchase of treasury bills, but from mid-March 2020, Desk began to adjust its repo activities. both term and overnight, some short-term repo activities were introduced to the market (1 month, 3 months), the second overnight repo activity was also added to the trading schedule. By March 17, 2020, the results of this timely adjustment increased the total amount of overnight and term repos to reach $500 billion into the currency market. The process of adjusting overnight and term repo activities were implemented by the Desk until July 7, 2020 after the Fed said that the USD market has been stabilized and the liquidity of the market has improved.

Commercial Paper Funding Facility - CPFF, this is a program implemented from the beginning of 2020 until the end of March 31, 2021. The CPFF was established as a *credit facility for special purpose funds (SPVs)*; accordingly, the SPV will act as a support fund to ensure the issuance of term trade notes by eligible entities. The SPV is guaranteed a conditional loan by the Federal Reserve Bank of New York (FRBNY), guaranteed by all SPV assets. Through the CPFF, the Fed bought commercial notes and lent them directly to companies for up to three months at rates 1 to 2 percentage points higher than overnight lending rates. This program encourages investors to once again participate in term loans on the commercial paper market, thereby improving the commercial paper market, improving the ability of businesses to maintain jobs and investment as the country deals with the outbreaks of the covid-19 epidemic. The total collateral secured for FRBNY loans has always been maintained at $10 billion, up to $14 billion in May and June 2020.

With the relaunch of this loan program, TALF's activities have contributed to creating confidence for investors, opening up credit capital for consumers and American businesses. Through FRBNY with the total value of collateral pledged to ensure that loans are always above $5 billion, except for November 2020, only $3 billion, which proves the safety of FRBNY loans for SPV.

Money Market Mutual Fund Liquidity Facility (MMLF) aims to support money market funds to meet the acquisition needs of households and other investors, enhance the overall functioning of the market, and provide credit to the economy. The MMLF is a new Fed instrument issued in March 2020 that is managed by the Federal Reserve Bank of Boston (FRBB), through three components: (1) FRBB's loans through the MMLF, (2) the total value of collateral pledged for FRBB's loans, and (3) FRBB's income. From March to July, the MMLF recorded a large amount of credit, as of July 2020, two paragraphs (1) and (2) reached over 125 billion USD, then gradually decreased and averaged about 5 billion USD monthly. At the end of 2020, MMLF credits plummeted and stopped at $200 million at the end of March 2021, the MMLF program expired on March 31, 2021.

3.6. Impact on monetary and financial policies and financial markets of Vietnam

For monetary policy

The Fed and other central banks around the world have implemented monetary policies to combat the pandemic and inflation in the period 2020-2022, affecting Vietnam's monetary policy in two main directions:

First, the impact on interest rate policy. The interest rate of the Vietnamese dong also increases accordingly to avoid the interest rate differential that causes the capital to move out of the country and will discourage the flow of capital from abroad into Vietnam. The Fed's rate hike will lead to an increase in the global interest rate gap; foreign investors can withdraw investment flows from emerging markets including Vietnam. Statistics of trading on HNX and Hose stock markets, in September 2022, foreign investors made net sales with a total value of more than VND 2,623 billion. As for direct investment capital, in the context of rising interest rates in the Vietnamese dong, leading to increased production costs, while the US Government is committed to implementing policies to encourage investors to return to the US, making trade and foreign investment policies in Vietnam unfavorable. In the short term, the FED's policy will probably not affect FDI, because the majority of FDI investment in Vietnam comes from East Asia, of which Korea, Japan, China, Hong Kong and Taiwan account for about 50%, ASEAN countries account for about 20%, countries like the US and Europe account for less than 10%; However, in the long term, multinational corporations change their business strategies to adapt to the new situation, attracting FDI and FPI inflows into Vietnam will no longer be as favorable as today.

Second, the impact on the exchange rate policy. When the US raises interest rates, the dollar rises in price; By the end of 2022, most other currencies in the world will depreciate against the dollar, which is also a downward pressure on the VND. To stabilize the market, the State Bank of Vietnam intervened in the market by selling foreign currency. The question is how Vietnam's monetary policy must deal with the relationship between interest rate policy -

exchange rate policy and foreign capital flows. In order to ensure the flow of foreign investment into Vietnam, it is necessary to have solutions to either stabilize exchange rates or stabilize interest rates; This is really a difficult problem for Vietnam in macroeconomic regulation. Recently, the rising dollar has put downward pressure on the VND due to: (1) the Fed's interest rate policy and the adjustment of President Joe Biden's policy that has affected Vietnam's international balance of payments, making foreign currency supply and demand in the foreign exchange market limited; (2) the state of speculation, Foreign currency holdings tend to increase due to expectations of the rise of the dollar and the decline of other currencies, especially emerging-country currencies; (3) the interest rate adjustment of both the level and frequency of the US dollar by the Fed together with the open fiscal policy has created a double effect of increasing the dollar, significantly affecting bilateral trade between Vietnam and the US; increasing the dollar price increases the US trade deficit, which can stimulate the administration of President Joe Biden. apply the policy of trade protectionism and negative impact on trade of Vietnam.

Remittance problem: In recent years, the amount of remittances transferred home has been relatively stable and a significant source of supplement for Vietnam's foreign exchange market. Remittances have just served the purpose of supporting relatives to spend on consumption but also to invest. According to the WB, KNOMAD, SBV and the Migration Policy Institute, in 2019, remittances to Vietnam reached about 17 billion USD, increasing to 19 billion USD by 2022. However, the Fed's pressure to raise interest rates against inflation will have a significant impact on the flow of remittances to Vietnam because the US is a supplier of about 60% of remittances.

For fiscal policy

For state budget revenue, the Fed's interest rate increase makes the dollar up, Vietnamese exports to the US more competitive, increasing the turnover of goods exports from Vietnam to the US. However, the Fed's interest rate increase will affect businesses importing raw materials, businesses with borrowing costs in dollars, thereby affecting corporate income tax.

Regarding government debt, government debt includes domestic and foreign debt (mainly USD, JPY, EUR); when the USD rises, it will have an impact on public debt in two directions: (1) Interest rates, the Fed increases interest rates, making USD interest rates in the world market increase, affecting the Government's obligation to repay foreign loans in USD; (2) The USD exchange rate increases the outstanding debt in foreign currency when converted into VND and will affect the ability of the Government of Vietnam to repay debts in the coming time, and at the same time affect the ability to mobilize foreign currency in the international market. According to a report by the Ministry of Finance, Vietnam's public debt in 2021 is 43.1% of GDP, equivalent to 156 billion USD. By the end of 2021, the multilateral partners lending the most to Vietnam are the WB (World Bank): 380,000 billion VND; Asian Development Bank (ADB): 188,000 billion VND; In addition, bilateral creditors lending to Vietnam are mainly: Japan 316,000 billion VND, South Korea 32,000 billion VND, France 30,000 billion VND, Germany 14,349 billion VND...; According to the public debt ratio, outstanding loans in USD account for 13.9%, outstanding loans in Japanese Yen account for 10.5%, outstanding loans in EUR account for 5.5%. other currencies, with outstanding debt developments and debt repayment obligations of the Government of Vietnam showing that although the exchange rate fluctuates, it is still under control. Another aspect shows us that, from January 1, 2022 to August 1, 2022, the dollar increased by 1.1%, it is estimated that the total government debt increased by about VND 5,000 billion compared to the end of 2021. However, due to the fall of other currencies, such as the EUR down 9.5%, causing the total government debt to fall by VND 17 trillion, the Japanese Yen fell by 13%, reducing the government debt by about VND 45 trillion. Thus, in only three types of strong currencies: USD, JYB, and EUR, the government's outstanding debt by the end of 2022 is estimated to decrease by about 57,000 billion VND, equivalent to a 2% decrease compared to the outstanding debt in 2021. Considering the total domestic and foreign debt, with 90% of domestic debt and 10% of foreign debt annually, it shows that the Government is still proactive in fiscal policy, ensuring public debt safety and national financial security.

For the financial market

First, about the stock market: the upward trend of the dollar over the past few years, along with the Fed's interest rate increase, may affect investors to withdraw capital from the Vietnamese market. In the stock market, the net sale of foreign funds in general and divestment of investment funds, in particular, reflect the unstable trend of the market. The USD increased while other currencies fell sharply, the VND was still kept quite stable; this artificial overvaluation of the VND against the USD had a negative impact on Vietnam's export activities but also reached the target of currency hedge funds. However, for the Vietnamese economy, because capital account liberalization has not yet been allowed, capital flows are unlikely to be massively withdrawn; at the same time, the rapid increase of foreign exchange reserves has helped Vietnam improve its ability to intervene when necessary.

Second, the bond market. If the fluctuation of the VND/USD exchange rate is within the prescribed range, it will have a great impact on the bond market in general and the government bond market in particular. However, due to the increase in interest rates of the dollar, the policy of increasing interest rates of the VND; For example, in the primary market in August 2022 of 10-year government bonds, the interest rate increased from 2.58% to 2.85%/year, the 15-year term increased from 2.83% to 3.25%/year. On the other hand, the Government bond market is likely to be more vibrant with the participation of 100% foreign investors starting from August 2022, because the stability of exchange rate policy and government bond investment yields are relatively attractive.

4. Recommendations and conclusions

Based on the analysis of the Fed's policy response in the period 2020-2022 and the impact on the Vietnamese economy, we make the following recommendations:

First, *the SBV needs to run a flexible interest rate policy, proactively responding to unpredictable market fluctuations in both the short and long term.* In the short term, flexible interest rates will help Vietnam fight inflation, control monetary supply, prevent capital outflows

from the market, increase remittances to promote domestic investment; In the long term, a flexible policy of interest rates will help stabilize the capital market, promote the ability to mobilize capital in the financial market.

Second, *the SBV needs to adjust its exchange rate policy in a prudent, flexible and flexible manner, especially the exchange rate fluctuations of key currencies such as the USD, EUR, and yuan; it may have to accept the weakening of the VND against the USD.* Operate flexibly the exchange rate, actively discount VND skillfully to adapt to the current context in order to promote Vietnam's exports to other countries. A prudent exchange rate policy contributes to the effective mobilization of foreign investment capital, motivating foreign investors to participate more strongly in Vietnam's financial market. Proceeding to the floating exchange rate regime, it is necessary to expand the implementation of derivatives, reduce the monopoly on the foreign exchange market, diversify the key currencies in the valuation of the VND into a basket of strong currencies; diversify the basket of reserve currencies to avoid devaluation caused by fluctuations in the value of strong currencies.

Third, *synchronously coordinate monetary policy and fiscal policy in order to stabilize the macro economy, combat inflation and combat economic recession.* Monetary policy with short latency, good control of interest rates and money supply will strongly promote inflation control, ensuring credit for the operation of the economy in a flexible manner. Fiscal policy has a short delay, implementing appropriate fiscal policy flexibly to reduce pressure on the banking system, ensuring the implementation of large balances in the economy, especially the budget balance, the international balance of payments.

In short, the Fed's monetary policy adjustment has caused the dollar to appreciate to a certain extent, affecting the world economy and Vietnam's economy; however, fluctuations in the world economy and Vietnam's economy are also due to many other unpredictable factors such as protectionism, geopolitical fluctuations in regions, Russian-Ukrainian conflicts, fluctuations in oil and gas prices, etc… Therefore, Vietnam needs to closely monitor the fluctuations of world geopolitics

and financial economy with timely solutions on policy mechanisms, flexible management of the national monetary and financial policy system to achieve the set goals in the coming years.

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FOREIGN DIRECT INVESTMENT ATTRACTION: OPPORTUNITIES AND CHALLENGES FOR VIETNAM

PhD. Luong Thu Thuy* - MSc. Le Thi Ngoc Bich*

Abstract: *Vietnam achieved outstanding outcomes in FDI attraction in 2022. This trend is forecasted to continue in 2023 and the upcoming years. However, to attract foreign direct investment more effectively, Vietnam needs to improve in many aspects. This paper aims to analyze the achievement of Vietnam in FDI attraction in 2022, as well as the opportunities and challenges the country is facing. From these analyses, some recommendations are given for better FDI attraction policies.*

• Keywords: *FDI; investment attraction, policy.*

Tóm tắt: *Việt Nam đạt kết quả nổi bật trong thu hút FDI năm 2022. Xu hướng này được dự báo sẽ tiếp tục trong năm 2023 và những năm tiếp theo. Tuy nhiên, để thu hút đầu tư trực tiếp nước ngoài hiệu quả hơn, Việt Nam cần cải thiện nhiều mặt. Bài viết này nhằm phân tích thành tựu thu hút FDI của Việt Nam trong năm 2022, cũng như những cơ hội và thách thức mà Việt Nam đang phải đối mặt. Từ những phân tích này, một số khuyến nghị được đưa ra để cải thiện chính sách thu hút FDI.*

• Từ khóa: *FDI; thu hút đầu tư, chính sách.*

1. FDI inflows in Vietnam 2022

The role of FDI in developing countries, including Vietnam, is undeniable. FDI inflows can positively impact all three aspects of economic development, including economic growth, economic restructuring, and social progress.

FDI inflows are crucial sources of physical capital for the transition economy of Vietnam in the stage of industrialization and modernization. The production of the FDI sector contributes a large proportion to the output of Vietnam and the state budget.

FDI enterprises are essential for promoting the economic restructuring of the economy. FDI inflows pouring into manufacturing industries and services can encourage these sectors' development,

stimulating the economy's industrialization process. In addition, the technological spillover effects from FDI firms are also a crucial channel to enhance the production capacities of domestic firms. Beyond the movement of physical capital, the FDI inflows are the transition of know-how, technology, and managerial practices from developed countries to the developing world. With the presence of FDI firms, domestic firms may have access to modern technology and learn from their organizational practices to improve their capacities.

The presence of FDI enterprises can have a positive impact on the development of domestic firms. The operation of FDI enterprises in the processing and manufacturing industry has created pressure, forcing domestic enterprises to improve their competitiveness. Local firms are forced to innovate and adopt new technology to compete with foreign competitors. The increasing number of foreign firms also brings the chance of linkages between local firms and foreign partners. Via those linkages, local firms can receive support and technology transfer from partners to upgrade their technology and production capacities.

Also, foreign investment can positively affect the social development of the host country. The FDI sector creates many vacancies in the job market, improving people's income and boosting the quality of life in Vietnam. The quality of

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education and health care has been improved thanks to the improvement of per capita income.

The Vietnam government has many preferential policies to become an interesting destination for foreign investors and use FDI inflows as a tool for economic development. Firstly, Vietnam maintains a stable political and security system, creating a foundation for long-term investment activities. Second, Vietnam has geographical advantages favorable for trade, being both a regional connection center and a gateway to penetrate economies in the western region of the Indochinese Peninsula.

Third, Vietnam has the advantage of a large and abundant labor scale with cheap labor costs. In addition, Vietnam's active participation in 12 new-generation free trade agreements and Vietnam's accession to the ASEAN Economic Community (AEC) create opportunities for investors to gain access to a large market with more than 600 million people. Moreover, in recent years, the Vietnamese government has constantly reformed the business environment, improving the institutional system and generating favorable conditions for business operations. Especially, the decision on appraisal and approval of FDI projects has been decentralized to localities since 2006, so the bureaucratic procedures are simplified, and FDI inflows into Vietnam have increased rapidly.

Even in 2022, after the Covid-19 pandemic, while many countries witnessed a decrease in the FDI inflows, Vietnam has still enjoyed a reverse trend in foreign capital inflows.
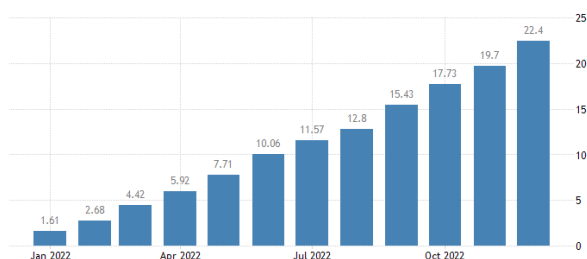
Source: Tradingeconomics.com

Foreign direct investment inflows into Vietnam in 2022 increased by 13.5% compared to 2021, to 22.4 billion USD, the largest in the last five years. The manufacturing sector received the largest investment (57.9% of total registered capital), followed by electricity, gas, hot water, steam, and air conditioning (16.9%) and real estate (16.1%). In terms of the number of new projects, the wholesale and retail sectors, the manufacturing and processing industries, and professional science and technology activities attracted the most, accounting for 30%, 25.1%, and 16.3% of total projects, respectively.

In 2022, there were 108 countries and territories investing in Vietnam. Singapore is the biggest investor, with a total investment of nearly 6.46 billion USD (accounting for 23.3%). South Korea ranked second with almost 4.88 billion USD. Japan ranked third with a total registered investment capital of more than 4.78 billion USD.

Foreign investors have invested in 54 provinces and cities across the country in 2022. Ho Chi Minh City is the most favorable destination, with a total registered investment capital of more than 3.94 billion USD, accounting for 14.2% of total investment and increased by 5.4% compared to the same period in 2021. The second most interesting destination is Binh Duong, with a total capital of more than 3.14 billion USD in 2022, increasing by 47.3% compared to the same period in 2021. Quang Ninh ranked third with a total registered investment of nearly 2.37 billion USD, more than two times higher than in the same period in 2021.

New projects in 2022 are mainly located in big cities with convenient infrastructure, such as Hanoi and Ho Chi Minh City. In particular, Ho Chi Minh City leads in the number of new projects and capital contributions.

2. Forecast of the trend of attracting foreign direct investment to Vietnam

The upward trend of foreign direct investment in Vietnam is forecasted to continue in 2023 and the upcoming years, thanks to Vietnam's unique advantages and the world economy's tendency.

Firstly, the trend of supply chain diversification after the Covid-19 pandemic brings opportunities to the Vietnam economy. The pandemic has made countries realize the risks of depending on a country's production. Therefore, investors tend to relocate production activities to other areas to minimize risks. Vietnam is considered one of their favorite options because the government has successfully controlled the pandemic and become one of the few countries with positive growth in recent years.

Second, Vietnam possesses the advantage of its geographical position and large population. At the center of the Asia-Pacific region, Vietnam has become an attractive destination when investors are looking for the location of manufacturing plants. Vietnam, thus, has been a bright spot for replacing the position of China in the supply chain. Additionally, with the large population, the labor price in Vietnam is comparatively low, being a competitive advantage of Vietnam.

Third, Vietnam has actively participated in free agreements with other countries. This helps Vietnam access and diversify input and output markets while the epidemic is still complicated. Since January 2020, Vietnam has joined 16 bilateral and multilateral free trade agreements (FTAs) in many fields, including trade in goods and services, foreign investment, and intellectual property. These agreements have created a favorable premise for Vietnam to quickly access various markets to replace the Chinese market interrupted by the spread of the disease. The Vietnam government has also implemented positive changes in FDI attraction policies, such as adding preferential regulations and special investment support for projects that greatly impact socio-economic development.

3. Policy recommendations for further improvements to attract foreign direct investment effectively

Although the FDI inflows of Vietnam are expected to increase in 2023 and the upcoming years, Vietnam is also facing many limitations and challenges, which require further measures to improve investment efficiency.

Firstly, it is necessary to have policies to develop infrastructure and improve the quality of human resources. The country needs to upgrade infrastructure such as transportation systems, airports, and ports to create a favorable environment for business operations. In addition, infrastructure for digital technology also needs to be invested in and developed to catch up with the trend of digitizing many stages in the economy's activities. A bright spot during the epidemic period is the promotion of digitization in many activities of the economy and life. Businesses are expanding the use of digitalization in purchasing and reaching consumers. Digitization shows many

advantages and can become mainstream even after the epidemic ends. Therefore, to create favorable conditions, the government needs a mechanism to build digital infrastructure to catch up with this trend. Governments also need to play an important role in helping businesses adapt to new business models.

Second, the government should have appropriate policies to reduce dependence on foreign countries. The government should have policies to encourage research and development (R&D)to help Vietnam enterprises adopt new technologies and new production methods. The policies for developing supporting industries to reduce dependence on imported raw materials are also crucial for the development of Vietnam firms. Vietnam's participation in the global value chain is still low because our products' accumulated value is mainly raw materials and cheap labor. Therefore, it is necessary to strengthen the application of science and technology, promote research and development, and upgrade human capital to contribute more to the global value chain.

Third, focusing on attracting high-quality FDI inflows and high-tech projects is necessary. To make FDI become a long-term driving force for economic development, and encourage positive technological spillover effect from the FDI sector to domestic enterprises, FDI attraction policies should focus on quality, not quantity. It is necessary to create favorable conditions to attract the high-tech project to avoid adverse impacts on the environment and long-term growth.

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VIETNAM VIRTUAL BANKING LANDSCAPE AND THE WAY FORWARD

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Abstract: *The Covid-19 pandemic acted as a catalyst for the booming number of digital banks in Southeast Asia, especially in Vietnam. In the fierce digitalisation competition among traditional banks, the emergence of several virtual banks is a breath of fresh air. While there is limited research on the Vietnamese virtual banking landscape, this paper aims to shed more light on this concept of bank without-branch as well as its immense potential in addressing a burning issue - financial inclusion. To validate the research goals, the authors applied secondary research through the process of collecting, verifying, and analysing data on Vietnam's inclusive finance status and digitalisation outlook. Results demonstrate a stronger position of virtual banks in the overall picture of Vietnam's banking digitalisation. This strength is built up from the cost efficiency of the business model, expertise in leveraging customer data, and a distinctive product portfolio in comparison with traditional players. Furthermore, virtual banks are becoming increasingly significant in advancing financial inclusion, and it is suggested that Vietnam should take account of a separate license-issuing process for this concept that encourages different types of companies to incorporate and escalate the positive impacts.*

Tóm tắt: Đại dịch Covid-19 là chất xúc tác cho sự bùng nổ số lượng ngân hàng số tại khu vực Đông Nam Á, đặc biệt là ở Việt Nam. Trong cuộc đua số hóa khốc liệt giữa các ngân hàng truyền thống hiện nay, sự xuất hiện của một số ngân hàng ảo được xem như một luồng gió mới. Trong khi số lượng nghiên cứu về bối cảnh ngân hàng ảo ở Việt Nam còn hạn chế, bài viết này giúp làm sáng tỏ hơn về khái niệm này cũng như khả năng áp dụng ngân hàng ảo trong việc giải quyết vấn đề tài chính toàn diện. Thông qua quá trình thu thập, xác minh và phân tích dữ liệu thứ cấp về hiện trạng tài chính toàn diện cũng như triển vọng số hóa ngân hàng, kết quả nghiên cứu cho thấy vị thế ngày càng vững chắc hơn của nhóm ngân hàng ảo trong bức tranh tổng thể của ngành ngân hàng Việt Nam. Điều này đến từ hiệu quả chi phí của mô hình kinh doanh, chuyên môn trong việc tận dụng dữ liệu khách hàng và danh mục sản phẩm khác biệt so với những ngân hàng truyền thống. Hơn nữa, trong khi ngân hàng ảo đang dần đóng vai trò quan trọng hơn trong việc thúc đẩy tài chính toàn diện, Việt Nam nên cân nhắc áp dụng quy trình cấp giấy phép riêng biệt cho mô hình này, qua đó khuyến khích các loại hình công ty khác nhau cùng tham gia và đẩy nhanh tác động tích cực mà nó mang lại.

• Từ khóa: *ngân hàng số, chuyển đổi số, tài chính toàn diện, doanh nghiệp nhỏ và vừa.*

1. Introduction

The outbreak of the global pandemic has accelerated the digital penetration in every aspect of life. It has driven the race in digital banking with the number of digital banks has grown by 190% since 2015 (Choi et al., 2020). While Southeast Asian has been seen as a fertile ground for this banking revolution, Vietnam is said to be late for the party. Nevertheless, the race in banking digitalisation has never been more intense and has really brought positive benefits to customers and the banking system with the gradual emergence of some virtual banks.

This paper is going to provide more detail regarding the current development of digitalisation and virtual banking in Vietnam. It also addresses the issue in financial inclusion in Vietnam and suggests

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that this development trend in the banking industry can be a strong tool in tackling some untouched issues regarding financial inclusion.

2. Financial inclusion - the pain point of Vietnam

2.1. Top unbanked population

Despite high level of economic growth in the past two decades, Vietnam is one of the top unbanked countries. According to the World Bank's Global Findex Database (2017), a large majority of Vietnamese - 69% of adult population do not have a bank account. This figure has not change since 2014. Similar result is found by a more recent study of British research platform Merchant Machine (2021), Vietnam ranked 2nd in the proportion of unbanked population (69%), just after Morocco (71%) (Ventura, 2021).

Graph 1. Vietnam high level of unbanked population
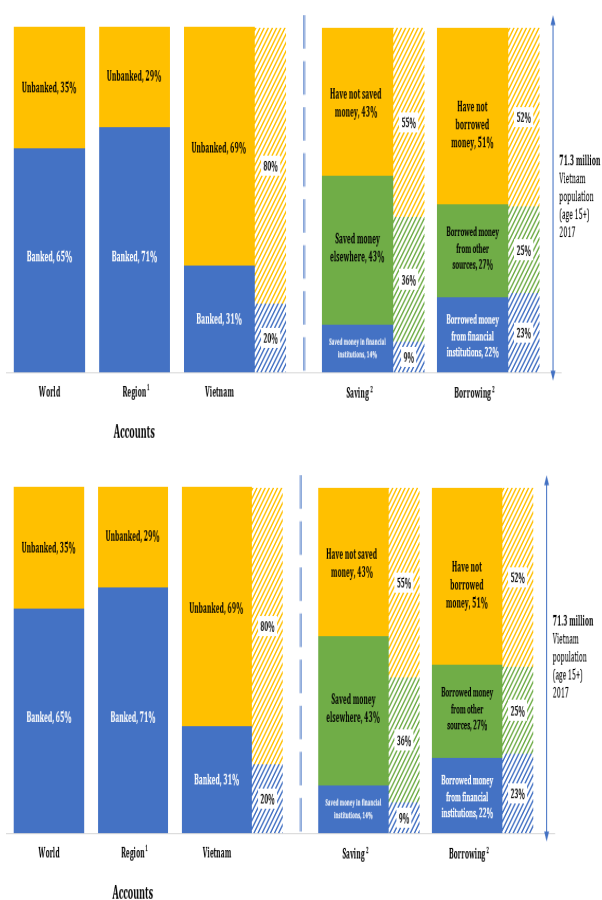
[1] *East Asia & Pacific*   [2] *Over past 12 months*

Source: Global Findex Database

Among those having accounts at financial institutions, only half of them saved money and two thirds borrowed money from financial institutions (Graph 1), while 43% of them chose to save money outside the formal sector - tripled the amount saved in financial institutions. People reported some difficulties in accessing financial services including they are too far, too expensive to use, the complicated documentation requirements, and lack of trust in the financial sector.

Research pointed out some individual's characteristics including income, education, gender, and age affect financial inclusion in Vietnam (Tran et al., 2019). Evidently, there is a significant gap between the poor and the rich in accessing finance (Graph 1, diagonal stripes). This gap is found to be larger in countries with low overall account ownership such as Vietnam (around 20 percentage points compared to global gap of 13 percentage points) (Demirguc-Kunt et al., 2018).

Another possible underlying reason is the custom of using cash of Vietnamese. The Government's effort in boosting cashless payments[1] together with the influence of the pandemic on people's payment preference resulted in a significant shift to cashless payments. The National Payment Corporation of Vietnam reported that around 1.86 billion cashless payment transactions worth VND23.6 quadrillion were made in 2021, rising by 169% and 164%, respectively, compared to 2020 and 2019. Nevertheless, Vietnam is still a cash-loving nation, and it might witness the bounce back of cash payments as life returns to normal.

People in rural areas (approximately two thirds of the total population live working in agriculture) also have less access to formal financial services. The Global Findex Database (2017) also revealed that 94% of received payments for agricultural products were made in cash only. The same result was found for the percentage of adult population made utilities payments in cash. People also made payments in cash in delivery for internet orders. This is quite a common practice not only in Vietnam (80% of internet orders) but also in

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[1] *The Government has been implementing several projects to develop cashless payments, and digitalisation since 2006.*

other developing countries except China (53% of internet orders on average). Government payment is another area can be improved with most of government payments to people (transfer and pension) were still made in cash (more than 60%), while other developing countries have their government payments primarily into accounts (Demirguc-Kunt et al., 2018).

2.2. Challenges in accessing finance of SMEs

Accessing to finance has always been the biggest obstacle for Vietnamese firms as reported by 22% of surveyed firms (TheWorldBank, 2015). Only about 56% of the firms have a bank account, and fewer have bank loan or line of credit. Majority of the loans required firms to provide collateral that worthen more than 200% of the loan amount. These requirements were stricter for SMEs (Table 1).

Table 1. Firms struggle in accessing bank loan

	Percent of firms with bank account	Percent of firms with bank loan/ line of credit	Percent of firms using banks to finance investment	Percent of loans requiring collateral	Value of collateral needed for a loan (% of the loan amount)
World	87,6	33	25,5	75	197
East Asia & Pacific	76,1	28,7	21,9	85	247
Vietnam	55,8	40,8	29,3	91	216
Vietnam SMEs	55,2	43,1	27,8	92	218

Source: The World Bank Enterprise Surveys

In fact, the actual percentage of firms having bank loan is much lower compared to the results of the World Bank sample. There are about 860,000 enterprises in Vietnam at the end of 2021(GSO, 2021), with 97% of them are SMEs. Among those, only nearly 160,000 SMEs having bank loan which account for about only 19% of the total SMEs (SBV, 2021).

The reasons of firms, especially SMEs to have this difficulty in Vietnam are similar to many other countries. First, as shown in Table 1, banks still follow the traditional pathway of secured lending - typical large and collateralised loans which are more suitable for large businesses, while SMEs normally have limited financial capacity, inadequate corporate governance, lack of viable business plans, collateral, in

transparent data, etc. Although banks have been trying to focus on serving SMEs, no winner has been identified owning to their traditional business model (Kumar et al., 2022). Second, banks in Vietnam are required to fulfil the Basel II requirements by the end of this year, which is another layer of pressure for banks to lend risky SMEs.

3. Overview of banking sector in Vietnam

Vietnam's banking industry consists of six different groups: (i) 7 state-owned commercial banks; (ii) 28 joint-stock commercial banks; (iii) 60 foreign banks/bank branches; (iv) 2 joint-venture banks; (v) 1 cooperative bank, and (vi) 2 policy banks, which make a total of 100 banks and foreign bank branches. Their total assets in 2021 was more than 15.200 trillion VND (around 641 billion USD). Among those, the four biggest banks[2] account for nearly 38% of the system total assets (SBV, 2020).

Graph 2. Banks asset by types
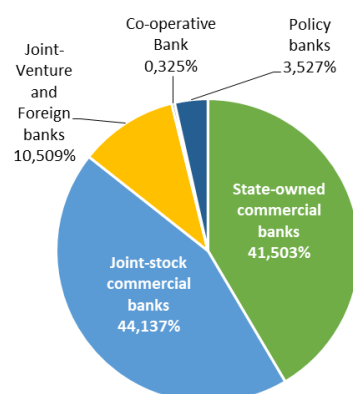
Source: SBV

Although it can be said that the banking system in Vietnam started to be formed since 1951 with the formation of The State Bank of Vietnam (formally the National Bank of Vietnam), the young and immature system only really started since 1986 when the transformation from mono to two-tier banking system took place, with the State Bank of Vietnam (SBV) as the central bank (tier 1) and four specialized state-owned banks separated from the SBV(SBV, n.a.), and the gradual establishment of other private commercial banks and foreign banks (tier 2).

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[2] *Vietinbank, BIDV, Vietcombank and Agribank.*

Being less than 30 years old, joint-stock commercial banks are relatively young but have been growing fast with total assets account for 43.5% of the system in 2020. The number of foreign bank branches has also been growing fast from 18 banks in 1995 to 60 banks in 2021. However, their assets, loans and deposits are very small compared to the others (Nguyen et al., 2018).

4. The digitalisation landscapes

4.1. Trends in digitalisation

The race in banking digitalisation has never been more intense in Vietnam and has really brought positive benefits to customers and the banking system, with rapid growth in the amount and value of internet and mobile transactions.

Digitalisation in Vietnam is developing through two main approaches. First, conventional banks digitalise their banking activities and services. This involves the transformation of business segments, internal processes, and front-end channels. Second, banks create a new business unit (subsidiary) or in partnership with other non-bank organisations to operate as stand-alone virtual banks with incumbent banks' license.

In fact, banks focus more on promoting the digitisation of traditional banking services and products instead of aiming to become a completely virtual bank. For the digitisation process to take place quickly and effectively, certain conditions are required: a change in mind set, infrastructure, finance, and human resources. Banks are aware of the importance of applying science and technology in banking activities and are promoting the invitation of technology talents combined with strong investment in information technology infrastructure to meet the necessary and sufficient conditions in the challenging race to digitise the banking industry. The investment capital for technology in the banking industry is constantly increasing. Almost every bank has deployed internet banking, mobile banking, QR Code payment services. These cashless transactions have witnessed sharp increases over the recent years. At the end of 2021, there are more than 2 billion mobile transactions in Vietnam that worth about USD 998 billion in value (increases by 17% and 88% respectively

compared to the previous year). The same story can be found in the case of Internet banking transaction, card transaction and POS terminals (Graph 3). Only the amount and value of ATM transaction decrease, which is sensible with the current trend in digitalisation. Next sections will point out in more detail some main features of the digital banking landscape in Vietnam.

Graph 3. Some results of digitalisation in the baking system
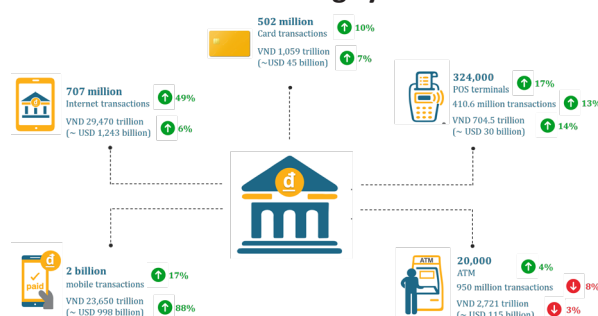
Source: SBV website

4.2. Digitalisation and virtual banking landscape

Compared to some other Southeast Asian countries like the Philippines, Singapore, Indonesia, and Malaysia, Vietnam is considered late in digital banking[3]. The digitalisation of the system is at the beginning stage with the majority of banks follow the first approach in digital transformation. Banks started to consider the development of a digital banking model as a goal in their business strategy rather than simply an information technology project. 39% of banks have developed their digital transformation strategy and 42% are developing one[4]. To implement their strategies, banks mostly chose to set up digital hubs or sandbox, a smaller number launched R&D labs or endowment funds for fintech and start-up companies. However, on average, there is only about 15% of the banks have launched those initiatives. Others are planning to implement them in the future (Le et al., 2021).

Technology is at the heart of this transformation. Banks have been focusing on investment to upgrade their core banking and applying new technologies in their operations and banking services. Most of them reported

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[3] *Digital banks in Vietnam: better late than never*
[4] *The results of an SBV survey of 62 banks and foreign bank branches.*

high readiness for new technologies, technical solutions in business activities and providing products and services to improve operational efficiency and increase customer experience.

Graph 4. Banks' technology implementation readiness
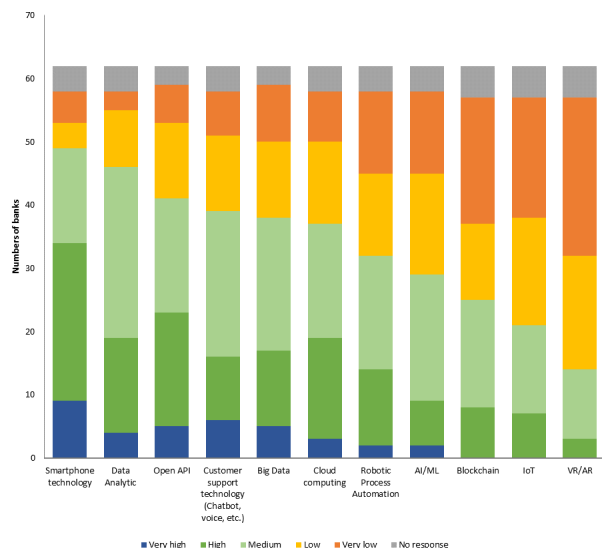
Source: Le et al. (2021)

About 65% of banks have medium or higher readiness to deploy for the following technologies: Mobile technology, Data Analytic, and Open API. Data Analytic is the most widely applied technology, followed by Big Data which is commonly used in risk management, payment services, deposit, etc. Some banks started to use Cloud computing in HRM, personal lending, internal control, etc. On the other hand, three most challenging technologies for the industry include: Virtual reality technology (about 69.4% of banks have low readiness), Internet of Things (I.o.T) (58.0%), and Blockchain (51.6%) (Graph 4).

Hong Kong Monetary Authority has also conducted a survey regarding the adoption and innovation in the Hong Kong Banking industry in 2020. They asked whether the banks have applied or plan to apply to a limited or full extent some technologies/innovations. For retail banks, 100% of them has applied or plan to apply Mobile bank and Open API, 94% forCloud, 89% for machine learning, 83% for Robotic, and 72% for DLT (HKIMR,

2020). These numbers are quite high compared to the percentage of readiness (medium and higher) of Vietnam banks as shown in Graph 4. However, they seem to follow a similar pattern regarding the popularity level of different types of technology.

Some main players and their products and services are summarized in Table 2. Vietinbank, BIDV, and Vietcombank are state-owned joint stock banks with top market shares in terms of total asset. The other three banks are private owned. These big banks withmore abundant resources have been leading the digitalisation race in Vietnam.

In recent years, banks have strived to reduce branch's cost and workload by installing new machines with more functions such as cash depositing. TPBank differentiated itself by launching LiveBank- a video telling machine that operates 24/7 with a wider range of services that customers can perform with their biometric identification including opening bank account, cash withdrawal and deposit, instantly issuing debit card, etc.

Besides, most banks are on the way to digitise their products and services, especially after the SBV allow banks to apply e-KYC in opening payment accounts[5]. Adopting technological solutions, some basic features are now can be performed 100% online such as open a bank account, money transfer, term deposit, saving, and utility payments. Banks also widen their partnerships with other parts of customers' lifestyle and incorporate them into their mobile apps including telecom, transportation, entertainment, education, logistic, insurance, etc. to improve customers' experience.

Some banks offer overdraft, credit card or consumer loan on their app, however, it is only for customers who receive salary at the bank. Otherwise, it is merely an online application for the loan. The following process including loan consulting, customer's information collection and credit evaluation are still performed by bankers and customers might still have to come to a bank branch.

[5] *Circular No. 16/2020/TT-NHNN.*

Table 2

	Cash deposit machine	Payment	Term Deposit	Saving	Secured loan[1]	Unsecured loan[1]	Wealth	Insurance	Investment	Others
Incumbent banks										
VietinBank	√	√	√	√	√			√		Utilities, Forex, delivery, e-commerce, insurance, transportation, entertainment
BIDV	√	√	√	√	√			√		Utilities, Forex, Insurance, transportation, entertainment, hospitality
VietcomBank	√	√	√	√	√			√		Utilities, education, hospital fee, logistic, transportation, insurance, entertainment, e-commerce, hospitality
Techcombank	√	√	√	√	√	√	√	√	√	Utilities
TPBank	√	√	√	√	√	√		√		Utilities, LiveBank, chatbot, voice assistant, insurance, transportation, end-to-end travel solution, entertainment, education, transportation, e-wallet
VPBank	√	√	√	√		√				Utilities, chatbot
Virtual banks										
Timo		√	√	√	√	√	√	√	√	Utilities, Hangout offices, insurance
Cake	√[2]	√	√	√[3]		√		√	√	Utilities, education, insurance, transportation
Übank	√[2]	√		√[3]		√				Utilities
TNEX		√				√[4]	√	√		Group funds, chat with TNEX users, health tracking, e-commerce[3], insurance

[1] Including overdraft, credit card, other loans

[2] Using VPBank's cash deposit machine

[3] Special payment account with 3.6% interest per annual

[4] In developing stage

Source: Bank websites and mobile apps

There has not been a separate license regime for virtual banks in Vietnam. Therefore, virtual banks are either a unit under incumbent banks or in partnership with them and operate with incumbent banks' license. Currently, there are four virtual banks in Vietnam with different ownership structure as shown in Table 3. Timo was the first one launched in 2016 using VPBank's license then changed to Viet Capital Bank in 2019. Its main fundings comes from venture capitals namely Jungle Ventures, Square Peg, and Granite Oak, which is a bit different from the other three banks. At the end of 2021, it has secured additional USD 20 million fresh funding led by Square Peg. Later, Cake and Übank are respectively developed and launched by VPBank, while MSB developed TNEX.

These virtual banks do not have branches, however, Timo opened 5 Timo Hangouts through of the countries[6] operating like a café for customers to come to study or work like normal coffee shops or to be answered with any enquires about Timo. In addition, customers also can open bank account, credit card, cash deposit and withdraw at Timo Hangouts. In the case of Cake and Übank, since they are developed by VPBank, customers can come to VPBank's branches for transactions that cannot be performed online such as cash deposit.

Virtual bank	Launch	License	Funding			
			Incumbent bank	Venture capital	Technology company	Other
timo	2016	2016-2019 VPBank / 2019 - now Viet Capital Bank	√	√		√
CAKE	2021	VPBank	√		√	
Übank	2022	VPBank	√			
TNEX	2020	MSB	√			

Source: Company websites

These virtual banks offer some basic banking services such as payment, deposit, saving (except for TNEX) and are gradually expanding to loan provision including overdraft, credit card, and consumer loans (see Table 2). They focus more on young and low-income retail customers, much

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[6] Ho Chi Minh City: 2; Hanoi: 1; Da Nang: 1; Can Tho: 1.

limited compared to incumbent banks. Timo targets customer from 18 to 35 years old, only 10% of the current customers are older than 35. Similarly, TNEX targets Gen Z customers who born from 1995 to 2010 - the first generation of true digital natives (Francis & Hoefel, 2018). These young people are either students or newly join the labour force, which means they also do not have much money to spare but very familiar with digital world. Cake and Übank focus more on low-income group.

Therefore, their products and services are tailored to be suitable with their targeted segment. For example, Cake is the product of the partnership between VPBank and Be Group - a technology company providing a ride-hailing app in Vietnam. The partnership with VPBank is part of Be Group's effort in opening an ecosystem including transport services, payments and other services for its customers and drivers. Hence, it provides personal loans only to Be drivers with a maximum amount of VND 5 million (about USD 200) in maximum tenor of 2 years. The loan application can be processed and accepted within 2 minutes by using technology solutions and data provided by Be. Übank also offers overdraft to customers who receive salary at Übank with a maximum amount of VND 10 million (about USD 400), credit assessment might take up to few hours. These customer groups are rather limited; however, it is sensible with the current capacity regarding data and data analysis of these virtual banks.

Besides providing no fee payment and transfer services, Cake and Übank offer a special type of payment account that automatically creates and transfer your money to many small saving accounts paying 3.6% annual interest, thus, customers can still enjoy the flexibility in payment when needed and do not lose interest of the rest of their money. At the very beginning stage of development, they are accumulating customer data, and constantly recalibrating and improving their products and services. Cake recently launches Cake credit card with the card limit (ranges from VND 5 million - 100 million) will be automatically provided on the app based on customers' credit history, age, income, etc. However, customers who Cake has not have enough information will not have access

to this product. Similarly, TNEX also has plan to expand to loan provision.

They also provide products such as wealth management (eg. budget management, group fund) for people to have better control of their limited financial resource, or investment in fund certificate starts with very small amount as VND10.000 (about 50 cent), which have not been served by incumbent banks. TNEX offers other services relating to consumer's lifestyle like health tracking or e-commerce - a platform within the banking app. However, they are still at the very beginning of the development with just a few merchants registered and customers are not able to buy anything yet.

In comparison with other Asian virtual banks, Vietnam virtual banks basically have been able to provide a similar range of products and services, however, with more limited customer base which have not include SMEs, technological solutions, etc. as they are very new to the market.

5. The role of virtual banking and the way forward

As we have seen, the virtual banks in Vietnam have been developing in the way to differentiate themselves with the conventional banks in several aspects. First, they do not have a system of bank branches, which is a big cut in operation cost. Together with the support of technology, they can provide essential banking services without fees and target low-income customers with modest loan demands. Second, leveraging the user information, these banks' credit assessment is much faster even though to very limited customer base at the moment. However, this indicates the potential of expanding in the future with the gradually building up of data from multiple sources other than traditional structured data. Third, participating the race of digitalisation, virtual banks also reach to other parts of customer lifestyle and are able to provide services such as budgeting tools, managing the spending limits and micro-investing, which have not been touched by conventional banks.

Although significant effort and progress have been made[7], financial inclusion is still a pain point of Vietnam and still has much room for

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[7] *In 2020, the government has established the National Steering Committee for Financial Inclusion and issued the National Strategy for Financial Inclusion until 2025 with a vision to 2030.*

improvement. The digitalisation of the banking system would have a vital role in improving the situation, as can be seen in the ease of open bank accounts owing to technology solutions as well as the rapid growth of internet and mobile transactions in recent years. However, some areas still stay untouched and can be addressed by virtual banks. For example, serving the under served like low-income customers or SMEs who normally have modest demands and face difficulties in accessing credit because of insufficient credit information and collaterals like WeBank - China's first virtual banks since 2014. WeBank focuses on the underserved who had limited credit history and gradually expanded to SME loans with smaller loan size and interest income compared to conventional banks. It has been able to do that by leveraging technology for cost reduction and utilise the information capital to by pass the need for tangible collateral. A wide range of data has been used namely credit, judicial and business registration bureaus as inputs for a quantitative risk assessment model to evaluate borrowers' credit worthiness (Chen et al., 2022).

Thus, with an eye on financial inclusion, Vietnam should consider issuing a separate license for virtual banks that allow other types of company to join, especially fintech firms who can leverage their strong technology capacity and customer data to offer a variety of products and services. The license should require the new players to focus on inclusion like in the case of Hong Kong as well as promote the expansion of their business to serve SMEs.

In addition, together with the pace of technology development, the digital infrastructure needs to catch up to ensure a smooth development. Fortunately, Vietnam digital infrastructure has been growing fast. By March 2022, Vietnam had 91.5 million smartphone subscribers. It is estimated that the percentage of adults using smartphone is about 73.5% according to the Ministry of Information and Communication (Thong tan xa Vietnam, 2022). The goal is raising to this figure to 85% at the end of 2022. The rate of internet users reaches 70.3% of the population. The internet has become an essential need of people, a foundation for the development of the digital economy and digital society. In addition,

Vietnam's internet costs are among the cheapest countries in the world (ranked 8th according to Broadband Choices) (Clifford, 2021). Internet users only have to pay USD 11.5 per month on average to use the network (Ha, 2022). These are very favourable factors for the development of virtual banks in Vietnam.

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FACTORS AFFECTING CUSTOMER SATISFACTION IN BUSINESS E-COMMERCE: A CASE OF DLS CO., LTD IN VIETNAM

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Abstract: *This study was conducted with the main purpose of improving customer satisfaction when shopping online for DLS Co., Ltd. products and proposing solutions to improve customer satisfaction.*

The theoretical framework is based on customer satisfaction, the quality of products and services, and from this researcher evaluates the impact of the quality of products and services of DLS Co., Ltd. on the satisfaction level of customers based on six factors: Product, Service, Network System, Payment, Privacy Protection, Website Characteristics.

Findings from the results of data analysis show the positive effects of six independent variables including Product, Service, Network System, Payment, Privacy Protection, and Website Characteristics. This is proved by all six accepted hypotheses. Later, this study proposed major solutions to enhance customer satisfaction when shopping at the website of DLS Co., Ltd.

• Keywords: *e-commerce; customer satisfaction.*

Tóm tắt: *Nghiên cứu này được thực hiện với mục đích chính là nâng cao sự hài lòng của khách hàng khi mua sắm trực tuyến các sản phẩm của Công ty TNHH DLS và đề xuất các giải pháp nhằm nâng cao sự hài lòng của khách hàng.*

Khung lý thuyết dựa trên sự hài lòng của khách hàng, chất lượng sản phẩm và dịch vụ, từ đó nhà nghiên cứu đánh giá tác động của chất lượng sản phẩm và dịch vụ của Công ty TNHH DLS đến mức độ hài lòng của khách hàng dựa trên 6 yếu tố: Sản phẩm, Dịch vụ, Hệ thống mạng, Thanh toán, Bảo vệ quyền riêng tư, Đặc điểm trang web.

Phát hiện từ kết quả phân tích dữ liệu cho thấy tác động tích cực của sáu biến độc lập bao gồm: Sản phẩm, Dịch vụ, Hệ thống mạng, Thanh toán, Bảo vệ quyền riêng tư và Đặc điểm trang web. Điều này được chứng minh bởi tất cả sáu giả thuyết được chấp nhận. Sau đó, nghiên cứu này đề xuất các giải pháp chủ yếu nhằm nâng cao sự hài lòng của khách hàng khi mua sắm tại website của Công ty TNHH DLS.

• Từ khóa: *thương mại điện tử; sự hài lòng của khách hàng.*

1. Introduction

With the rapid and strong development of e-commerce, new forms of business have emerged and opened up opportunities to make money for everyone in the online environment, one of which is Print on demand (POD). POD is an e-commerce business model that allows enterprises to print products according to the design and number of customers required. POD products are very diverse, such as t-shirts, hoodies, blankets, porcelain mugs, canvas paintings, hats, and leggings,... With POD, enterprises will not have to worry about inventory management issues and shipping methods. Instead, the company contracts with a third party, who will be responsible for manufacturing, printing, and shipping the finished product to customers. Enterprises will only have to focus on design and marketing. Suppliers will also only undertake production work orders from companies.

In Vietnam, Print On Demand is still in the primary stage of development. Most POD

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enterprises in Vietnam are small and medium-sized businesses that are still very young. DLS Co., Ltd is also one of them. The company has just been established for 4 years, selling POD products for Europe and the American market. The company's main products are home appliances, clothes, accessories... things that will be printed with creative patterns on them. The prints will be selected by customers themselves from the available art inventory for each product. Customers are free to choose colors, and product textures, and write the names of themselves and their loved ones to print on these products. These products are suitable for daily use as well as for souvenirs, and gifts for relatives and friends.

2. Literature review

2.1. Customer satisfaction

In theory, customer satisfaction is not just about the attitude of a service provider (Levesque and McDougall, 1996), but it also reflects a customer's positive feelings about a service (Cronin et al., 2000). Dwyer et al. (1987); Ganesan (1994) and other researchers claim that customer satisfaction is an important indicator of successful relationship management as well as a future-oriented indicator of corporate profits (Fornell, 1992) whereas according to Anderson et al. (1994), the more basic indicator of the company's past, present, and future performance is cumulative satisfaction. Wirtz and Bateson (1999) stated that customer satisfaction is the reaction of customer reviews to the services provided by the supplier. Davis and Heineke (1998) and Woodruff et al. (1991) said that customer satisfaction can be described by the "confirmation/disconfirmation" paradigm. According to Oliver (1980), based on the expectation-disconfirmation paradigm, satisfaction can be cognitive or according to Liljander and Strandvik (1997), based on the emotional response to consumer experience, satisfaction can be affected. Westbrook (1987), Westbrook and Oliver (1991), and Mano and Oliver (1993) said that customer satisfaction includes not only cognitive components but also an affective component that customer satisfaction or dissatisfaction is a "cognitive or affective reaction" about the service (Rust and Oliver, 1994) and from both cognitive and affective models, satisfaction can be explained. Giese and Cote (2000) believed that satisfaction is an affective response, coming from a cognitive judgment.

2.2. Business E-Commerce

During the World E-Commerce Conference held in Paris, France on November 6, 1997, the concept of e-commerce was introduced: "E-commerce refers to the realization of electronic trade. The coverage area can be defined as parties to the transaction by electronic means rather than through direct face-to-face exchange or conducted interviews of any form of commercial transactions; from the technical aspects can be defined as a collection of multi-technology, including the exchange of data (such as electronic data, e-mail), access to data (shared databases, electronic bulletin boards), and automatically capture Data (bar codes), etc...". This commerce broadens the scope for supplying services in at least two ways: First, it provides a medium for SMEs service suppliers that cannot afford to join proprietary electronic networks to provide their services to distant consumers - a distinct advantage for SMEs in developing countries; second, because of the greater capacity and speed of electronic networks in carrying 'rich data,' the internet provides a medium through which some services can be supplied at a distance in comparison with what is possible using the telephone (advice), and postal and fax services (printed documents).

2.3. The factors influencing the E-Commerce Customer Satisfaction

Singh (2002) underlined the importance of e-services to the B2C e-commerce business. According to the author, this relationship has a positive impact on sales and customer relationship management. The findings of this research concluded that services that the customers cherish include customer queries answering as fast as possible, search support, transactions and order placement ease, a convenient e-pay system, transparent and efficient e-transaction record, and trust

by e-assurance. Chen and Dubinsky (2003) analyzed that one of the key factors that affect B2C e-commerce is the information quality on the website. Customers always want better and better detailed and importantly true information about the products being displayed on the websites and therefore the information provided by the B2C organization plays a critical role in customer satisfaction. Another factor related to this is the comprehension ability of the information on the website. Gefen and Straub (2003) explained that customer trust is one of the critical factors that affect customer satisfaction. The authors explained trust as when a customer is doing a transaction with an organization; he/she will meet their expectations and will not indulge in any fraudulent or undesirable terms.

Shankar et al. (2003), set out to research whether there is a profound difference in the levels of customer satisfaction from online and offline purchases. They also investigated the customer loyalty differences between offline and online buying methods. The study found that there is no mark difference between the customer satisfaction levels between the online and offline buying method however the levels of loyalty shown by customers from online buying is greater than the offline buying customers. They also found out that the relationship between customer loyalty and satisfaction is reciprocal and each concept positively reinforces the other.

Jianchi and Xiaohong (2009) stated that there are five variables that positively affect customer satisfaction on an e-commerce basis. These variables were the design of the website, the service that they provide to the user, the information quality that the website has, and website intelligence and security. Eid (2011) researched thatconsumer loyalty in B2C e-commerce is strongly and positively influenced bycustomer satisfaction. However, customer loyalty is weakly influenced by consumer trust.

Brilliant and Achyar (2013) investigated that on a global level the sales of e-commerce

and this study also concluded that the quality of information on an e-commerce website affects e-commerce satisfaction and also that e-commerce trust affects consumer loyalty of the B2C e-commerce. According to Subramanian et al. (2014), higher customer satisfaction in e-commerce can bring substantial benefits, such as repeat purchases, good word of mouth, and profit increases.

Jie et al. (2015) studied product delivery service provider selection and customer satisfaction. According to the author's findings, substantive selective criteria should include consideration of product delivery service providers' hard and soft infrastructure. In addition, they emphasize that flexibility is the main criterion for strengthening the relationship between e-retailers and delivery service providers to satisfy the e-customers.

Based on the overall analysis of the above-mentioned studies, it can be seen that the factors needed when evaluating customer satisfaction in e-commerce are Product, Service, Network System, Payment, Privacy Protection, and Website Characteristics.

- Product Quality: The product that customers receive must meet customer expectations and be commensurate with the promises that the company has shown on the website.

- Service Quality: Customer care staff are ready to assist customers and provide fast safe service. Shipping service is fast, accurate, and sufficient for goods.

- Network System: Stable website system, convenient for customers to view information and place orders.

- Payment System: Diversified payment methods, quick and convenient payment for customers. Payment information is confidential.

- Privacy Protection: Trusted system, high security. Customers are guaranteed privacy and security.

- Website Characteristics: Nice and convenient web interface for customers to view information, purchase, and manage shopping carts.

2.4. Conceptual framework

Figure 1: Conceptual Framework
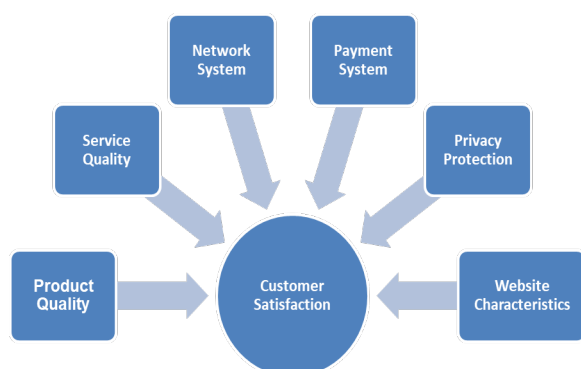
According to the conceptual framework above, six research hypotheses have been formulated by the researcher as follows:

H1: There is a positive impact of Product Quality on the e-commerce customer satisfaction of DLS Co., Ltd.

H2: There is a positive impact of Service Quality on the e-commerce customer satisfaction of DLS Co., Ltd.

H3: There is a positive impact of the Network System on the e-commerce customer satisfaction of DLS Co., Ltd.

H4: There is a positive impact of the Payment System on the e-commerce customer satisfaction of DLS Co., Ltd.

H5: There is a positive impact of Privacy Protection on the e-commerce customer satisfaction of DLS Co., Ltd.

H6: There is a positive impact of Website Characteristics on the e-commerce customer satisfaction of DLS Co., Ltd.

3. Analysis and discussion

3.1. Demographic information of respondents

In this study, the researcher uses descriptive statistics as the main means of research to analyze data about demographic information on loyalty. In this case, the dominant demographic information mentioned is gender, age, and income.

Primary data of this study were collected via an online survey. The questionnaire is enclosed with the email to confirm the order of the customers who have just purchased at the company's website. After 1 month, there are 319 customers answered the question. However, 12 responses were deleted due to incomplete completion of all the given questions. Therefore, the final sample that the researcher obtained was 307 respondents.

According to the responses received, out of 307 respondents, 65.8% of the respondents were female and 32.2% of the respondents were male, the remaining were of another gender. The age of respondents is divided into four main groups including those under 24, 25-44, 45-64, and 65 years of age or older. Of these, respondents aged 25-44 accounted for the largest proportion 61.2%. Among the responses received, the number of respondents with a monthly income of USD 5000-10000 accounted for the highest proportion with 44%.

3.2. Descriptive Analysis

Regarding the impact of the Product factor, a large number of respondents agreed that the design of the products sold on the DLS company's website was beautiful and unique. This is shown by the average of 3.73, and the most selected score is 4 points (Mean = 3.73, Mode = 4). The main reason for this is that the personalized product line is DLS's competitive advantage. The company invests a lot of manpower and brainpower to develop unique product lines that can be easily customized and bring a unique impression to each customer. Customers can easily select the products that match their interests, career, and custom to create their products, with their names printed.

Table 3.1. Descriptive Analysis of Product factor

	Mean	Mode	Minimum	Maximum	Standard Deviation
PRO1	3.66	4	1	5	.876
PRO2	3.33	3	1	5	.956
PRO3	3.64	4	1	5	.850
PRO4	3.73	4	1	5	.840

Besides, many respondents also agreed with the view that the products on the website are always available. They gave an average score of 3.66, and the most chosen score was 4 points (Mean = 3.66, Mode = 4). Achieving this result is an effort of DLS company as the company has tried to find and cooperate with suppliers in many countries around the world. The company has also foreseen the purchasing capacity of customers in different countries to inform suppliers, helping suppliers always prepare enough embryos and raw materials to produce fully and promptly.

As for whether or not the product received meets customer expectations, most customers feel that the product they receive is quite similar to what they expect when ordering. This is shown by the average score of the "Products received ere as expected" clause, which is 3.64 and the most chosen score is 4 (Mean = 3.64, Mode = 4).

The last category, which scores the lowest among product factors, is the "Products are unique in design and type" clause. This shows that customers are still not satisfied with the diversity of DLS products. Customers need more product lines and more design styles.

In general, it can be seen that the respondents are quite satisfied with the elements of DLS Products, although there are still some respondents does not satisfy.

Concerning the impact of the Service element, a large number of respondents agreed that the DLS company's response time to customer messages and questions was very short and quick. This is shown by an average of 3.99 and a maximum of 4 points (Mean = 3.99, Mode = 4). The attitudes of the service staff were also evaluated quite well by the responders, with an average score of 3.97 and the most selected score being 4 points (Mean = 3.97, Mode = 4). Although there are still some unsatisfied respondents, this is a pretty good result. To achieve this result, the company has put a lot of effort into training and motivating customer care staff. Thanks to that, the employees have a sense of responsibility to answer customers quickly with the best attitude.

Table 3.2. Descriptive Analysis of Service factor

	Mean	Mode	Minimum	Maximum	Standard Deviation
SER1	3.49	4	1	5	.883
SER2	3.46	3	1	5	.893
SER3	3.99	4	1	5	.802
SER4	3.97	4	1	5	.876
SER5	3.51	4	1	5	.944
SER6	3.45	4	1	5	.878

However, the evaluation score of service information is not high, reaching an average of 3.49 and the most selected score is 4 points. The reason is that the customer service staff sometimes do not understand the problem of the customer, so providing the information is not specific enough to satisfy the customer.

On the other hand, the diversity of communication channels with customers is not yet appreciated. This is shown by the average score of 3.46 and the highest score selected by the respondents is 3 (Mean = 3.46, Mode = 3). The reason is that the company has only applied two basic methods of communication: Facebook Messenger and email. This also causes restrictions for customers who want to ask about the product and also reduces the level of customer satisfaction about the purchase process on the company's website.

Besides, the factors that are also assessed by respondents are quite good about transport services. Customers' orders are often evaluated as being shipped quickly and on time, but there are still errors in the shipping process that damage the product. Therefore, customers rated the "Delivery service is done accurately and on time" with an average of 3.51, the most selected score was 4 points (Mean = 3.51, Mode = 4); The phrase "Products are delivered fully and intact" is rated with an average of 3.45, the most chosen score is 4 points (Mean = 3.45, Mode = 4).

Regarding the impact of the Network System element, a large number of respondents agreed that their purchase process was smooth and easy,

without any technical problems when making a purchase or payment. This is reflected in the results of the survey, with an average of 3.67 and the most selected score of 4 (Mean = 3.67, Mode = 4).

Table 3.3. Descriptive Analysis of Network System factor

	Mean	Mode	Minimum	Maximum	Standard Deviation
NET1	3.29	3	1	5	.918
NET2	3.56	4	2	5	.625
NET3	3.67	4	1	5	.854

However, the accessibility and security of the website are not really appreciated by the respondents. They gave the average score of the "The website is well accessible" clause is 3.29, with the most chosen score being 4 (Mean = 3.29, Mode = 4); and the average of the "The website is highly secure" clause is 3.56, the most chosen score is 4 points (Mean = 3.56, Mode = 4).

Regarding the impact of Payment, many respondents said that the payment method of the company was not diverse and the payment information was not well protected. This is shown by the average score of 3.27 for the "Payment methods are unique" clause, with the most selected score being 3 points (Mean = 3.27, Mode = 3). Similarly, for the "Payment information is well secured" clause, the respondents also gave an average of 3.22, and the most selected score was 3 points (Mean = 3.22, Mode = 3).

Table 3.4. Descriptive Analysis of Payment factor

	Mean	Mode	Minimum	Maximum	Standard Deviation
PAY1	3.27	3	1	5	.933
PAY2	3.70	4	1	5	.821
PAY3	3.22	3	1	5	.928

On the other hand, customers appreciate the simplicity and convenience of payment methods. They gave an average of 3.70, and the most chosen score was 4 when asked about the "Payment process is simple and convenient" (Mean = 3.70, Mode = 4).

Regarding the impact of the Privacy Protection factor, many respondents did not appreciate it. For the "The system is trustworthy" clause, many respondents did not completely agree, so the average for this clause was 3.11, and the most chosen score was 3 points (Mean = 3.11, Mode = 3). This is because the company's website system is weak and has not been truly trusted by customers. It is not appreciated by customers about the privacy of customers, as well as the implementation of those terms.

Table 3.5. Descriptive Analysis of Privacy Protection factor

	Mean	Mode	Minimum	Maximum	Standard Deviation
PRI1	3.11	3	1	5	.880
PRI2	3.35	3	1	5	.897
PRI3	3.13	3	2	5	.862

Based on the results of the survey, for the "Privacy and security are clearly stated" clause, the respondents gave an average of 3.35, the highest selected score was 3 (Mean = 3.35, Mode = 3). For the phrase "The protection of customer's personal information is well implemented", the respondents only gave an average of 3.13, and the most chosen score was score 3 (Mean = 3.13, Mode = 3).

Regarding the impact of the Website Characteristic element, many respondents agreed that they could easily find the product they needed. This is shown by an average of 3.68 for the "Finding products is easy and convenient" clause, and the most chosen score is 4 points (Mean = 3.68, Mode = 4). Respondents also quite agree that "The order completion process is simple and straightforward". This is shown by the average score of 3.64, and the most selected score is 4 points (Mean = 3.64, Mode = 4).

Table 3.6. Descriptive Analysis of Website Characteristics factor

	Mean	Mode	Minimum	Maximum	Standard Deviation
WEB1	3.47	4	1	5	.872
WEB2	3.55	4	1	5	.836

	Mean	Mode	Minimum	Maximum	Standard Deviation
WEB3	3.50	4	1	5	.876
WEB4	3.68	4	1	5	.852
WEB5	3.58	4	2	5	.596
WEB6	3.49	4	1	5	.891
WEB7	3.64	4	1	5	.814

In addition, many customers also rated quite well on other factors related to Characteristics Website. They agree that the website has an easy-to-use, easy-to-use interface and design. The navigation buttons are also arranged in the most scientific way to bring a good experience for customers when shopping on the site. New information is also updated continuously and promptly on the website. Along with that, shopping cart management usually takes place smoothly and conveniently for customers. These factors are rated with an average of 3.47 to 3.58, and the most selected score is 4 points.

Finally, to assess the overall satisfaction of customers when buying on the DLS website, many respondents do not agree that they have a good and satisfying shopping experience here. This is shown by the result of the answer to the proposition that "Overall, you are satisfied with your purchase experience on the website of DLS Co., Ltd". The average score that the respondents selected for this are 3.36 points, and the most selected score is 3 points (Mean = 3.36, Mode = 3).

Table 3.7. Descriptive Analysis of Satisfaction

	Mean	Mode	Minimum	Maximum	Standard Deviation
SAT1	3.36	3	2	5	.585
SAT2	3.42	3	1	5	.601
SAT3	3.39	3	2	5	.603

Respondents also did not agree that they would continue to make purchases on the site or would recommend the site to friends and relatives. The proposition that "You will keep repurchasing from the website of DLS Co., Ltd" receives an average of 3.42 points, and the most selected score is 3 points (Mean = 3.42, Mode = 3). The phrase "You will recommend the website of DLS Co., Ltd to your friends and

family" also received only a 3.39 average, and the most selected score was 3 points (Mean = 3.39, Mode = 3).

3.3. Scale reliability

The data test that has been taken here is the scale reliability testing of Cronbach's Alpha coefficient. The test is used to assess the reliability along with the validity of the raw data for further statistical analysis. In the test, the two values which are Cronbach's Alpha coefficient and the item-total correlation need to pass the test. According to Hair et al. (1995), Cronbach's Alpha coefficient needs to be higher than .7 and the item-total correlation needs to be higher than .5. The results for the Scale reliability test of the collected dataset for this study show that the variables ensure reliability.

3.4. Exploratory factor analysis

In addition to the Scale reliability testing of Cronbach's Alpha coefficient, the Exploratory factor analysis is carried out to help define the structure of the variables included in the dataset. EFA analysis for the Independent variable and Dependent variable both satisfy the requirement.

3.5. Correlation among factors

The correlation does not exclude any factors because the sig between each independent variable and the dependent variable is less than 0.05.

Table 3.8. Model Summary

Model	R	R square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.825[a]	.681	.675	.28495	2.006

a. Predictors: (Constant), PAY, WEB, PRO, PRI, NET, SER
b. Dependent Variable: SAT

The adjusted R square is 0.675 = 67.5%. Thus, the independent variables affect 67.5% of the variation of the dependent variable. The remaining 32.5% is due to non-model variables and random errors.

Table 3.9. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	51.996	6	8.666	106.731	.000[b]
	Residual	24.358	300	.081		
	Total	76.355	306			

a. Dependent Variable: SAT
b. Predictors: (Constant), PAY, WEB, PRO, PRI, NET, SER

The ANOVA analysis shows that the F statistic is statistically significant.

Table 3.10. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.120	.144		-.830	.407		
	PRO	.244	.025	.352	9.745	.000	.813	1.230
	SER	.243	.028	.310	8.618	.000	.820	1.220
	PRI	.075	.022	.117	3.398	.001	.904	1.106
	WEB	.184	.027	.229	6.713	.000	.915	1.092
	NET	.065	.023	.100	2.820	.005	.842	1.188
	PAY	.186	.023	.280	8.143	.000	.902	1.109

a. Dependent Variable: SAT

The coefficients of the variables PRO, SER, PRI, WEB, NET, PAY are .352, .310, .117, .229, .100, and .280, respectively. All of the coefficients are statistically significant. These coefficients have a positive sign, improving that the change in these factors would have the same direction as the changes in the level of customer satisfaction.

The model can be used to explain the level of customer satisfaction and the impact of the six factors presented below:

SAT = .352PRO + .310 SER + .117PRI + .229WEB + .100NET + .280PAY

3.6. Hypothesis testing

H1: There is a positive impact of Product Quality on the e-commerce customer satisfaction of DLS Co., Ltd.

From the analysis, it can be seen that the Sig. value of Product quality is .000 which is lower than .05, and the Pearson correlation coefficient of this factor is .584. So, H1 is accepted. This proved that products influence positively the satisfaction of customers when shopping on the website of DLS, and they consider product quality as an important element.

H2: There is a positive impact of Service Quality on the e-commerce customer satisfaction of DLS Co., Ltd.

From the analysis, it can be seen that the Sig. value of Service quality is .005 which is lower than .05, and the Pearson correlation coefficient of this factor is .564. So, H2 is accepted. This proved that service quality influences positively the satisfaction of customers when shopping on the website of DLS, and they consider service quality as an important element.

H3: There is a positive impact of the Network System on the e-commerce customer satisfaction of DLS Co., Ltd.

From the analysis, it can be seen that the Sig. value of the Network System is .005 which is lower than .05, and the Pearson correlation coefficient of this factor is .405. So, H3 is accepted. This proved that Network Systeminfluences positively the satisfaction of customers when shopping on the website of ~~DLS, and they consider~~ the network systemas an important element.

H4: There is a positive impact of the Payment System on the e-commerce customer satisfaction of DLS Co., Ltd.

From the analysis, it can be seen that the Sig. value of the Payment System is .000 which is lower than .05, and the Pearson correlation coefficient of this factor is .465. So, H4 is accepted. This proved that the Payment Systeminfluences positively the satisfaction of customers when shopping on the website of DLS, and they consider the Payment systemas an important element.

H5: There is a positive impact of Privacy Protection on the e-commerce customer satisfaction of DLS Co., Ltd.

From the analysis, it can be seen that the Sig. value of Privacy Protectionis .001 which is lower than .05, and the Pearson correlation coefficient of this factor is .340. So, H5 is accepted. This proved that Privacy Protectioninfluences positively the satisfaction of customers when shopping on the website of DLS, and they consider Privacy Protection as an important element.

H6: There is a positive impact of Website Characteristics on the e-commerce customer satisfaction of DLS Co., Ltd.

From the analysis, it can be seen that the Sig. value of Website Characteristics is .000 which is lower than .05, and the Pearson correlation coefficient of this factor is .393. So, H6 is accepted. This proved that Website

characteristics influence positively the satisfaction of customers when shopping on the website of DLS, and they consider Website Characteristics as an important element.

4. Conclusion

This study has been conducted for the main purpose of improving customer satisfaction when buying products on DLS company website. This study has three main objectives including (1) identifying factors affecting customer satisfaction when buying goods on DLS company website, (2) measuring customer satisfaction. When buying products on DLS company website, (3) propose solutions to improve customer satisfaction when buying products on DLS company's website. Through the results of this study, all three research objectives were effectively implemented. The following research conclusions justify these findings:

First, the researcher studied the influence of six factors including Product, Service, Network System, Payment, Privacy Protection, and Website Characteristics on customer satisfaction when making purchases on DLS company's website. The results of this study demonstrate the existence of a positive relationship between the six factors and the satisfaction of online customers of DLS. This means that the first objective of this study was effectively implemented when identifying six factors that affect customer satisfaction.

Secondly, through the survey results, collected from 307 respondents, this study measured customer satisfaction with the six factors mentioned. The survey results show that customers feel quite satisfied but not satisfied with all six factors including Product, Service, Network System, Payment, Privacy Protection, and Website Characteristics. In particular, customers are least satisfied with "Products are unique in design and type" in the Product factor, "Products are delivered fully and intact" in the Service factor, with "The website is well accessible" in the Network System factor, with "Payment information is well secured" in Payment factor, with "The system is trustworthy" in Privacy Protection factor,

with "The site is easy to use and understand" in Website Characteristic factor. Therefore, it is necessary to develop solutions to improve those elements of the website. This means that the second research goal is effectively implemented.

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FACTORS INFLUENCING ON FIRM VALUE IN THE VIETNAM'S STOCK EXCHANGE

PhD. Nguyen Van Chien*

Abstract: *The research aims to evaluate factors affecting firm value in the Vietnamese stock exchange. Using 46 companies listed on the Vietnam stock exchange, and quantitative regression analysis, the research results show that firms using debt can able to improve firm value, and a larger firm is positively consistent with a larger firm value. The research did not find a relationship between the financial performance, liquidity and board of directors' education, and firm value. The research also has a number of recommendations to improve corporate value.*

• Keywords: *firm value, debt, financial performance, board.*

Tóm tắt: *Mục tiêu của nghiên cứu là đánh giá các nhân tố ảnh hưởng đến giá trị doanh nghiệp trên thị trường chứng khoán Việt Nam. Sử dụng 46 doanh nghiệp niêm yết trên sàn chứng khoán Việt Nam và phân tích hồi quy định lượng, kết quả nghiên cứu cho thấy doanh nghiệp sử dụng nợ có khả năng cải thiện giá trị doanh nghiệp và doanh nghiệp quy mô lớn có tác động cùng chiều với giá trị doanh nghiệp. Nghiên cứu không tìm thấy mối quan hệ giữa hiệu quả tài chính, tính thanh khoản và trình độ học vấn của hội đồng quản trị và giá trị công ty. Nghiên cứu cũng có một số đề xuất nhằm nâng cao giá trị doanh nghiệp.*

• Từ khóa: *giá trị công ty, nợ, hiệu quả tài chính, hội đồng quản trị.*

1. Introduction

Business is considered as an important part of the economy in most countries. Enterprise is an important entity in the economy in providing jobs and contributing to the budget, improving labor productivity and ultimately economic development of the country. For every country, nurturing strong businesses is an important task to maintain economic growth. To do that, the government has policies to support start-up activities along with maintaining appropriate financial policies for businesses, so that businesses can access capital in the economy to do business.

The operation of the business in general always requires the ability to access capital at the low cost of capital and thereby increase the financial efficiency of the business and shareholder value. Enterprises can raise capital from owners' equity formed from retained earnings or contributions from shareholders, in addition, enterprises can seek outside funding to finance investment projects. The ultimate goal of an enterprise is to improve the value of the enterprise, thereby increasing the share price and increasing benefits for managers, shareholders, and customers.

Research on factors affecting firm value has been carried out by several authors. Studies have shown that internal factors such as the choice of capital structure, the size of the business, or the profitability of the business have a great influence on the value of the business. Xie et al. (2022) argued that the management of listed companies influences the business. Lawrence & Raithatha (2022) confirmed that gender diversity on the board of directors affects corporate financial performance. While Fang et al. (2023) argued that the crisis can affect the decision of the business. In the current technological revolution, innovation plays an important role in promoting sustainable growth and maintaining a competitive advantage for enterprises, as discussed by Kong et al. (2023).

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For a rapidly developing country like Vietnam, the number of businesses is expanding and reaching a million enterprises that have been making important contributions to the country's economy. The goal of strong businesses is to increase the benefits for investors in particular and for the country in general. However, similar studies have not been popularized in Vietnam, especially in the context of deep economic integration and the economy has just experienced the impact of the COVID-19 pandemic, which is the reason for the formation of this research.

The research collects data from 46 typical listed companies on the Vietnamese stock exchange, through the Feasible Generalized Least Square (FGLS) regression method and tests the stability through the fixed effect method, the research results confirm that firms using capital structure favoring debt have higher corporate value, and at the same time, larger firms have higher corporate values. Other factors such as: financial performance, liquidity, and board of directors' education do not impact firm value.

Apart from the introduction, the remainder of this research is divided into four parts. In the next section, a systematic review of previous studies is conducted. Part 3 of the study deals with data collection and research methods. Finally, the study deals with the source of the results and the general conclusions of the study.

2. Literature review

Businesses play an important role in economic development in most countries. Governments of countries always implement appropriate policies to help businesses develop more and more, in which to increase the benefits of investors, shareholders and customers, and at the same time the state's interest in the ability to collect taxes from businesses.

Azimli (2023) using data from Standard & Poor's 1500 for the period 2002 to 2021 suggested that environmental policy uncertainty has a negative impact on firm value, however, when firms are committed to corporate social responsibility performance, it has the potential to mitigate the negative impact of environmental policy uncertainty on firm value. This poses practical benefits to businesses when implementing socially responsible investment policies.

Research by Lawrence & Raithatha (2022) in India on gender diversity in the board of directors

and its impact on corporate value, the authors said that India always maintains the policy that enterprises must have at least a woman member on the board of directors. In addition, Lawrence & Raithatha (2022) found that there is a positive relationship between market and business value when companies comply with regulations and simultaneously, the company appoints female members based on actual capacity and not related to appoint based on the promotion. In gender-biased states, the effect is stronger than in gender-equal states. It indicates that businesses have female participation on the board of directors, they often bring more practical benefits and enhance the value of the company.

Kong et al. (2023) studied companies in China and found that innovation plays an important role in promoting sustainable growth and maintaining the competitive advantages of enterprises in the market. In particular, innovation inputs, research and development spending, and patents and citations have had a positive impact on economic activities, and improved institutions and societies in many countries. The authors believed that innovation efficiency has a positive impact on corporate value and innovation efficiency has a positive contribution to improving corporate value, and at the same time, enterprises operate in the high-tech industry and have a mechanism to improve business value. In addition, ownership protection has a more promoting effect than innovation efficiency on firm value, while financial barriers have the opposite effect.

Further discussed on the economic situations, especially in the light of economic depression, Fang et al. (2023) argued that the crisis can negatively affect business decisions, in which corporate culture is the foundation that can help businesses manage crises and overcome the effects of the crisis. The authors argued that firms with a higher control culture have performed better during the crisis because of fewer layoffs, less asset growth and debt issuance, and greater access to credit during a crisis, which is often difficult for other businesses to achieve.

Research by Ullah et al. (2021) argues that hedging can increase firm value by reducing bankruptcy costs and volatility, although it can also decrease firm value. Studying UK firms, Ullah et al. (2021) argued that capital expenditures associated with hedging reduce firm value even though capital expenditure itself increases firm value. This effect becomes more pronounced in the case of capital

expenditures made by firms with operations abroad and thereby asserting that hedging reduces the effect of the market surveillance role. Therefore, Ullah et al. (2021) suggested that businesses should reduce their dependence on the market and overinvest through hedging policies, creating a stable foundation for business development and enhancing company value.

Seth & Mahenthiran (2022) researched 115 listed companies in India in the period 2009 - 2012 on corporate social responsibility and suggested that corporate social responsibility is an important factor to help the board leaders pursue to balance the interests of stakeholders. Meanwhile, Xie et al. (2022) argued that the management of listed companies has an influence on the business. The authors asserted that the market responds positively to the leadership role of SOEs and that the prospect of cracking down on corruption in SOEs can help enterprises become efficient. Xie et al. (2022) confirmed the convergence of the country's corporate governance system due to the globalization process.

Another study was conducted in Indonesia, where its economy is growing rapidly and its economy is increasingly important in the region, Bahraini et al. (2021) argued that total asset turnover, current ratio and firm size have a negative impact on firm value. While corporate profitability and debt selection in capital structure have a positive impact on firm value, this reflects that Indonesian firms use debt relatively efficiently and have the ability to improve corporate value through seeking appropriate external funding.

There have been studies on corporate value in Vietnam, typically the study of Nguyen et al. (2021) on the Vietnamese stock market from 2011 to 2019, and suggested that firm size has the greatest impact on firm value. Meanwhile, capital structure has a negative effect on firm value, which means that a business should use equity to improve its value and should not use debt. The authors also do not find the impact of profitability, revenue and liquidity on firm value. Further, Tien and Thi (2021) suggested that the use of debt in capital structure has a positive effect on firm value in the food and beverage industry, but has a negative effect on the wholesale and construction industry. This reflects that the impact of capital structure on firm value is quite different and depends on the specific industry. The effects of firm size are similar and the results are different.

Based on the above studies, it can be seen that there is currently no research on the factors affecting corporate value in Vietnam in the recent period, especially in the context of digital transformation and the 4.0 technology revolution. , at the same time, the economy is affected by the COVID-19 pandemic, which is the novelty of this study.

3. Data and methodology

3.1. Data

In this research, we collect data from 46 enterprises listed on the stock exchange during the period from 2008 to 2020. The data is collected from financial statements, then the data is processed with its errors as well as missing before doing the analysis.

3.2. Methodology

Based on the previous study of Lawrence & Raithatha (2022) and additional research with some other variables, then the regression equation has the following form:

Model 1:

$$FV_{it} = \beta_{0i} + \beta_1 ROA_{it} + \beta_2 LEV_{it} + \beta_3 LIQ_{it} + \beta_4 SIZE_{it} + \beta_5 BOARD_{it} + \mu_i + \mu'_{it}$$

Model 2:

$$FV_{it} = \beta_{0i} + \beta_1 ROE_{it} + \beta_2 LEV_{it} + \beta_3 LIQ_{it} + \beta_4 SIZE_{it} + \beta_5 BOARD_{it} + \mu_i + \mu'_{it}$$

Where:

FV_{it} is a measure of the firm value of firm i at year t,

ROE_{it} is a measure of the return on equity of firm i at year t,

ROA_{it} is a measure of the return on total assets of enterprise i at year t,

LEV_{it} is the capital structure of firm i at year t,

LIQ_{it} is the liquidity of enterprise i at year t,

$SIZE_{it}$ is the size of firm i at year t,

$BOARD_{it}$ is the qualification level of the board of directors of firm i at year t, and measured as the ratio of the number of members receiving a master's degree or higher divided by the number of board members,

β_{0i} is intercept,

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ are, respectively, the coefficients for the following variables: firm performance (ROA, ROE), leverage, firm size and qualification level,

μ'_{it} is white noise

In this study, we use the panel data regression method. Traditionally, the study used pooled least

squares method (pooled OLS), fixed effect method (FEM) and random effect method (REM). Next, the study also evaluates defects, such as multicollinearity, heteroskedasticity and autocorrelation. In the case of occurring the defects, the study uses the Feasible Generalized Least Square (FGLS) method. Normally, the regression model always encounters defects when using pooled OLS, FEM, and REM methods. Therefore, most studies use the FGLS method to correct defects and ensure regression results reach the best state.

In addition, the research also needs to evaluate the robustness to evaluate the quality of the results of the estimated model. To assess the stability, the study used the fixed effect method, which is the suitable method that is considered by recent studies. The results will be comparable between methods.

4. Results

4.1. Descriptive statistics

Table 1. Descriptive statistics

Variable	Obs.	Mean	Std. Dev	Min	Max
FV	598	10.5611	0.8463	6.4291	12.9551
ROA	598	3.1501	6.5098	-28.0502	83.9056
ROE	598	6.6700	23.9746	-175.5021	149.071
LEV	598	0.6563	0.1711	0.1155	1
LIQ	598	1.1125	1.4145	0.0784	10.9516
SIZE	598	11.8498	0.5453	9.1129	13.5008
BOARD	598	0.1824	0.2013	0	1

Source: Author's calculations

Table 1 presents the results of descriptive statistical analysis of the variables, showing that the average efficiency of enterprises is 3.15% for ROA and 6.67% for ROE, and the financial performance of enterprises in the sample is relatively different. As for the debt ratio, the debt ratio averages 65%, which means that 65% of business financing comes from debt. As for the current ratio of enterprises, this ratio reached the average level of 1.11 and in general, this ratio is relatively low, thereby reflecting the poor liquidity of enterprises.

4.2. Correlation analysis

Table 2 indicates that the pairs of independent variables have low correlation coefficients and are all less than 0.8, so there is no possibility of multicollinearity in the regression model. Table 3 shows that the VIF coefficient is equal to 1.07 - 1.15 and both are less than 10, thereby confirming that there is no possibility of multicollinearity in the regression model.

Table 2. Correlation analysis

Variable	FV	ROA	ROE	LEV	LIQ	SIZE	BOARD
FV	1.0000						
ROA	0.0404	1.0000					
ROE	0.0206	0.7602	1.0000				
LEV	0.1078	-0.4346	-0.2156	1.0000			
LIQ	0.0126	0.1141	0.0783	-0.2996	1.0000		
SIZE	0.6649	0.0339	-0.0259	-0.0135	0.0367	1.0000	
BOARD	0.0427	0.0056	0.0621	-0.0515	0.1062	0.1243	1.0000

Source: Author's calculations

Table 3. VIF analysis

Variable	ROA		ROE	
	VIF	1/VIF	VIF	1/VIF
LEV	1.34	0.747110	1.15	0.872943
ROA	1.24	0.809646	7.45	0.134194
ROE			1.05	0.949540
LIQ	1.11	0.901206	1.11	0.901392
BOARD	1.03	0.973367	1.03	0.970820
SIZE	1.02	0.982856	1.02	0.982682
Mean VIF	1.15		1.07	

Source: Author's calculations

4.3. Regression analysis

Table 4. Regression results - dependent variable ROA

Variable	Regression results			
	FGLS (ROA)	FGLS (ROE)	REM (ROA)	FEM (ROE)
ROA	0.0109** (0.011)		0.0022 (0.505)	
ROE		0.0024** (0.027)		0.0011 (0.198)
LEV	0.7952*** (0.000)	0.6822*** (0.000)	0.7729*** (0.000)	0.7718*** (0.000)
LIQ	0.0181 (0.335)	0.0168 (0.371)	-0.0547*** (0.008)	-0.0538*** (0.009)
SIZE	1.0359*** (0.000)	1.0438*** (0.000)	0.8976*** (0.000)	0.8952*** (0.000)
BOARD	-0.1499 (0.240)	-0.1723*** (0.000)	-0.0747 (0.589)	-0.0659 (0.633)
_cons	-2.2644*** (0.000)	-2.2593*** (0.000)	-0.5161 (0.475)	-0.4901 (0.497)

Note: ***, ** at 1%, 5% significance level. The p-value is displayed in brackets "()"

Source: Author's calculations

5. Discussions

The regression results shown in Table 4 show that:

Debt ratio has a positive effect on firm value, meaning that a business mobilizes debt to finance its investment project, it will help the business take

advantage of the tax shield and enhance its firm value. Therefore, it reflects that the policy of seeking external funding is correct and helps businesses develop, increasing benefits for shareholders and investors. Vietnamese enterprises are also demonstrating their ability to effectively manage debt sources. This result is supported by Nguyen et al. (2021) on the Vietnamese stock market from 2011 to 2019, and Tien and Thi (2021) in the food and beverage industry.

The research results also confirm the positive relationship between firm size and firm value. In addition, a larger firm usually has a larger firm value and vice versa. Indeed, large-scale enterprises often have advantages in production, especially the advantage of effective use of fixed costs and thereby reducing product costs, helping enterprises to increase competitiveness in the marketplace and ultimately improve the corporate value as well as benefits for shareholders and investors. In contrast, small-scale enterprises have higher production costs, so they are not able to compete in the marketplace and thus the value of enterprises decreases. This result is consistent with Tien and Thi (2021) confirming that the impact of firm size on firm value is mixed and dependent on the specific sector. It can be confirmed that the size of the enterprise has certain benefits, but in some other industries, the size of the enterprise is a hindrance to the operation of the enterprise.

The research results did not find a clear impact between the financial performance of the business and its firm value. Furthermore, the liquidity and education level of the board of directors also did not affect the firm value.

6. Conclusions

In the process of socio-economic development, enterprises play an important role in contributing to the output of the economy as well as creating jobs and contributing to the national budget. Increasing firm value helps to strengthen the economy and at the same time helps to increase benefits for shareholders and investors. Studying the factors affecting the firm value at 46 companies listed on the Vietnam stock exchange, using quantitative regression analysis, the research results show that enterprises using debt can able to improve firm value, and at the same time, a larger firm is positively consistent with a larger firm value. The research did not find a relationship between firm's financial performance, liquidity and board of directors' education and firm value.

The research has a number of recommendations for Vietnamese businesses, especially in the context of the Vietnamese economy recovering in the light of the Covid-19 pandemic. *Firstly,* businesses should seek funding from debt to finance their investment projects, especially businesses with low-cost debt sources to help businesses achieve their performance. *Second,* the government continues to support businesses so that they continue to expand their business networks and improve their business size. *Third,* Vietnam continues to improve the quality of corporate boards. The Board of Directors is considered the heart of the enterprise and has a decisive voice in all activities of the enterprise. Therefore, the quality of the board of directors has a great influence on the leadership ability of the enterprise. The quality of the board is often improved through: increasing the number of independent members, increasing gender diversity on the board, improving the training and education level of the board or may invite foreign members to join the board of directors.

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REAL EARNINGS MANAGEMENT AND LIQUIDITY ON FIRM PERFORMANCE: THE CASE OF MANUFACTURING FIRMS IN VIETNAM

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Abstract: *Earnings management is not a new concern in the market; however, there is a new alternative method for accruals-based earnings management. That is Real earnings management - manipulating earnings through real operating activities, which receives increasing attention. This paper analyses the influence of Real Earnings Management and Liquidity on Firm Performance. The data includes 40 manufacturing companies in Vietnam in the 4-year period from 2016 to 2019. The methodology employed in this paper is Generalized Least Square method with Fixed effects model on panel data. The results present a negative association between Real Earnings Management and Firm Performance, as well as between Liquidity and Firm Performance.*

• Keywords: *real earnings management, liquidity, firm performance, manufacturing firms, Vietnam.*

Tóm tắt: *Quản lý thu nhập không phải là một mối quan tâm mới trên thị trường; tuy nhiên, có một phương pháp thay thế mới để quản lý thu nhập dựa trên dồn tích. Đó là Quản lý thu nhập thực tế - thao túng thu nhập thông qua các hoạt động điều hành thực, đang ngày càng được chú ý. Bài báo này phân tích ảnh hưởng của Quản lý thu nhập thực tế và Thanh khoản đối với hiệu quả hoạt động của công ty sản xuất. Dữ liệu bao gồm 40 công ty sản xuất tại Việt Nam trong giai đoạn 4 năm từ 2016 đến 2019. Phương pháp được sử dụng trong bài báo này là phương pháp bình phương nhỏ nhất tổng quát với mô hình hiệu ứng cố định trên dữ liệu bảng. Các kết quả cho thấy mối liên hệ tiêu cực giữa Quản lý thu nhập thực tế và Hiệu quả công ty, cũng như giữa Thanh khoản và Hiệu quả công ty.*

• Từ khóa: *quản lý thu nhập thực tế, thanh khoản, hiệu quả hoạt động của doanh nghiệp, công ty sản xuất, Việt Nam.*

1. Introduction

In the current context, Vietnam's economy has witnessed signs of recovery in the macroeconomic macro. However, some experts believe that the country is still in crisis as growth is now below its potential and many other underlying factors have not been fully solved. The consequences of an economy being in trouble are the collapse of many domestic entities. Under these circumstances, firm performance is an important field to study as it is one of the measures of business success and health. Research on the performance of businesses is no longer a new topic; published studies around the world, including Vietnam, have used statistical models to measure the influence of factors. However, the scope of a great majority of research focuses on financial firms such as banks and insurance companies, while non-financial firms, or in particular, the manufacturing industry, are somehow neglected. In other words, requirements for firm performance in manufacturing firms in Vietnam have not received sufficient concern from a scientific perspective.

With an eye to making some contributions to solving this problem, this paper will look into the impact of earnings management and liquidity on firm performance. Both earnings management and liquidity are important issues that investors look into when they consider any investing decision.

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Thus, managers may have incentives to beautify these indicators to attract investment. Then, the question is how these management practices actually affect firm performance, especially when considering the combined impacts.

2. Literature Review

2.1. Real earnings management

Roychowdhury (2006) provided a definition of "Real earnings management" as "departures from normal operational practices, motivated by managers' desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations".

There were three types of activities among REM practices, which were operating decisions, investment decisions, and financial decisions (Roychowdhury, 2006).

Sales Manipulation

Sales manipulation refers to managers' decisions to promote sales temporarily by offering credit terms or higher discounts on sales prices. Therefore, manipulating income will temporarily make sales volume increase, resulting in higher earnings and lower current period cash flow (Roychowdhury, 2006).

Discretionary Expenditures

The study by Roychowdhury (2006) showed that companies could reduce discretionary expenses to affect real earnings even if these expenses did not directly impact revenue immediately. Furthermore, managers used R&D, sales, general and administrative, and advertising expenses in manipulating earnings to avoid recognizing losses. Graham et al., (2005) indicated that managers were able to reduce discretionary costs by missing their income goals, leading to an increase in reported earnings for the same period.

Overproduction

Overproduction prefers the increase in production units to the expected market demand. Some studies proved that managers of manufacturing firms used overproduction as a technique for earnings management

(Roychowdhury, 2006), which allowed managers to allocate fixed overhead costs with more than one unit of production, resulting in a reduction in COGS (Roychowdhury, 2006). Indeed, such a decrease in COGS led to increased profit margins, assuming that other factors remained constant. However, using this technique by managers makes it difficult to detect for other accounting information users (Manowan and Lin, 2013). Roychowdhury (2006) calculated production costs by the sum of the cost of goods sold and changes in inventory during the year. According to Ferentinou and Anagnostopoulou (2016), real earnings management can be measured by multiplying Ab_CFO and Ab_DISEXP by (-1) and adding the value of Ab_PROD to demonstrate that the higher the value REM yields, the higher upward REM is expected.

Accrual manipulation is one means of managing earnings without direct cash flow, achieved by using different accounting policies and standards to represent operating activity decisions. Total accruals are classified as non-discretionary accruals and discretionary accruals. Discretionary accruals are changes to cash flows selected by management, while non-discretionary accruals are accounting adjustments to a firm's cash flows that have been developed by the agency (Rao and Dandale, 2008).

Recently, researchers have turned their attention to REM as another way to manage earnings. In developed countries, empirical studies have shown REM practices in manufacturing firms (Graham et al., 2005; Roychowdhury, 2006). For instance, a survey by Graham et al., (2005) indicated that 80% of participants among 401 executives preferred to make economic decisions such as cutting R&D, maintenance, and advertising costs, which influenced negatively, in the long run, using AEM to meet their income goals.

Significant studies have shown that managers moved from AEM to REM because it is easier to make discretionary decisions about operations and it is less likely to be detected by managers and auditors. In other words, audit pressure and auditor regulations have encouraged managers to

switch to a different type of earnings management. Remarkable empirical evidence for this variation among managers has been noted by Cohen et al., (2008), illustrating the shift of income management practices from accrual to other activities under the pressure of SOX adoption. Regarding this issue, Chi et al., (2011) noted that firms had a high audit quality option for REM when limiting the use of accrual techniques, such as when the pressure of moving from the internal market to the external market in financial sources increased the need for more transparent financial information by capital market followers.

Likewise, the adoption of international financial reporting standards (IFRS) was found to be a reason behind the shift to the REM option. For example, Ferentinou and Anagnostopoulou (2016) carried out a study on the practice of AEM and REM during the mandatory adoption of pre-and post-IFRS in Greek firms. Their results indicated that companies switched to REM after adopting IFRS. Ho et al., (2015) conducted another study with the purpose of investigating the existence of both AEM and REM in the before and after of IFRS for Chinese A-share firms. They reported that Chinese companies turned to REM as an alternative method of increasing earnings manipulation for the adoption of post-IFRS. Furthermore, Ipino and Parbonetti (2017) examined whether REM usage was greater than AEM after IFRS adoption in distribution companies in 33 countries from 2000 to 2010. Their results showed that companies replaced REM with AEM after adopting IFRS. However, Sellami and Fakhfakh (2013) reported a negative relationship between IFRS adoption and earnings management for both AEM and REM.

In fact, all of the reviewed studies provided movement evidence in practice, from AEM to REM. However, they do not confirm the transfer from one to another. Therefore, REM can be used to replace or complement AEM. Based on a sample of more than 6,500 firm-years from 1987 to 2008 to investigate whether managers used both methods for earnings manipulation practices, Zang (2012) found that they used both techniques as substitutes, depending on the cost of each technique.

Researchers have argued that the victims of earnings management are investors, regulators, customers, bankers, unions, suppliers, and competitors (Lo, 2008). Abad et al., (2018) noted that REM had a positive impact on the level of information asymmetry in listed companies in Spain, suggesting that REM was confusing the market. Research indicated that REM activities influenced firms differently because they misrepresented their actual financial position and economic performance (Sellami, 2015).

In addition, previous studies documented that REM had an effect on the value of the firm. Roychowdhury (2006) stated that REM techniques such as discounts improved earnings in the current period, but in subsequent periods, they can affect cash flow negatively. Researchers also argued that REM was more expensive than AEM because of its long-term negative implications on cash flow and firm value (Chi et al., 2011; Cohen et al., 2008; Roychowdhury, 2006). Kim and Sohn (2013) investigated the effect of REM on the cost of equity in US firms and presented a positive relationship, meaning that increasing REM practice led to an increase in the cost of equity markets. However, Taylor and Xu (2010) declared that firms practicing REM did not experience a significant decrease in operating performance for the subsequent years.

2.2. Liquidity

Liquidity management is mostly evaluated from a working capital management perspective because most of the indicators used to assess liquidity are derived from working capital components. Therefore, it is possible to consider the literature regarding the effect of liquidity on performance from two perspectives. On one hand, in some studies, liquidity ratios such as current ratios and cash ratios are used to assess the impact of liquidity on performance. On the other hand, some focus on cash conversion cycles as the main indicator of liquidity. Liquidity ratios capture the financial aspects of a company, including current assets and current liabilities. However, the cash conversion cycle only reflects the operational aspect of the company focusing on accounts receivable, accounts payable and inventories (Mun and Jang, 2015).

The current ratio is the most widely used liquidity index, and it measures the current assets available to cover current liabilities. Empirical results from the studies of Sur et al., (2001) on the Indian aluminum industry, Bardia (2004) on the Indian steel industry, Lyroudi et al., (1999) on the London Stock Exchange listed manufacturing companies, and Saldanli (2012) on Turkish manufacturing companies revealed that liquidity in the current ratio has a negative effect on performance. Although there is evidence supporting the theory, some experimental results that conflict with it also exist. Following Ghosh and Maji's (2003) research on cement and tea industries in India, Muhammad et al., (2012) on the textile industry in Pakistan, Ehiedu (2014) on manufacturing companies listed on the Nigerian Stock Exchange and Rehman et al., (2015) on companies listed on the Saudi stock market, current liquidity has a positive impact on earnings. However, in the studies of Singh and Pandey (2008) on Hindalco Industries Limited, Afeef (2011) on manufacturing firms listed on the Karachi Stock Exchange, Sur and Chakraborty (2011) on selected multinational firms in the Indian pharmaceutical industry, and Alavinasab and Davoudi (2013) on the listed companies of the Tehran Stock Exchange, no statistically significant relationship was found between current ratio and firm performance.

Ignoring inventories and accounts receivable in current assets, the cash ratio is the most conservative of all liquidity indicators. However, this ratio is mainly used in empirical studies on the effectiveness of the financial services industry. According to a study by Niresh (2012) on selected manufacturing companies in Sri Lanka, the cash ratio negatively affects profitability. In contrast, the findings of Sinku (2013) on the steel industry in India show a positive relationship between cash ratio and profitability ratio. In addition, Khaldun and Muda (2014) revealed that no significant relationship exists between the cash ratio and firm performance.

3. Methodology

A sample of 40 firms listed on the Hanoi Stock Exchange, the Ho Chi Minh Stock Exchange and the Unlisted Company Market among 550 manufacturing firms in Vietstock website is randomly selected. The period of study is four years from 2016 to 2019.

The financial data used in this paper is manually collected and computed from the firm's financial statements, income statements, statements of cash flow, and annual reports published officially on the websites of each company. The data unit in this paper is million VND.

As discussed in the previous section, this paper will measure real earnings management.

$$REM = R\_CFO(-1) + R\_DISCEXP(-1) + R\_PROD$$

Where:

R_CFO is the abnormal cash flows from operations;

R_DISCEX is the abnormal discretionary expenses;

R_PROD is the abnormal production costs.

The abnormal level of each category is the differences between the actual level and the estimated normal level, which is forecasted from the Roychowdhury (2006) model. Three models developed to forecast the normal level are:

Cash flow from operations (a proxy for sales manipulation):

$$\frac{CFO_{it}}{Assets_{i,t-1}} = k_1 \frac{1}{Assets_{i,t-1}} + k_2 \frac{Sales_{it}}{Assets_{i,t-1}} + k_3 \frac{\Delta Sales_{it}}{Assets_{i,t-1}} + \varepsilon_{it} \qquad (1)$$

Where:

CFO_{it} is the cash flows from operations at the period t;

$Assets_{i,t-1}$ is the total assets at the end of the period t-1;

$Sales_{it}$ is the annual sale of the period t;

$\Delta Sales_{it}$ is the change in the sales relative to the prior period.

Discretionary expenses for each year and industry:

$$\frac{DiscExp_{it}}{Assets_{i,t-1}} = k_{1t}\frac{1}{Assets_{i,t-1}} + k_2\frac{Sales_{i,t-1}}{Assets_{i,t-1}} + \varepsilon_{it} \quad (2)$$

Where:

$DiscExp_{it}$ is the total discretionary expenditures during the period t (advertising, R&D, & SG&A);

$Assets_{i,t-1}$ is the total assets at the end of the period t-1;

$Sales_{i,t-1}$ is the annual sale of the period t-1.

Production costs (a proxy for overproduction):

$$\frac{Prod_{it}}{Assets_{i,t-1}} = k_{1t}\frac{1}{Assets_{i,t-1}} + k_2\frac{Sales_{it}}{Assets_{i,t-1}}$$
$$+ k_3\frac{\Delta Sales_{it}}{Assets_{i,t-1}} + k_4\frac{\Delta Sales_{i,t-1}}{Assets_{i,t-1}} + \varepsilon_{it} \quad (3)$$

Where,

$Prod_{it}$ is the sum of the cost of goods sold and changes in inventory during the year;

$Assets_{i,t-1}$ is the total assets at the end of the period t-1;

$Sales_{it}$ is the annual sale of the period t;

$\Delta Sales_{it}$ is the change in the sales relative to the prior period.

Table 1: Descriptions of variables

No	Variables	Notation	Measurement
Dependent Variable: Firm Performance			
1	Return on Assets	ROA	Net income/Total assets
2	Return on Equity	ROE	Net income/Total equity
Independent Variables			
2	Real Earnings Management	REM	R_CFO(-1) + R_DISCEXP(-1) + R_PROD
3	Current ratio	CR	Current assets/Current liabilities
4	Cash ratio	CASH_RATIO	(Cash + Cash equivalent)/ Current liabilities
Control Variables			
5	Leverage	LEV	Liabilities/Asstets
6	Size	LOG(ASSETS)	Log(Assets)

4. Quantitative Models

4.1. Descriptive statistic

4.1.1. Real earnings management descriptive

Table 2: Summary of forecasting models

Estimators	R^2	Adjusted R^2
Cash flow from operating	0.5603	0.4011
Discretionary expenses	0.9020	0.8677
Production	0.9889	0.9847

Table 2 shows that the changes in dependents variables can be explained by independent variables with a relatively high percentage. The model with the highest R^2 is the one forecasting Production with both R^2 and Adjusted R^2 at more than 98%. Similarly, R^2 of Discretionary expenses model levels at around 90%. Cash flow from operating possess the lowest percentage of explanation with about 56% for R^2 and 40% for adjusted R^2. Despite the fact that this is the lowest percent among three variables, more than 50% is still an acceptable level. Thus, it can be concluded that using Roychowdhury (2006) models for forecasting is appropriate.

Table 3: Descriptive statistic of REM from 2016 to 2019 (million VND)

Year	Mean	Max	Min.	Std. Dev.	Obs.
2016	(306,367.60)	2,528,650.00	(4,442,994.00)	1,207,562.00	40
2017	10,300.56	4,526,682.00	(3,358,777.00)	1,366,952.00	40
2018	297,276.50	5,860,757.00	(4,781,850.00)	1,612,401.00	40
2019	137,898.00	10,403,877.00	(2,463,844.00)	1,969,611.00	40
All	34,776.85	10,403,877.00	(4,781,850.00)	1,566,741.00	160

It can be seen from the table 3 that the practices of Real Earnings Management vary significantly over the period. While the minimum level remains quite stable at around -3,000,000 during 4 years, the maximum level increases continuously until the level in 2019 is five times as high as the level at the beginning of the period. The mean value is the one that fluctuates most substantially. Being a negative value in 2016, the mean value plummets to nearly 300,000 in 2018 and then decreases by almost 160,000 in the following year.

4.1.2. Liquidity and firm performance descriptive

Table 4: Descriptive statistics of variables

	Mean	Maximum	Minimum	Std. Dev.
ROE	17.23	59.05	-8.46	13.37
ROA	9.12	32.89	-2.71	8.25

	Mean	Maximum	Minimum	Std. Dev.
CR	1.74	11.73	0.25	1.39
QUICK	0.71	7.14	0.01	0.98
CASH_RATIO	0.36	4.48	0.01	0.58
LEVERAGE	30.54	67.48	0.00	17.73
LOG(ASSETS)	15.93	18.44	13.99	0.93

From the data, it can be said that most of the firms generates positive returns during the period since the mean value is positive for both indicators. While some firms reached a relative high ROA at 59.05 and ROE at 32.89, some others made losses. However, the minimum value of the two indicators is not really significantly low.

Regarding Liquidity variables, some traditional instruments are taken into account, namely Current ratio and Quick ratio. The average value is 0.71 for Quick ratio and 1.74 for the other. However, we got some outliers, which are VEA in 2018 with Quick ratio leveling at 7.14 and Current ratio at 11.73 and GTN in 2019 with 6.9 and 8.3 respectively. Another proxy for a firm's liquidity is Cash ratio. The mean value of this indicator is 0.36 and the standard deviation is 0.58. The range for Cash ratio is from 0.01 to 4.48.

Two control variables are Leverage and the natural logarithm of Total Assets. Financial leverage ranges from 0 to 67.48, indicating that different companies have different capital structures and investment patterns. This paper studies firms with significantly different leverage; hence, the findings might be more reliable. Similarly, the logarithm of Total Assets, which is a proxy for firm size, varies from 13.99 to 18.44. Thus, this paper can also include differences in behaviors among firms of different sizes as a part of study.

4.2. Regression model analysis

The final regression equation is:

$$ROA = \beta_1 + \beta_2 * REM + \beta_3 * CR + \beta_4 * Cash_{Ratio}$$
$$+ \beta_5 * Leverage + \beta_6 * Log(Assets) + u_{it}$$

Table 5: Summary of final regression model

Variable	Coefficient	Std. Error	t-Statistic
REM	-1.57E-07	6.87E-08	-2.27857
CR	0.508694	0.037697	13.49443
CASH_RATIO	-1.126783	0.159766	-7.05273
LEVERAGE	-0.144824	0.012832	-11.2865
LOG(ASSETS)	-3.609878	0.164269	-21.9755
C	70.57826	2.789506	25.30135

Adjusted R^2 is 0.952209 means that 95.22% of changes in ROA can be explained by independent variables.

The constant coefficient is 70.57826, suggesting that when all the independent variables equal to zero, ROA of firm will be 70.57826. However, this implication does not have any economic meanings.

$\beta_2 = -1.57 * 10^{-7}$ presents a negative relationship between Real earnings management and Firm Performance. If everything remains unchanged, when REM decreases by 10,000 billion VND dong, the firm's performance will increase by 1.57.

Both Current ratio and Cash ratio are proxies for firm's liquidity. However, Current ratio has a positive impact on firm's performance while Cash ratio shows the opposite side. Coefficient of Current ratio is 0.508694. This means that when Current ratio increases by one unit, Firm Performance will also increase by 0.5 unit, given everything else constant. Meanwhile, the coefficient of Cash ratio is -1.126783, meaning that one time increase in Cash ratio lead to 1.13-time decrease in Return on Assets.

$\beta_5 = -0.144824$ means that Financial leverage also has an inverse relationship with Return on Assets. Keeping all variables unchanged and growing Leverage by 100%, Firm Performance would decline by 14.48%.

Similarly, firm size has a diverse impact on firm performance as the coefficient for the logarithm of Assets is -3.609878. This suggests that when the logarithm of Assets goes up by 1%, firm performance would go down by 3.6%.

5. Conclusion

This paper examines the effects of real earnings management and liquidity on firm performance. The sample to be studied consists of 240 observations from 40 firms operating in

the manufacturing industry in Vietnam from 2016 to 2019. The dependent variable is Return on Assets as a proxy for firm performance. Independent variables include the REM, cash ratio, and current ratio, which are influenced by financial leverage and the logarithm of total assets regression model is applied to cope with the errors of heteroscedasticity and autocorrelation.

The proxy for earnings management is computed by using the Roychowdhury (2006) model with three categories, namely production, discretionary expenses, and cash flow from operations. All three forecasting models have more than 50% predictive power, especially the production model (98%) and the discretionary expense model (90%).

The final regression model shows that all studied factors have a significant impact on firm performance. Four out of five independent variables present an inverse relationship with the dependent variable. Only the current ratio has a similar direction to that of the return on assets.

It is inevitable that in the procedure of conducting this study, there will be some limitations that affect findings in an unflavored way. Firstly, the study focuses on the combined effects of real earnings management and firm performance. However, there are many other factors that would affect the performance proxy of a firm. As a result, future research can broaden the study in terms of variables to gain a better understanding.

Next, due to the limitation of time and resources, data for only 40 firms in the manufacturing industry in the period from 2016 to 2019 is collected for study in this paper. This number of observations might not be considered general enough to be estimators for the whole population. Other research can increase the sample as much as possible in terms of firms, industries, and years, to better reflect the situation in the Vietnamese economy.

Overall, I hope that in the future, there will be more research investigating this topic to help generate more accurate findings about earnings management and liquidity in Vietnam. These subjects currently draw significant concerns and controversy among stakeholders not only in Vietnam but also all around the world.

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FACTORS AFFECTING THE DECISION-MAKING OF NEW INVESTORS ON THE STOCK MARKET IN VIETNAM: AN EMPIRICAL STUDY IN AN EMERGING MARKET

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Abstract: *This study studied the factors affecting the decision of new investors in the Vietnamese stock market, an empirical study in an emerging market, through a survey of 550 individuals. The main technique is to explore the EFA factor and multivariate regression. In this study, we had several conclusions. Control variables include (1) Income, (2) Financial literacy (3) Career orientation (5) Social factors, and (6) Risk perception. Multivariate regression analysis shows that there is a statistically significant positive impact of income factors, social factors, and financial knowledge on investment intention, this means, the higher the income, the higher the intention, with impacting of the influence of friends, relatives, or the media, the higher the social network, and the higher the investment intention of new investors, the higher the investment decision of young investors, within all other things being held constant. Moreover, the results also show that the intention to invest has a positive and direct influence on the investment decision, specifically when they have full knowledge and skills, their own ability, and carefulness. important in making one's own investment decisions, and the richer experience and knowledge, the higher the intention to invest in the volatile stock market. Meanwhile, career orientation and risk perception negatively affect investment intention. The results of this study suggest some recommendations to improve the investment decision-making efficiency of individual investors in the Vietnamese stock market.*

• Keywords: *stock market, investors, influencing factors.*

Tóm tắt: *Nghiên cứu này được thực hiện để tìm hiểu các yếu tố ảnh hưởng đến quyết định của nhà đầu tư mới trên thị trường chứng khoán Việt Nam: Nghiên cứu thực nghiệm tại một thị trường mới nổi.Thông qua khảo sát sơ bộ định lượng 550 cá nhân. Bằng kỹ thuật chính là khám phá nhân tố EFA và hồi quy đa biến. Trong nghiên cứu này, chúng tôi đã có một số kết luận. Các biến kiểm soát bao gồm: (1) Thu nhập, (2) Hiểu biết tài chính (3) Định hướng nghề nghiệp (5) Yếu tố xã hội và (6) Nhận thức rủi ro. Phân tích hồi quy đa biến cho thấy tác động thuận chiều có ý nghĩa thống kê giữa các yếu tố thu nhập, yếu tố xã hội, hiểu biết tài chính đến ý định đầu tư, điều này có nghĩa, thu nhập càng cao, tác động của ảnh hưởng bạn bè, người thân hay truyền thông, mạng xã hội càng cao, ý định đầu tư của các nhà đầu tư trẻ càng cao, với điều kiện các yếu tố khác không đổi. Hơn nữa, kết quả cũng chỉ ra rằng, ý định đầu tư có ảnh hưởng cùng chiều và trực tiếp đến quyết định đầu tư, cụ thể khi họ đã có đầy đủ kiến thức và kỹ năng, khả năng của mình và thận trọng trong việc đưa ra quyết định đầu tư của chính mình và khi kinh nghiệm, kiến thức dồi dào thì ý định đầu tư vào thị trường chứng khoán đầy biến động càng cao.Trong khi đó, yếu tố định hướng nghề nghiệp và nhận thức rủi ro ảnh hưởng nghịch biến đến ý định đầu tư. Kết quả của nghiên cứu này gợi ý một số kiến nghị nhằm nâng cao hiệu quả ra quyết định đầu tư của các nhà đầu tư cá nhân trên thị trường chứng khoán Việt Nam.*

• Từ khóa: *thị trường chứng khoán, nhà đầu tư, yếu tố ảnh hưởng.*

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1. Introduction

Vietnam's stock market has experienced tough volatility in the period 2019-2022 due to the Covid-19 pandemic, leading directly to the change in habitat, lifestyle, behavior, and cognitive biases of awareness's new investors with "the new normal" life in the VUCA world (Volatility - Uncertainty - Complexity - Ambiguity) in terms of volume and quantities of transactions, in particular, the large number of new investors entering the stock market.

Vietnam's stock market is considered as a potential and attractive market for development in 2022. Despite being influenced by the general downtrend of the world stock market, the remarkable point is the movements. The negative changes in the market appeared in the context that the domestic macro-economy was relatively good and stable compared to the world, and the production and business activities of enterprises were also relatively positive. The economic recovery after Covid-19 caused investor sentiment to expect more opportunities from the post-Covid-19 pandemic recovery.

In the context of globalization, the fourth industrial revolution, and the need for socio-economic recovery after the Covid-19 pandemic through accelerating economic development, - Vietnam's stock market has witnessed violent mortgage withdrawals, making stock prices plunge unstoppably in the context of a complete loss of liquidity. Specifically, in the first half of the year of 2022, the market faced new declines when corporate profits could not resist decreasing economic growth, sky-high inflation and the central bank insists on the hawkish policy.

Moreover, investor sentiment has gradually stabilized after the covid pandemic, and the economy has gradually recovered. More difficult economic conditions have forced investors to be more cautious and try to limit the risk of loss. Besides, the market adjusted a lot from the Fed raising interest rates, the conflict between Russia and Ukraine, the domestic inflation rate trending up, and the State Bank tightening the monetary policy, attracting money back.

2. Literature Review

Theory of Planned Behavior: The theory of planned behavior (Ajzen, The Theory of Planned Behavior, 1991) Ajzen and Madden, (1986)) was developed from the theory of rational action (TRA) which added perceived behavioral control, bringing many advantages in predicting and interpreting user behavior in the same context and content. The model assumes that a behavior can be predicted or explained by intentions to perform that behavior. Ajzen (1988) argues that intention is again a function of three influencing factors: (1) Attitude toward the Behavior, (2) Subjective Norms, and (3) Perceived Behavioral Control.

Attitude toward the Behavior: Is conceptualized as an individual's positive or negative evaluation of behavior performed

Subjective Norms: Mention how people around you think that the individual should or should not perform the behavior. Subjective norm refers to general normative beliefs about people's expectations. Although subjective norms can be decomposed into images, informational influence, and normative influence (Karahanna, et al. 1999), typical applications of TPB considers subjective norm only including the normative effect.

Perceived Behavioral Control: Defined as the individual's own assessment of how difficult or easy it is to perform the behavior. This degree is associated with beliefs about the existence of controlling factors that can facilitate or hinder the performance of the behavior (Ajzen, 2002), which increases when individuals find they have more resources and confidence (Ajzen, 1985; Hartwick and Barki, 1994; Lee and Kozar, 2005).

In the Theory of Perceived Risk (TPR): Bauer (1960) argues that the behavior of using technology always comes with risks, including two factors: (1) Perceived risk related to products, and services (types of risk identification: loss of functionality, loss of finance, loss of time, loss of opportunity, and overall risk perception with products and services), (2) Perceiving risks related to online transactions (risks that may occur when consumers conduct e-commerce transactions on electronic means and devices related to: confidentiality), security - attestation, non-repudiation, and overall risk perception of online transactions).

Investment Intention

Behavioral intention is an individual's subjective ability to perform a particular action (Ajzen, 1991; Fishbein and Ajzen, 1975). A person's actual behavior is highly dependent on one's intentions (Ajzen and Fishbein, 1975) because the consumer decision-making process consists of 5 stages (1) need recognition, (2) information search, (3) evaluation of alternatives, (4) purchase decision, (5) post-purchase behavior (Kotler and Armstrong, 2012). Learning about intention is one of the most well-established

ways to predict decision-making investment, because in general, the greater the intention, the higher the decision-making ability, while the completely unforeseen situation factors are difficult to predict. In this study, we propose the following hypotheses:

H1: Investment intention has a positive and direct influence on new investors' investment decisions.

Income

Income is an indicator to measure the welfare of a person or society, so the income of this society reflects the economic progress of society (Luminatang, 2013). According to Sukirno (2006), income is the amount of wages that a population receives based on the results of their work over a period of time certain, whether daily, weekly, monthly, or yearly. A person's income is basically secondary depending on the job in the service or manufacturing sector, as well as the time spent on the job, and hourly earnings (Luminatang, 2013, Miller, Hite, Slocombe and, Railsback, 2010) show that many students have a positive view of their future earning potential, and most students expect a passing income or equivalent to their parents' standard of living. This study is beneficial because it links to the findings of Mandell and Klein (2007), indicating that personal finance classes are most useful for those students who are motivated during their teaching.

Income significantly influences investment decisions (Baiq Fitri Arianti, 2018). The result of this study is in agreement with the study done by Musdhalifa (2016) showing that income has a significant influence on investment decisions. This is also consistent with the results of Kusumawati (2013) argues that a person's income has an influence on personal financial management, and the greater their ability to make investment decisions. The same thing in the study of Rita and Kusumawati (2010) said that the higher a person's income, the more a person wants to buy what he/she wants other than what is necessary, and the less people like this understand the benefits of saving or investing for the future. So in this study, we propose the following hypotheses:

H2a: Income has a positive effect on new investors' investment intention

H2b: Income has a negative effect on the investment intention of new investors

Financial Literacy

According to Kim (2001) in Sabri (2011), financial literacy is the basic knowledge that people needed to survive in modern society. This basic knowledge involves knowing and understanding the complex principles of spending, saving, and investing. In another study, financial literacy can be defined as having the knowledge and skills to make informed financial decisions (Lusardi & Mitchell, 2011). Aspects of financial literacy can be categorized into knowledge, skills, and influencing factors (Schuchardt et al., 2009; Huston, 2010; Ozkale, 2018). Also, understanding financial literacy requires basic computational skills (Lusardi, 2012). Simple transaction calculations, comparing products, reading data, choosing optimal offers and understanding the impact of different variables on getting a loan require mathematical knowledge and skills. basic.) Mathematical literacy is a prerequisite for financial literacy (OECD (2016)). Based on these results, the following hypothesis was created:

H3a: Financial literacy has a positive effect on new investors' investment intentions.

H3b: Financial literacy has a negative effect on new investors' investment intentions

Risky and Risk Perception

Risk is a function of profit and loss (Elmiger and Kim, 2003; Finucane et al., 2000) and includes both of them. However, the human perception of risk is often equated with loss. Renn (1998) emphasized the importance of the human element in the concept of risk and he asserted that the risk is associated with the investor's level of concern about the possible outcome of future events.

Garling et al. (2009) show that risk perception is an important part of financial decision making and it is influenced by many variables such as demographics and personality. However, different and conflicting results have been obtained from studies on risk perception. According to Slovic (1999), demographics are one of the most fundamental determinants of risk perception. Barber and Odean (2001) determined that men are more at risk than women and similarly, Singles are more at risk than married people. Regardless of the fact that men take more risks than women (Grable, 2000; Bernasek and Shwiff, 2001; Weber et al., 2002; Grable and Roszkowski, 2007; Yao et al., 2011), Hanna et al. (1998) and Friedberg and Webb (2006) evidence of gender differences in risk perception could not be obtained. To better understand the impact of investment decision components, the following hypothesis was constructed:

H4a: Risk perception has a positive influence on new investors' investment intentions.

H4b: Perceived risk negatively affects new investors' investment intention

Career Orientation

Deciding on a career choice is an important developmental task for adolescents (Super, 1990). In the era of globalization, the increasingly precarious labor market and increasing job insecurity have made it difficult for young people to choose a career. When starting to think about their future career, many of them may feel undecided on how to proceed and not confident in defining a particular career direction (Amir & Gati, 2006; Ginevra, Pallini, Vecchio, Nota, & Soresi, 2016)

In another study, career decision refers to the degree of confidence or certainty about the intended career path that the individual wants to pursue and develop after leaving school (Gordon, 1998; Restubog, Florentino, & Garcia, 2010). Previous research has shown that career decisions are positively associated with subjective well-being and successful transitions from school to work for college students (Arnold, 1989; Lounsbury, Hutchens & Loveland, 2005). People who make more career decisions tend to recognize career opportunities within their chosen career field and enjoy higher levels of work and life satisfaction (Hirschi, 2011; Lounsbury, Tatum, Chambers, Owens, & Gibson, 1999; Uthayakumar, Schimmack, Hartung and Rogers, 2010). To better understand the impact of investment decision components, the following hypothesis was constructed:

H5a: Career orientation positively affects new investors' intention.

H5b: Career orientation has a negative effect on new investors' intentions

Social Factors:

Some scholars attribute social factors to family influence, peer influence, and internet influence (T. S. Lim, et al. 2020., B. L. Jorgensen and J. Salva, 2010). They also discuss financial investments with members, colleagues and friends, family, and the recommendations and behavior of colleagues greatly influence the views and investment decisions of key people in the business, family. Many studies show that an individual's financial decisions are also influenced by the environment and their social field (Tisdell, 2000). Besides, the media also influences individual decision-making (Schuchardt et al., 2009). They have access to information available on social networks (newspapers, televisions, smartphones...)

about new trends in stock investment, and influence from successful investor stories on the stock market. Based on these results, the following hypothesis was created:

H6a: Social factors have a positive influence on the investment intentions of new investors.

H6b: Social factors have a negative influence on new investors' investment intentions

3. Data and Methodology

Sample and Technique: This study uses snowball sampling (a method of gathering information to access specific groups of people). Respondents in this study are investors who are in accordance with predetermined criteria, who have already invested in stock and are aged between 22-35 years in Vietnam. Data collection in this study was carried out by distributing questionnaires to the respondents.

Methodology: Based on the rule of the sample size of Exploratory Factor Analysis (EFA) (Hair et al., 2010) and multivariate regression analysis (Tabachnick & Fidell, 2006). In addition, we use EFA factor discovery analysis to evaluate the convergence value (unidirectionality) of the latent factors. This method is mainly used to reduce the group of many observed variables to latent variables while still explaining the data (Hair et al., 2010). Important statistical parameters and acceptance criteria in factor analysis (Hoang Trong and Chu Nguyen Mong Ngoc, 2008) include: (1) large factor loading factor of 0.5; (2) the Eigenvalue index is greater than 1; (3) the Kaiser-Meyer- Olkin (KMO) index is large 0.5; (4) Bartlett test has p-value less than 0.05 and (5) explanatory variance greater than 50%. The factor analysis method used for this preliminary assessment is principal component analysis with perpendicular rotation (varimax).

Table 3.1: Research Model
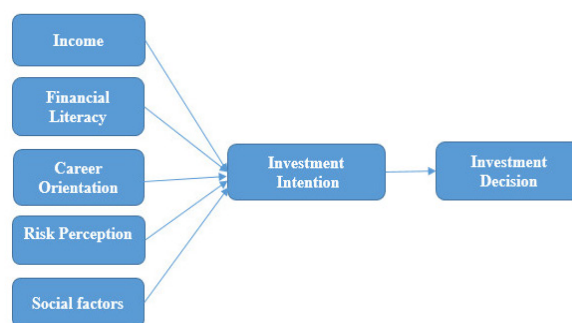
Source: Author

4. Findings and Discussions

Table 4.1: Descriptive statistics

Groups	Items	Number of individuals	Percentage (%)
Gender	Male	334	60.7%
	Female	216	39.3%
Income	Under 10 million	102	18.5%
	10 – 20 million	237	43.1%
	20 – 30 million	181	32.9%
	Above 40 million	30	5.5%
Education	Bachelor	201	36.4%
	Master	126	22.9%
	Doctor of Philosophy	83	15.3%
	Others	140	25.5%

Source: Resulted Analysis with supporting by SPPS

Through the survey results, it can be seen that 334 males, accounting for 60.6% and 216 females, accounting for 39.4%, are investing or intending to invest in securities. Monthly income for securities investment is divided into 4 levels: (1) from less than 10 million, (2) from 10-20 million, (3) from 20-30 million, and (4) above 40 million. Calculation results show that, with the highest income from 10 to 20 million VND, up to 237 answers, accounting for 43.2%, the lowest income with over 40 million generals corresponds to 30 answers with 5.5%, in addition. The level of income they spend on securities investment under 10 million has up to 102 individuals and between 20-40 million is 181 of the total, the rate is 18.5% and 32.8% respectively.

As can be seen from the table above, the results of academic characteristics show that most of the 201 respondents graduated with a bachelor's degree with 36.5%, and the lowest was with doctor of Philosophy (Ph.D) degree with 15.3%, while 126 out of 550 responses, corresponding to 22.9% master's degree and 140 responses from other disciplines with a relatively high rate of 25.5%.

Table 4.2: Descriptive statistics

Group	Items	Number of individuals	Percentage (%)
Knowledge	Basic	468	85.1%
	Advanced	82	14.9%
Experience	Never before	512	93.1%
	Short Term (under 1 year)	33	6.0%
	Medium Term (1- 5 years)	5	0.9%
	Long Term (Above 5 yrs)	0	0
Situation	Investing	537	97.6%
	Have intended to invest	13	2.4%

Source: Resulted Analysis with supporting by SPPS

The data obtained on investment experience, in detail: the majority up to 512 accounting for 93.1% of the respondents had no investment experience before, 33 individuals had a limited level of short-term (under 1 year) investment experience with 6.0% and 5 responses are recorded with average investment experience using a very small percentage of about 0.9% of the total, and with no answer for long-term (above 5 years) experience. Meanwhile, the majority of 468 individuals have learned basic knowledge related to securities investment and the stock market, corresponding to 85.1%, and the rest with 82 individuals, accounting for 14.9%, they said that have advanced knowledge related to investment.

Survey on the investment status of 550 individuals, of which 537 answers, accounting for 97.6%, said that they are investing and 13 answers accounted for a very small percentage of the total, corresponding to 2.4% about having an idea for investment in the near future.

Table 4.3: EFA Analysis

Factors (observation)	Cronbach Alpha	KMO	Corrected Item - Total Correlation	P-value	(AVE) (%)	Factor Loading
Income (4)	0.860	0.810	0.629	0.000	70.92	0.778
Financial Literacy (5)	0.777	0.804	0.358	0.000	55.03	0.534
Career Orientation (4)	0.683	0.685	0.361	0.000	52.41	0.616
Risk Perception (3)	0.794	0.662	0.584	0.000	70.83	0.806
Social Factors (5)	0.697	0.669	0.303	0.000	66.35	0.751
Investment Intention (3)	0.717	0.661	0.477	0.000	64.37	0.804
Investment Decision (3)	0.856	0.709	0.694	0.000	77.70	0.861

Source: Resulted Analysis with supporting by SPPS)

Preliminary assessment results of the scale:

Income: The Income factor scale includes four observed variables from TN1 to TN4. The scale after preliminary analysis shows internal consistency and is a unidirectional scale. The table of preliminary analysis results shows that the Cronbach Alpha coefficient is greater than 0.6 (0.860) and the total variable correlation coefficient is greater than 0.3 (the smallest coefficient is 0.629). Besides, the KMO coefficient is greater than 0.5 (0.810), p-value = 0.000 is less than 0.05, the extracted variance is greater than 50% (70.92%) and the factor loading coefficients are all greater than 0.5 (the smallest coefficient is TN1 equal to 0.778).

Financial Literacy: Financial literacy factor is considered and evaluated through four observed variables including HB1, HB2, HB3, HB4, and HB5. From the table of preliminary analysis results 4.3, the Cronbach Alpha coefficient is greater than 0.6 (0.777), the minimum total variable correlation coefficient is 0.358, greater than 0.3. Thus, the scale of perceived preference has the necessary reliability. After exploratory factor analysis, the loading coefficients of all four observed variables are greater than 0.5, the KMO coefficient is greater than 0.5 (0.804), p-value = 0.000 is less than 0.05, the variance is the explanation is greater than 50% (55.03%), the minimum factor loading is 0.534 (HB4), greater than 0.5. Thus, the financial literacy factor scale has convergent value.

Career Orientation: The career orientation factor is established by four observed variables from DH1 to DH4. The results of the preliminary analysis show that the Cronbach Alpha coefficient of the social benefit factor scale has the Cronbach Alpha coefficient reaching 0.683, greater than 0.6 and the total correlation coefficient greater than 0.3. (the smallest is DH1 reaching 0.361). Thus, the scale achieves the necessary reliability. In addition, by exploratory factor analysis, the KMO coefficient is 0.685, greater than 0.5, the p-value of Bartlett's test equals 0.000 and less than 0.05, the explanatory variance is 52.41%, greater than 50 %, the factor loading coefficients are all greater than 0.5 (the smallest is DH5 reaching 0.616) (table 4.1). Therefore, the scale also reaches the convergent value

Risk Perception: The scale of the perceived risk factor is composed of three observed variables from RR1 to RR3. The analysis results show that the Cronbach Alpha coefficient reached 0.794, greater than 0.6, the observed variables had the total variable correlation coefficient greater than 0.3 (the smallest coefficient RR2 reached 0.584). For EFA analysis, the factor loading coefficients are all greater than 0.5, the KMO coefficient is greater than 0.5 (0.662); the p-value of the Bartlett test is less than 0.05, explanatory variance is more than 50% (70.83%) (table 4.1), the minimum factor loading coefficient (RR4) is 0.806, greater than 0.5. Thus, the scale of perceived risk factors with three perceived observed variables achieves the necessary reliability and internal consistency, the necessary convergence value.

Social factors: Social factors are established by five observed variables from XH1 to XH5.

The analysis results show that the factor scale has the necessary reliability with the Cronbach Alpha coefficient greater than 0.6 (0.697), the correlation coefficient of the total variables of the factors is greater than 0.3 (coefficient). the smallest of XH4 is 0.303). Factor exploratory analysis shows that perceived security is also consistent with the KMO coefficient greater than 0.5 (0.669), the p-value of the Bartlett test is less than 0.05 (0.000) and the explanatory variance is large. more than 50% (66.35%) (table 4.1) and the minimum factor loading factor is 0.751. Thus, the social factor with five observed variables has reached convergence.

Investment Intention: Factor intention is evaluated and considered by observing three variables from YD1 to YD3. Preliminary evaluation results show that the Cronbach Alpha coefficient is 0.717, the minimum total variable correlation number system is 0.477; the KMO coefficient is equal to 0.661, the p-value of Bartlett's test is equal to 0.000 and the wrong method of interpretation is 70.869%, the minimum load system is 0.767 - all meet the evaluation criteria. Thus, the factor scale that is defined to be used is built in the content of the article with the most value and the convergence of values.

Investment decision: The data in the table shows that Investment determinants are considered and evaluated through three observed variables including QD1, QD2, and QD3. From the table of preliminary analysis results as shown in Table 1, the Cronbach Alpha coefficient is greater than 0.6 (0.856), the minimum total variable correlation coefficient is 0.694, greater than 0.3. Thus, the investment decision scale has the necessary reliability. After exploratory factor analysis, the loading coefficients of all four observed variables are greater than 0.5, the KMO coefficient is greater than 0.5 (0.709), p-value = 0.000 is less than 0.05, the variance is explanation is greater than 50% (77.70%), the minimum factor loading is 0.861 (HB4), greater than 0.5. Thus, the investment decision multiplier scale has convergent value.

The results of testing the reliability and convergence of the scale

From the results of confirmatory factor analysis, the loading coefficients of the observed variables are all greater than 0.5 (the smallest value is 0.5053), the extracted variances (AVE) are all greater than 50% (the minimum value is 0.5053 and the minimum value is 50.2%), and the combined reliability (CR) of all factors is greater than 0.5 (the minimum value

is 0.697), satisfactory. In which, the calculation of composite reliability (CR) and extracted variance (AVE) is based on the loading coefficient of observed variables. Thus, the scales in the model with the official sample achieve the necessary reliability and convergence.

Table 4.4: The relationship between these factors

			Estimate Beta	S.E.	C.R.	P	Label
Invt Intention	<---	Risk Perception	-0.051	0.036	1.435	0.001	-
Invt Intention	<---	Social factors	0.026	0.093	0.285	0.005	-
Invt Intention	<---	Career Orientation	-0.033	0.050	-0.661	0.003	-
Invt Intention	<---	Financial Literacy	0.024	0.047	-0.513	0.005	-
Invt Intention	<---	Income	0.067	0.036	1.884	***	-
Invt Decision	<---	Investment Intention	0.055	0.081	0.671	***	-

Source: Resulted Analysis with supporting by SPPS

Testing The hypothesis

In this study was tested using with supporting of SPSS, and Excel. The supported hypothesis in this study is seen from the significance value of the path coefficient. There are 7 (five) hypotheses tested in this study. A hypothesis is declared supported if the p-value.

The Results of Testing H1: Investment intention has a positive and direct influence on new investors' investment decisions with a standardized Beta coefficient β = 0.055 at 5% significance level (p-value = 0.000). This means, the higher the investment intention, the higher the investment decision of the new investor. Thus, hypothesis H1a is accepted. This result is in agreement with previous studies of RA. Sista Paramita et al (2018).

The Results of Testing H2: The analysis of the 12 hypotheses and the resultant outcomes are presented in Table 3. It was discovered that nine direct paths were significant (t-value > 1.645, p-value < 0.05, one-tailed). *Income factor* has a positive influence on investment intention with a standardized Beta coefficient β = 0.067 at 5% significance level (p-value = 0.000 is less than 0.05). This means, the higher the income, the higher the investment intention of the students, provided other factors are constant. Thus, hypothesis H2a was accepted, and hypothesis H2b was rejected.

The Results of Testing H3: Results have shown that *Financial literacy* has a positive effect on investment

intention with a standardized Beta coefficient β = 0.024 at 5% significance level (p-value = 0.005). This means, the higher the impact of financial literacy, the higher the investment intention of new investors. Thus, hypothesis H3a was accepted, and hypothesis H3b was rejected. Here it can be understood, based on the answers of the survey subjects who have full knowledge and skills of their abilities and are cautious in making their own investment decisions and when their experience, knowledge richer, the higher the intention to invest in the volatile stock market.

The Results of Testing H4: Data from the table illustrated "Risk perception" factor has a negative effect on investment intention with a standardized Beta coefficient β = -0.051 at 5% significance level (p-value = 0.001). This means that the higher the impact of risk perception, the lower the investment intention of new investors. In fact, securities are a type of risky investment with a highly volatile market. The fact that new investors have little experience and limited knowledge makes the risk perception of the potentially risky stock market. Thus, hypothesis H4b was accepted, and hypothesis H4a was rejected.

The Results of Testing H5: The third hypothesis states that "Career orientation" has a negative influence on investment intention with a standardized Beta coefficient (β = -0.033) at 5% significance level (p-value = 0.005). This means the impact of career orientation does not affect the investment intention of new investors. Thus, hypothesis H5b was accepted, and hypothesis H5a was rejected.

The Results of Testing H6: Social factors have a positive influence on investment intention with a standardized Beta coefficient β = 0.026 at 5% significance level (p-value = 0.005). This means, the higher the impact of the factor (the influence of friends, relatives or the media, social networks), the higher the investment intention of the new investor. Thus, hypothesis H6a was accepted, and hypothesis H6b was rejected.

5. Conclusion

Based on the results of testing the hypothesis in this study, it can be concluded that the theory of planned behavior (TPB), theory of perceived risk (TPR) approach can be applied empirically in explaining the behavior of new investors in investing in stocks.

Firstly, the research has systematically and synthesized concepts and assumptions from investors' models and theories of securities

investment decisions, intended behavior models, investment decision-making models, model of factors affecting the intention to invest in securities and accordingly, a main model of 07 predictive factors affecting investors' decision to invest in securities was formed, including (1)income factors (2) social factors (3) financial literacy (4) career orientation (5) risk perception and (6) investment decision and (7) investment intention are mediating variables.

Secondly, by using statistical methods and quantitative research, the study analyzed the direct and indirect effects of factors on the investors' decision to invest in securities. All 6 factors in the model show significant positive effects on investment intention, in which income factors, social factors, financial knowledge, social factors have a positive influence on investment intention. Meanwhile, career orientation and risk perception negatively affect investment intention. Investment intentions have a direct influence on investors' stock investment decisions.

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RESEARCH ON THE FACTORS AFFECTING FOREIGN DIRECT INVESTMENT ATTRACTION

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Abstract: *Directly affected by the Covid-19 pandemic, in 2021, global FDI reached US$1,582 billion, an increase by 64% compared to 2020. Global FDI inflows dropped by 35% in 2020 compared to 2019, from $1.5 trillion to less than $1 trillion - the lowest since 2005 and nearly 20 percent lower than the 2009 trough following the global financial crisis. Foreign direct investment (FDI) is one of the factors that help boost the economic growth of developing countries, especially Vietnam, where the starting point is low, and a large amount of capital is needed for investment development. There are many studies on attracting FDI in developing countries. The article explores the fundamental theory of factors affecting FDI attraction and proposes a research model on the influence of factors on attracting foreign indirect investment.*

• Keywords: *factors affecting, attracting capital, FDI.*

Tóm tắt: *Chịu ảnh hưởng trực tiếp của đại dịch Covid-19, năm 2021, vốn FDI toàn cầu đạt 1.582 tỷ USD, tăng 64% so với năm 2020. Dòng vốn FDI toàn cầu năm 2020 giảm 35% so với năm 2019, từ 1,5 nghìn tỷ USD xuống dưới 1 nghìn tỷ USD - thấp nhất kể từ năm 2005 và thấp hơn gần 20% so với mức đáy năm 2009 sau cuộc khủng hoảng tài chính toàn cầu. Đầu tư trực tiếp nước ngoài (FDI) là một trong những nhân tố giúp thúc đẩy tăng trưởng kinh tế của các nước đang phát triển, đặc biệt là Việt Nam, nơi có xuất phát điểm thấp, cần một lượng vốn lớn cho đầu tư phát triển. Có nhiều nghiên cứu về thu hút FDI ở các nước đang phát triển. Bài viết tìm hiểu lý thuyết cơ bản về các nhân tố ảnh hưởng đến thu hút FDI và đề xuất mô hình nghiên cứu về ảnh hưởng của các nhân tố đến thu hút vốn đầu tư gián tiếp nước ngoài.*

• Từ khóa: *nhân tố ảnh hưởng, thu hút vốn, FDI.*

1. Theories on factors that affect foreign direct investment

So far, economists worldwide have studied and summarized many theories explaining the factors that attract investment, as well as the movement of international investment. However, in the development history of economic theories,

investment has always been seen as a complex development process that depends on many factors changeable from time to time. There is no single theory that addresses all aspects of the investment process, each with its strengths and limitations. Theories of FDI attraction can be approached from the following aspects:

1.1. The theory of capital export by V.I. Lenin

According to V.I. Lenin, the benefit of exporting capital is to find the most profitable investment, as the relative excess of capital has prompted capitalists to find ways to transfer money abroad. In foreign countries, corporations can exploit many favorable conditions such as abundant resources, cheap labor, and consumption markets, etc., thereby earning a higher profit margin compared to that in their own country. In return, indeed, the investment (exported capital) receiving country or locality can also promote its advantages.

Thus, as acclaimed by V.I. Lenin, the most fundamental factor affecting the attraction of foreign direct investment to a country (or locality) is a matter of interest. In other words, the investing government always wants to yield more benefits than what the investment recipients can be benefited indirectly. Based on this view

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of V.I. Lenin, it can be seen that foreign direct investment does bring not only benefits but also negative consequences.

1.2. The impact of the theory of marginal profit on FDI attraction

MacDougall argues that capital flows will shift from low-interest-rate countries to high-interest-rate ones until an equilibrium is reached (equal interest rates between two countries) [19]. As a result of investment activities, both countries gain profits and cause the world's aggregate output to increase. The relevance of this theory was recognized by economists in the 1950s. Still, when the economic situation became unstable, the return on investment abroad of the US fell to a level lower than the domestic return on investment, but its FDI outflows continued to increase. However, this theoretical model does not explain why some countries have capital inflows and outflows at the same time. Therefore, the marginal profit model can only be considered as a practical first step in studying FDI activities.

1.3. Eclectic theory (OLI Model)

A company has the advantage of conducting foreign direct investment when it has advantages in ownership, location, and internalization. The OLI model was built by Dunning and inherited the advantages of other theories on foreign direct investment and proposes three necessary conditions to make an enterprise have direct investment incentives.

(1) Ownership Advantage (O) of an enterprise can be a product or a production process that has an advantage over other businesses or something other businesses cannot access, which can be patents, action plans, technology and information, management skills, marketing, organizational systems and access to final consumer markets or intermediate goods or raw materials, low-cost capital...

(2) Location advantage (L) besides national resources, there are also socio-economic factors such as market size and the growth and development of the markets, infrastructure development, culture, laws, government institutions, and policies.

(3) Internalization Advantage (I) includes: reducing the cost of signing, controlling, and implementing contracts.

According to the eclectic theory, a country that attracts foreign direct investment must meet all the above three conditions before FDI. The theory states that: the "push" factors originate from ownership advantage and internalization advantage, while location advantage creates a "pull" factor for FDI.

1.4. The investment environment

The investment environment is a collection of specific factors that the locality shapes to create opportunities and motivations for businesses to invest effectively, create jobs and expand production. In consideration of opportunity costs, risks, and competitive barriers in investment, investors find their opportunities and motivations to invest in a specific location. Recent studies have been conducted to identify and evaluate the factors affecting local economic growth, and the results show that there is a big difference in the business environment and economic growth level, especially in the private sector, among different provinces and regions within the country. Research results show that the difference between localities in the racting foreign investment lies in the local authorities and legal environment.

The influence of the provincial competitiveness index on the degree of openness in simplifying administrative procedures to attract investment in the locality

There are many different factors affecting the foreign investors' decision to invest. However, they can be classified into two categories as follows: (1) Hard infrastructure (infrastructure, seaports, inhabitants' intellectual level, quality of human resources), these are factors that require time and financial resources to improve; (2) soft infrastructure (government capacity, preferential policies to attract investment...) this is a group of factors related to the leadership philosophy of local authorities.

Studies on factors affecting FDI attraction are usually approached from two perspectives: economic perspective with economic factors

including the market, human resources, natural resources, and profit... and institutional perspective, including government policy and capacity. Regarding the institutional perspective, policy and Government capacity affect FDI; Ali's study (2009) shows that corruption has a strong impact on attracting FDI. Equivalently, in the PCI criteria set of Vietnam, there are informal charges such as the deterioration of corruption of local authorities. Besides, FDI enterprises tend to invest in countries and localities with open policies, accessible businesses, and fair competition. These factors are related to the criteria of fair competition and transparency in the PCI's scale. Another study by He (2002) pointed out that the information cost factors affect the FDI inflows to China; these factors are essentially linked to informal charges and time costs that FDI enterprises must spend to find out information and investment opportunities. Labor resources, especially the Government's labor training policies, also have a specific effect on FDI inflows. These factors are also clearly reflected in PCI's labour training index in Vietnam.

In Vietnam, though with different approaches and research data sources, there are also studies that determined the impact of local or central government policies and guidance on FDI attraction. Research by Cao Tan Huy (2018) concludes that besides economic factors, local government policies, investment policies, and authorities' support activities are what affect investors' decisions. Research by Nguyen Anh Tuan and Dong Trung Chinh (2017) shows that investors' decisions are directly affected by 08 factors, including institutional factors such as public service quality and investment policy. These factors are also reflected in the PCI criteria set as business support services and government policies (for land, fair treatment for economic entities).

The aggregate PCI index is determined based on a weighted average of the component PCI indexes, covering the main areas of economic management of the provinces and cities related to the development of enterprises. (VCCI, 2017). A locality is considered to have good governance when it has the following:

1) Low cost of market entry;

2) Easy access to land and stable land use;

3) Transparent business environment and public business information;

4) Low informal charges;

5) Short time to inspect, examine and implement regulations and administrative procedures;

6) Fair competitive environment;

7) The provincial government is dynamic and creative in solving problems for businesses;

8) High-quality business support services;

9) Good labor training policy;

10) Fair, efficient dispute resolution procedures and maintained security.

The higher the score for the component criteria, the better the locality in operating activities related to that criteria. Nguyen Quoc Viet et al. (2014) assessed the impact of provincial-level institutional quality on the ability to attract FDI to localities in Vietnam by measuring the effects of the PCI component indexes on attracting FDI capital.

2. Research model

One popular approach, often chosen in many studies to evaluate the interrelationship effects between economic factors, is the quantitative research method. By the econometric model, the authors measure the specific relationship between a dependent variable (representing the economic subject that has volatility) and an independent variable (representing the economic subject that explains volatility). In addition, this method also helps to test economic hypotheses and theories with accurate data. For some studies, the application of econometric models may also extend to forecasting the volatility of the research subjects.

When assessing the volatility of macroeconomic objects, the type of data used is usually panel data. In the panel data, spatial cross-sections (e.g. provinces, countries) are surveyed over time. In other words, panel data includes both cross-section and time series.

Erin Anderson and Hubert Gatignon also argue that there is a relationship between market entry costs and FDI. Specifically, multinational corporations tend to specialize their investment resources to optimize profits, so they all choose countries with low market entry costs and high-profit potential. Sule Alan added that most countries only allow corporations to invest for a fixed period. Therefore, by reducing market entry costs, these corporations can recover their investment capital faster. Thus, the cost of entering the market (Entry Cost) will be inversely proportional to the amount of FDI that Vietnam attracts.

H1: Market entry cost is inversely proportional to total FDI inflows into Vietnam

Rohan Mark Benett and J.A. Zevenbergen state that easy access to land and the high degree of stability a government provides for this sector, also directly influences foreign investors' attitudes. Specifically, most FDI investment categories focus on purpose-built infrastructure. Carin Smaller and Howard Mann point out that multinational corporations are really in short supply of land for production and business purposes. Therefore, any country that has land resources and has a stable land use policy for investors is on the priority list of these corporations. Thus, easy access to land and the stability of land use will be proportional to the total amount of FDI in Vietnam.

H2: The index of land access and stability in land use is proportional to the total amount of FDI inflows to Vietnam.

Belay Seyoum and Terrell Manyak argue that transparency directly impacts FDI in developing countries, also in the case of Vietnam. Both authors agree that countries with greater clarity and easy access to information will be able to attract larger amounts of FDI. Because most large corporations believe that in developing countries, economic activities are partly governed by the Government. Therefore, with a lack of transparency, it will be more difficult for multinational corporations to do business and make production in order to recover their investment capital. Lin Yu-Chih and Huang Shaio Yan also make similar arguments. The lack

of transparency in management and difficulty in accessing information will cause many obstacles in starting or expanding corporations' business, especially multinational corporations. Thus, easy access to information and transparency will be directly proportional to the total amount of FDI in Vietnam.

H3: The index of transparency and access to information is proportional to the total amount of FDI inflows to Vietnam.

Most multinational corporations, when entering a market, must strictly comply with the regulations and administrative procedures of that country. Therefore, reducing the cost and time to implement state regulations is an essential condition to attract FDI into Vietnam. In the study on attracting FDI into Kenya, authors Anne WanguiMuya and Fred Mugambi proved that the longer the time cost to implement the regulations and administrative procedures of a country, the more it causes adverse effects on the total amount of FDI that a country attracts. Thus, the time cost to implement state regulations will be inversely proportional to the total amount of FDI in Vietnam.

H4: The time cost to implement state regulations is inversely proportional to the total FDI in Vietnam

Belay Seyoum points out that informal charges directly influence a multinational corporation or company's decision to invest in a country. In other words, there is an inverse relationship between informal charges and FDI. The existence of informal charges with a high degree of trust and reputation has had a greater influence on FDI inflows to countries over the past few decades (due to greater economic freedom and open markets).

H5: Informal charges are inversely proportional to total FDI inflows into Vietnam

Currently, most countries are promoting fair competition among businesses. Fair competition is a component index that assesses the competitiveness of private enterprises against the favorable incentives for state-owned enterprises (SOEs), foreign-invested enterprises

(FDI), and businesses familiar with provincial government officials, expressed in the form of specific privileges and incentives when accessing resources for development such as land, credit, etc., and are given priority treatment in implementing administrative procedures and policies.

This index includes the following categories: The province's preference for SOEs causing difficulties for enterprises" (% Agree); SOEs have more favorable access to land (% Agree); SOEs have more favorable access to loans (% Agree); SOEs have more advantages in being licensed to mineral exploitation (% Agree); SOEs have more advantages in implementing administrative procedures (% Agree); SOEs have more advantages in obtaining contracts from state agencies (% Agree); FDI enterprises are given priority to solve difficulties over private enterprises (% Agree); Province prioritizes FDI attraction over personal sector development (% Agree); FDI enterprises have more advantages in accessing land (% Agree); FDI enterprises have privileges in CIT exemption/reduction (% Agree); FDI enterprises have more advantages in implementing administrative procedures (% Agree); FDI enterprises' activities receive more attention and support (% Agree); Business resources (contracts, land, etc.) mainly fall into enterprises close to state officials; and great incentives enterprises (public and private) are obstacles for enterprises themselves (% Agree).

H6: The index of equal competition is proportional to the total amount of FDI inflows into Vietnam

The dynamism and pioneering of provincial leaders show their creativity and wisdom in the process of implementing central policies as well as in making their initiatives to develop the private sector, and at the same time, evaluate the ability to support and apply the periodically unclear policies of the Central Government in favor of businesses.

H7: The dynamism and pioneering of provincial leaders are proportional to the total amount of FDI inflows into Vietnam

Labor training shows provincial leaders'

efforts to promote vocational training and skill development to support local industries and help laborers find jobs. Authors Audrey Gilmore, Aodheen O'Donnell, David Carson, and Darryl Cummins pointed out that countries with available human resources competent enough for the investment firm will help host countries attract more FDI capital [12]. This is because businesses can save maximum costs in training and building a team of employees that meet production and operation standards.

H8: Labor training is proportional to total FDI inflows into Vietnam

Legal institutions and security would help to gain private enterprises' trust in the provincial judicial and judicial systems, whether these legal institutions are considered practical tools to resolve problems and disputes or a place where they can complain about corrupt practices by local public officials. Anne WanguiMuya and Fred Mugambi analyzed the attraction of FDI into Kenya with five factors, including legislation and insecurity. Specifically, both authors argue that an appropriate legal system and security will positively affect a country's ability to attract FDI.

H9: Legal institutions and security are proportional to the total amount of FDI inflows into Vietnam

From the above arguments, the research hypotheses are summarized as follows:

Table 1: Research hypotheses

Number	Hypotheses
H1	Market entry cost is inversely proportional to total FDI inflows into Vietnam.
H2	The index of land access and stability in land use is proportional to the total amount of FDI inflows to Vietnam.
H3	The index of transparency and access to information is proportional to the total amount of FDI inflows to Vietnam.
H4	The time cost to implement state regulations is inversely proportional to the total FDI in Vietnam.
H5	Informal charges are inversely proportional to total FDI inflows to Vietnam.
H6	Fair competition is proportional to the total amount of FDI inflows to Vietnam.
H7	The dynamism and pioneering of provincial leaders are proportional to the total amount of FDI inflows into Vietnam.

Number	Hypotheses
H8	Labor training is proportional to total FDI inflows into Vietnam.
H9	Legal institutions and security are proportional to the total amount of FDI inflows into Vietnam.

Source: synthesized by the author, 2022

Therefore, the table of expected values is as follows:

Table 2: Expected values of explanatory variables

Explanatory variables	Expected values
Market entry cost	(-)
Access to land and stability in land use	(+)
Transparency and access to information	(+)
Time cost to implement state regulations.	(-)
Informal charges	(-)
Fair competition	(+)
The dynamism and pioneering of provincial leaders	(+)
Labor training	(+)
Legal institutions and security	(+)

Source: synthesized by the author, 2022

In addition, for the convenience of running tabular data as well as data representation, the author will shorten the name of explanatory variables as follows:

Table 3: Shortened names of explanatory variables

Explanatory variables	Shortened names
Foreign direct investment (FDI)	FDI
Market entry cost	Entry
Access to land and stability in land use	Land
Transparency and access to information	Trans
Time cost to implement state regulations.	Time_Cost
Informal charges	Informal
Fair competition	Policy_bias
The dynamism and pioneering of provincial leaders	Proactivity
Labor training	Labor_Policy
Legal institutions and security	Law

Source: Synthesized by the author, 2022

This study focused on analyzing the impact of the nine factors mentioned above on attracting FDI into Vietnam in the period 2016 - 2022.

Therefore, FDI is an independent variable and the 9 variables are the explanatory variables. The basic model for the panel regression model is specified in reduced form as follows:

$$\text{Log}FDI_{it} = \alpha_0 + \alpha_1 \text{Log}Entry_{it} + \alpha_2 \text{Log}Land_{it}$$
$$+ \alpha_3 \text{Log}Trans_{it} + \alpha_4 \text{Log}TimeCost_{it}$$
$$+ \alpha_5 \text{Log}Informal_{it} + \alpha_6 \text{Log}PolicyBias_{it}$$
$$+ \alpha_7 \text{Log}Proactivity_{it} + \alpha_8 \text{Log}Law_{it}$$
$$+ \alpha_9 \text{Log}LaborPolicy_{it} + \varepsilon_{it}$$

In which   i: Province, city

t: Year (Period 2016 - 2022)

ε_{it}: Error

In addition, the change from linear regression model to log-log regression model is to show the assumption that the effect of the explanatory variables will gradually decrease, and to normalize the large skewness in the data set. In addition, the log-log model also has the advantage of being convenient interpreting the estimated results when showing a correlation relationship (a 1% change in the explanatory variable will lead to a x% change in the dependent variable) rather than an absolute relationship (a change of 1 unit in the explanatory variable will result in an x change of units in the dependent variable).

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FACTORS AFFECTING THE APPLICATION OF MANAGEMENT ACCOUNTING TO EVALUATE THE OPERATION EFFICIENCY OF VIETNAM ENTERPRISES

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Abstract: *Management accounting has long played an essential role in providing information to business managers, and it is gradually becoming an effective management tool and acting as a professional advisor, supporting the decision-making of business managers. However, the application of management accounting in general and management accounting to evaluate performance in enterprises still needs to be improved. Previous studies have pointed to several causes for this fact, but there still needs to be a consensus on the factors that directly influence it. Through the research review, we have proposed a theoretical model for future empirical studies on the factors affecting the application of management accounting to evaluate the performance of Vietnamese enterprises, including Enterprise size, Senior managers' perception of the usefulness of management accounting in assessing the performance of enterprises, Commitment of senior management, Business strategy of enterprises, Corporate culture, Qualifications of accountants, Information technology systems, Competitiveness of the business environment, Customer resources and Advanced production techniques - ATM, comprehensive production techniques - TQM, JIT management techniques.*

• Keywords: *management accounting, firm performance, firm performance measure, factors, Vietnam's company.*

Tóm tắt: *Kế toán quản trị từ lâu đã đóng vai trò quan trọng trong việc cung cấp thông tin cho các nhà quản lý doanh nghiệp (DN) và nó đang dần trở thành một công cụ quản lý đắc lực, người làm kế toán quản trị đóng vai trò như một cố vấn chuyên môn, hỗ trợ cho việc ra quyết định của các nhà quản lý DN. Tuy nhiên việc vận dụng kế toán quản trị nói chung và vận dụng kế toán quản trị để đánh giá hiệu quả hoạt động nói riêng trong các DN còn hạn chế. Các nghiên cứu trước đây đã chỉ ra được một số nguyên nhân của thực tế này, nhưng vẫn còn chưa thống nhất các yếu tố ảnh hưởng trực tiếp. Thông qua tổng quan nghiên cứu, chúng tôi đã đề xuất được một mô hình lý thuyết cho các nghiên cứu thực nghiệm trong tương lai về các yếu tố ảnh hưởng đến việc vận dụng kế toán quản trị để đánh giá hiệu quả hoạt động trong các DN Việt Nam, bao gồm: Quy mô DN, nhận thức của nhà quản lý cấp cao về tính hữu ích của kế toán quản trị (KTQT) trong việc đánh giá hiệu quả hoạt động của DN, cam kết của nhà quản lý cấp cao, chiến lược kinh doanh của DN, văn hóa DN, trình độ nhân viên kế toán, Hệ thống công nghệ thông tin, mức độ cạnh tranh của môi trường kinh doanh, nguồn lực khách hàng và các kỹ thuật sản xuất tiên tiến - ATM, kỹ thuật sản xuất toàn diện - TQM, kỹ thuật quản trị JIT.*

• Từ khóa: *kế toán quản trị, hiệu quả công ty, thước đo hiệu quả công ty, các yếu tố, công ty Việt Nam.*

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1. Introduction of the research problem

A characteristic of the global economy is the increasingly complex and uncertain business environment. Enterprises aim to improve operational efficiency continuously, and only through the operating system can they evaluate their development (Omar & Zineb, 2019). Therefore, the evaluation of performance is critical, always interested in the team of managers (Kaplan and Norton 1992, 1996; Neely et al., 2001; Maisel, 2001; Raffaele, 2010; Omar & Zineb, 2019). Not only that, but the issue of assessing the performance relationship in the current economic environment is also an important issue for researchers because, up to now, there are many different approaches to the evaluation of the performance relationship,

such as Evaluation of the business performance through a system of indicators developed from the original model of the Balanced Scorecard (BSC); Or evaluate the company performance based on the point of view that the business plan is to reflect the level of use of the enterprise's resources in business activities so that the waste of resources and financial resources is the lowest with the highest efficiency; Or approach to evaluate the operational efficiency based on the point of view that the operating system is a cause-and-effect connection between the efficiency of each process of production and business activities to the overall efficiency of the whole enterprise.

Regarding the application of management accounting to evaluate the performance of enterprises: In the world, there are many models - considered as management accounting techniques to evaluate the performance of enterprises, such as the Balanced Scorecard. Scorecard - BSC (BSC by Kaplan & Norton, 1982), The Performance Prism (English is Performance Prism by Neely et al., 2001), Benchmarking (Benchmarking by Robert Camp, 1989), ... These management accounting techniques have been presented in management accounting books/textbooks around the world (such as "Performance Measurement & Management - A strategic approach to management accounting" by Malcolm Smith (2005); "Essential tools for management accounting" by the global management accounting organization CGMA - Chartered Compiled by Global Management Accountant (2013); and "Review of Management Accounting Research" (by Abdel, 2011), but the content of these models is still highly generalised and challenging to apply in practice. In Vietnam, the research on "Evaluating firm performance" in depth and international accounting is unclear. Therefore, a comprehensive research approach to implementing management accounting to assess the overall performance of enterprises and factors is still open (Nguyen Thi Thuy, 2022).

In addition, many studies in the world and Vietnam have examined the impact of factors on the application of management accounting in enterprises in general (including management accounting techniques for assessing performance

evaluation) and the use of the performance evaluation indicator system in particular; Each study was conducted in a specific context in terms of time, country, type of enterprise and gave the results that the influencing factors are not precisely the same, some factors have been shown to have an effect in each country; In one study, but was found to have no effect in other studies. Therefore, it is necessary to research the factors affecting the application of management accounting to evaluate the operational efficiency of enterprises in Vietnam.

In addition to the Abstract, Keywords, and References, the article is structured into seven parts: Introduction to the research problem, Literature review, Background theory, Research methodology and model building, Conclusions and future research directions.

2. Literature review

Management accounting has been formed for a long time, with the role of a tool to support managers in decision-making. Over time, management accounting techniques are also increasingly developed, diverse in quantity and depth; for example, in the early stages, only simple cost management techniques such as cost determination appeared; Cost by job determines the cost by production process; But later, new management accounting techniques were developed, such as activity-based costing (ABC), goal-based costing, etc. Alternatively, related to the evaluation of Operational efficiency, in the past, the evaluation of Operational efficiency was usually only based on financial indicators and used analysis techniques of cost, revenue and profit fluctuations between actual and planned; But later, scientists invented modern management accounting techniques such as Benchmark, BSC. Moreover, the application of management accounting techniques varies between enterprises in different countries. Therefore, many studies have been done to determine the factors affecting the application of management accounting techniques in enterprises. In addition, scientists worldwide have also carried out studies on the factors affecting the use of indicators to evaluate and measure performance. However, no research

has been conducted on the factors affecting management accounting implementation to evaluate enterprises' operational efficiency. Therefore, relevant studies are summarised in the following directions:

Firstly, *studies on factors affecting the application of management accounting in general,* including Haldma and Lääts (2002), Abdel and Luther (2008), Tuan Mat (2010), Erserim (2012), and Ahmad (2012). Most scientists use qualitative and quantitative research methods to determine the influence of factors on the application of management accounting in enterprises. Research results have found that: Factors such as Enterprise Size, Advanced Manufacturing Techniques (AMT), Total Quality Management (TQM), Customer Resources, Enterprise Management Decentralization, Enterprise culture, enterprise managers, market competition, environmental instability, organisational structure, and production technology affect the application of management accounting in enterprises. However, each study found one or more influential factors; some were influential in one study but found no relationship in another. The studies were carried out on enterprises of different types of business in different countries.

In Vietnam, there is research by Doan Ngoc Phi Anh (2012), Tran Ngoc Hung (2016), Vu Manh Chien and Nguyen Thi Thuy (2016), and Le Thi Tu Oanh et al. (2019). Similar to other studies worldwide, studies in Vietnam also use qualitative and quantitative research methods to answer their research questions. The research results of the above works have shown several factors affecting the application of management accounting in enterprises in general and SMEs in particular, including Enterprise size, organisational structure, corporate culture, and recognition. Managers' knowledge about the usefulness of management accounting, state ownership, costs for organising international accounting and corporate strategy, and the level of market competition.

Thus, compared with other studies in the world, studies in Vietnam show that the influence of factors on the application of management

accounting in enterprises in Vietnam is different, specifically: factors such as "Managers' perception of the usefulness of management accounting, the level of state ownership, costs for organising management accounting, corporate strategy and information technology", do not mention factors. Factors such as Advanced Manufacturing Engineering (AMT), Total Quality Management (TQM), Total Quality Management (TQM) and Financial Limits; The influence of the factor "Environmental instability and requirements from external stakeholders" was not found.

Secondly, *studies on factors affecting the use of performance measurement indicators, performance measurement of enterprises*: To evaluate the operational efficiency and measure the performance of enterprises, scientists mainly choose the research subjects that are manufacturing enterprises (such as Hoque & James (2000), Basheikh and Abdel-Maksoud (2005), Abdel and (2005a), Abdel et al. (2008), Ahmada et al. (2016)), construction enterprises (research by Cheng, M.I et al. (2007)) and SMEs (such as Garengo & Bititci (20077). Scientists have used case theory, combining qualitative and quantitative research methods to accomplish their research goals. The results of these studies show that many factors affect the use of performance indicators to measure the performance of enterprises, such as Enterprise size and advanced production techniques. (AMT), Total Quality Management (TQM), Market competition, Enterprise managers, Organizational structure, Production technology, Commitment to intensive work, Training, Management system Information management and the behaviour of stakeholders, and Change of business model.

In this research direction, there are studies by Tung et al. (2011) and Ngo Thi Tra (2021) in Vietnam. Research results of Tung et al. (2011) found that organisational factors (support from senior managers and training) are related to the effectiveness of the system of performance indicators. Research results of Ngo Thi Tra (2021) have shown the influence of 6 factors (Competitive pressure, Decentralization in enterprises, Enterprise structure, Management support, and Understanding of accountants)

on each aspect (financial, customer, employee, internal processes, product quality and product innovation).

Recently, a study by Vo Van Nhi and Nguyen Thi Huyen Tram (2020) on factors affecting the application of management accounting to evaluate performance. The research results show that only three factors positively affect the application of management accounting to assess the performance of SMEs in Vietnam, including Market competition, the participation of business owners and imitation. These three factors only explain 24.6% of the application of management accounting to evaluate performance in SMEs in Vietnam; that is, 75.4% are due to other factors that have not been considered and considered in this study.

Thus, previous studies mainly focused on applying situational theory to determine and consider the influence of random factors on the application of management accounting in general, applying some specific management accounting techniques, or the use of financial and non-financial indicators to assess the performance of a particular area; No research has yet answered the question "Whether the factors that are proven to affect the above research directions will have an impact on the implementation of management accounting to evaluate the operational efficiency of enterprises (including travel agencies). Vietnam) or not?".

3. Background theory

Because the research object is the factors affecting the implementation of management accounting to evaluate the operational efficiency of enterprises, we have used fundamental theories such as the situation theory of Lawrence and Lorsch (1967) and the theory of diffusion Rogers' innovation canopy (1995).

3.1. Contingency Theory

Lawrence and Lorsch (1967) were the first to propose the "Contingency", also known as the contingency theory (Contingency), to explain the development and success of enterprises. The Contingency theory emphasises the role and influence of situational factors on the performance of enterprises (Lawrence & Lorsch, 1967). The theory explains the relationships between the influencing factors and the results based on analysing the behaviour and activities of enterprises. There are four essential contents throughout the whole Contingency theory (Lawrence & Lorsch, 1967), which are: (1) There is no single best method that can handle every situation that a business encounters; (2) The processes and structure of an enterprise must be appropriate for its environment; (3) To operate effectively, enterprises need to ensure the appropriateness between the internal (organisational structure) and external (environmental characteristics), and (4) Enterprises will operate more effectively when there is a management structure suitable to the tasks and nature of each work group and specific environmental characteristics. Developing Contingency theory from the initial foundations of Lawrence and Lorsch (1967), researchers all agree that an interactive, mutually supportive relationship exists between a business and its environment. The success of an enterprise is influenced by contextual factors such as environment, culture, strategy, technology, and scale, ... of that enterprise (Phan Thanh Tu et al., 2018). The Contingency theory is the congruence theory between organisational structure and contextual variables.

The Contingency theory has been applied by scholars to research issues related to management accounting. The study of Abdel A. et al. (2005a) applies this theory to examine the degree of influence of factors (technology, management, organisation and environment) on the importance of using non-financial indicators in UK manufacturing firms. Research results have provided evidence of the influence of different "management", "technology", "organisation", and "environmental" factors on the evaluation indicators. Researchers such as Abdel A. et al. (2005a), CIMA (1993), and Otley (1997, 1999) argue that factors such as "nature of competition", "degree of deployment of advanced production technology" (AMT), "Innovative Management Practices (IMP)" and "structural innovations such as teamwork" have a significant influence

on the selection of performance indicators that are most relevant to the enterprise. Specifically, the study of Islam and Hu (2012) said that the operational efficiency of enterprises depends on the suitability of technology, environmental fluctuations, the size of the enterprise, the features of the organisational structure and its information system.

Gordon and Miller (1976) analysed important variables for organisational performance. Their framework in Figure 1.1 shows "environment", "organisational characteristics", and "management decision-making behaviour" as core random variables in order to provide a framework for establishing the Information system of Management Accounting as follows:

Figure 01: Case theory framework
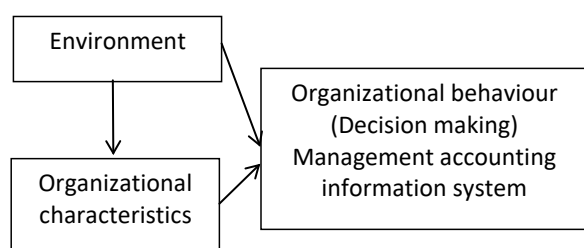
Source: Gordon and Miller, 1976

The Contingency theory shows that the use of management accounting information systems is affected by the enterprise's characteristics and environmental factors. The research of Gordon and Miller (1976) is applied to this study, whereby the Contingency theory will be applied to explain the impact of two factors: Environment (Business environment) and organisational characteristics. Organisation (enterprise size, perception of senior management about the usefulness of implementing management accounting to evaluate the Operational efficiency, commitment of senior management, business strategy, qualification of accounting staff, IT system) to evaluate the operational performance of enterprises.

3.2. Diffusion of Innovation Theory

Diffusion of Innovation Theory was developed in 1962 by Rogers, a communications theorist at the University of New Mexico. This theory explains why new ideas are spread by a particular community and accepted over time. How innovations are connected to different parts of society and the subjective opinions involved are essential factors in how quickly diffusion occurs.

Scholars have applied the theory of innovation diffusion to the study of issues related to management accounting: Dunk's study (1989), the author used this theory to explain the slow change of the management accounting system in the production process and at the same time provide discussions on the application of this theory in the implementation of modern management accounting techniques. Rogers (1995) also applied this theory to consider the factors affecting the application of BSC in the organisation; The research results show that: There are three factors affecting an organisation's ability to accept innovation (Using BSC): Firstly, the personal characteristics of the manager such as the manager's perception. On BSC, management's commitment to preparing resources for the organisation to implement an innovation; Second, Organizational culture: Organizational culture has an essential meaning to implementing new ideas and plans. If an organisation has a good connection, communication and sharing between departments in the enterprise, it is beneficial to spread innovations and vice versa; Third, Organizational characteristics: In addition to the internal factors of the organisation, the external characteristics also have a significant impact on the behaviour of accepting innovation such as a highly competitive environment that can stimulate job openings. Apply new initiatives. Pham Thi Kim Yen (2019) also applied the theory of innovation diffusion to examine how the "Manager" factor affects the application of BSC in Vietnamese hotel service businesses; The research results show that "Perception of the usefulness of BSC by hotel managers" has a positive impact on the decision to use BSC to evaluate the working relationship.

In this study, we apply Innovation Diffusion Theory to consider and explain the influence of the factor "senior managers' perception of the usefulness of management accounting in evaluating the operational efficiency of enterprises". Moreover, "Corporate culture" to perform management accounting to evaluate the operational efficiency of enterprises.

4. Research methodology and model building

4.1. Research methodology

The qualitative research method is used when reviewing documents to build a model of factors affecting the application of management accounting to evaluate the operational efficiency of enterprises. The document review was done in a 4-step process:

Step 1: Searching for relevant data sources: we search for relevant documents by looking up keywords on Google scholar, articles in Scopus and web of science categories, doctoral theses from the website of the National Library, the Proceedings of the National and International Scientific Associations, ...

Step 2: Extract data: Based on the search results, we only filter quality articles (shown in the number of citations, prioritise articles in the Scopus category), e-books, domestic books, textbooks, doctoral dissertations closely related to the research content (references are specifically cited in the References List).

Step 3: Synthesize research results of previous studies, analyse documents, and evaluate and inherit contents related to the research problem.

Step 4: Synthesize and build a model of factors affecting management accounting implementation to evaluate enterprises' operational efficiency.

4.2. Research model building

The literature review shows that many studies in the world and Vietnam have examined the impact of factors on the application of management accounting in enterprises in general (including management accounting techniques for evaluating operational efficiency) and the use of the performance evaluation indicator system in particular. Each study was conducted in a specific context in terms of time, country, and type of enterprise and showed that the influencing factors are not precisely the same; some factors have been shown to affect each country. In one study, but was found to have no effect in other studies. Therefore, when proposing a model to study the factors affecting the implementation

of management accounting to evaluate the operational efficiency of businesses in Vietnam, we do not use a single author's research model intact, which combines the influencing factors in the models of the two research directions above. Accordingly, the factors affecting the implementation of management accounting to evaluate the operational efficiency of enterprises are presented in the table below:

Table 1.1: Summary of factors affecting the implementation of management accounting to evaluate the operational efficiency of enterprises

No.	Factors	Source
1	Enterprise size	Ahmada et al. (2016), Abdel & Luther, (2008),Ahmad (2012), Tran Ngoc Hung (2016), Le Thi Tu Oanh et al.(2019), Hoque & James (2000)
2	Perceptions of senior managers about the usefulness of management accounting in evaluating the performance of enterprises	Ahmad (2012), Vu Manh Chien & Nguyen Thi Thuy (2016), Le Thi Tu Oanh et al.(2019)
3	The commitment of senior management	Cheng, M.I et al.(2007).Ahmada et al.(2016), Tung et al.(2011), Vo Van Nhi &Nguyen Thi Huyen Tram (2020)
4	Enterprise business strategy	Baines & LangfieldSmith (2003), Tuan Mat (2010), Tran Ngoc Hung(2016)
5	Enterprise culture	Erserim (2012), Tran Ngoc Hung(2016), Le Thi Tu Oanh et al.(2019),
6	Accountant qualification	Feeney (2007), Tran Ngoc Hung(2016), Vu Manh Chien & Nguyen Thi Thuy (2016),
7	Information technology system	Vu Manh Chien & Nguyen Thi Thuy (2016), Garengo và Bititci (2007)
8	The level of competition in the business environment	Ahmad (2012), Tran Ngoc Hung(2016), Le Thi Tu Oanh et al.(2019), Basheikh & Abdel (2005), Abdel et al.(2005a), Vo Van Nhi &Nguyen Thi Huyen Tram (2020)
9	Customer Resources	Abdel & Luther (2008)
10	Advanced manufacturing techniques - ATM, comprehensive manufacturing techniques - TQM, JIT management techniques	Abdel & Luther (2008)

Source: Compiled by the group of authors

Based on the background theories in Section 3. Moreover, the influencing factors have been synthesized from the above research overview;

we have proposed a theoretical model of factors affecting the implementation of management accounting to evaluate the operational efficiency of enterprises as outlined in Figure 02:

Figure 02: The proposed model studies the factors affecting the implementation of management accounting to evaluate the operational efficiency of enterprises

5. Conclusions and future research directions

Using the qualitative research method, we have proposed a theoretical model for future empirical studies on the factors affecting the implementation of management accounting to evaluate the operational efficiency of Vietnamese enterprises. In the futur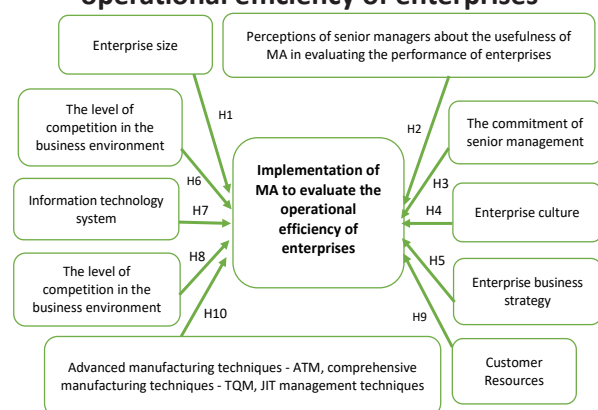e, empirical studies will be conducted to test the hypotheses and determine the influence level of each factor according to the research model proposed above; The results of empirical research will be the basis for making recommendations to help Vietnamese enterprises apply management accounting to evaluate the operational efficiency of their enterprises.

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CAN RETURNEE ENTREPRENEURS BE AGENTS OF CHANGE: AN INVESTIGATION FROM INSTITUTIONAL LOGIC PERSPECTIVE

MA. Bui Cam Van*

Abstract: *Returnee entrepreneurs (REs) are highly educated and skilled individuals who return to their home countries after gaining business experience and/or education in another, primarily developed, country. Such individuals are argued to be prime actors with distinctive characteristics and to be key agents of growth and innovation in emerging economies. However, when they return home, they may face different institutional logic pressures in conducting business. Based on interviews with REs in the information technology industry in Vietnam, the research demonstrates that REs can have various mechanisms to response to institutional logic pressures and can actively influence institutional changes in home country.*

Tóm tắt: *Các doanh nhân hồi hương là những cá nhân có trình độ học vấn và kĩ năng cao, trở về nước sau khi học tập và/hoặc làm việc ở một quốc gia phát triển khác. Những cá nhân như vậy được cho là động lực chính thúc đẩy sự tăng trưởng và đổi mới ở các nền kinh tế đang phát triển. Tuy nhiên, khi về nước, họ có thể gặp khó khăn trong việc tiến hành kinh doanh do sự khác biệt của hai quốc gia. Dựa trên các cuộc phỏng vấn với các doanh nhân trở về trong ngành công nghệ thông tin ở Việt Nam, nghiên cứu này chỉ ra rằng các doanh nhân trở về ở các nền kinh tế mới nổi có thể thực hiện các biện pháp để ứng phó với các khó khăn và qua đó tác động tích cực đến sự thay đổi thể chế thông qua nhiều cơ chế, trực tiếp hoặc gián tiếp.*

• Từ khóa: *thay đổi thể chế, logic thể chế, doanh nhân hồi hương, Việt Nam.*

Introduction

Returnee entrepreneurs are skilled individuals who return to their home countries to start up a new business after having gathered business experience and/or education in another, predominantly developed, country (Drori et al., 2009). Such individuals are argued to be key agents of growth and innovation in emerging economies.

So far, only a relatively small stream of research has focused on the interplay between returnee entrepreneurship and the institutional environment (Gruenhagen et al., 2020). When coming backs, REs will face different logics from home and host countries. These logics will differently guide them on "how to interpret organizational reality, what constitutes appropriate behaviour, and how to succeed" (Greenwood et al., 2011). However, the current literature is lack of explanation on what are some tensions that REs are facing in doing business in home countries and how do they response to that situation. Current literature also suggested that in such context of competing logics, self-interested institutional entrepreneurs are able to trigger institutional changes (DiMaggio, 1988). However, the mechanisms of change remain unclear.

We drew on institutional literature to fill this gapby studying REs in the information technology (IT) industry in Vietnam to (1) exploring competing logics and their tensions on REs' ventures (2) describing mechanisms that REs can use to response to the situation and, (3) their possible contribution to local institutional change.

On one hand, returnee entrepreneurs want to integrate with host norms but on the other hand,

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they have to adapt with home norms when doing business. Hence, entrepreneurs in this field are constrained by logic demands in deciding what to do, which values are central, and what logics should be inculcated to guide future practices, creating a compelling context for our research.

In the next section, we will introduce the conceptual framework and then proceed with the research methodology, findings, and discussion.

Literature review

The institutional theory has been an useful approach in explaining human behavior, focusing on the molding effect of institutional forces in a structuralized environment where homogeneity dominates *(*Scott, 1995*)*. This approach emphasize that organizations are subjected to coercive, mimetic, and normative pressures that promote isomorphism by influencing business practices in a predictable manner (DiMaggio, 1988). However, the traditional approach of institutional theory faces the paradox of embedded agency and fails to explain how actors enact changes to the context by which theyare shaped.The concept of logics was introduced into institutional theory by Friedland (1991) in their bid to explain the paradox. They posited that every societal sector is characterized by a central logic linked to "a set of material practices and symbolic constructions." These factors shape and constraint the behavioral repertoire of social actors differently (Friedland, 1991).

REs refer to competent individuals who, having acquired business expertise and/or education in a mainly developed nation, choose to establish a new business in their home country (Drori et al., 2009). Research on REs and their ventures are dominant with studies about REs advantages and their contribution to innovation, internationalization and knowledge transfers in home countries (Liu et al., 2019). So far, only a limited amount of research has directed attention to the relationship between institutional environment and their interaction with REs.While developed host countries generally possess a relatively robust regulatory environment, the home countries of REsmay lack this strongly regulated environment (Bruton et al., 2010). These differences will place many difficulties on REs' venture. However, the institutional literature has given little attention to how individuals are affected by an ongoing situation where multiple logics coexist and how they response to the situation. REs offer a compelling context for this research. However, this institutional setting has been significantly under-researched.

Upon returning to their home country, REsencounter the challenge of adapting to the local institutional environment (Lin et al., 2019) and integrating host countries values into their practices. The presence of challenges on the other hand provides an opportunity for these REs to introduce institutional changes in their home countries. Hence, we ask three questions in this study, i.e., i) What are competing pressure that Res have to face in doing business in home countries? ii) What are some mechanisms that REs can use to response to the situation? (3) What is their possibility of impact to change local institution?

Methodology

The primary method used to capture logics is a qualitative approach (Reay & Jones, 2016). We use in-depth interviews to collect information, starting from raw data and and keep comparing the themes that emerge with the literature to find new themes.

Data collection

In this research, 13 interviews have been conducted with IT companies in which their founders are REs (Table 1). We approached REs through introduction of relatives and friends who were working in IT industry. We conducted and audio-taped semi-structured face-to-face interviews with these informants, each lasting between 45 minutes and two hours.These interviews are then transcribed, resulting in 130 pages of typed, single-spaced text.

Table 1: Descriptions of REs' businesses

No	RE	Years operating	No. of staffs	Gender	Host country
1	RE1	7	250	Male	Japan
2	RE2	2	300	Male	Taiwan
3	RE3	5	100	Male	Japan
4	RE4	5	100	Male	Japan
5	RE5	6	100	Male	Japan
6	RE6	2	200	Male	Japan

No	RE	Years operating	No. of staffs	Gender	Host country
7	RE7	5	100	Male	Japan
8	RE8	5	200	Male	USA
9	RE9	3	100	Male	USA
10	RE10	2	10	Female	UK
11	RE11	4	30	Male	UK
12	RE12	3	200	Male	USA
13	RE13	1	20	Male	USA

Data analysis

We used Nvivo12 to code, sort, compare and analyze data. We applied inductive method suggested by Gioia et al. (2013) to identify first-order codes through open coding, then conducted a second-order analysis through "axial coding". Last, we classified the second-order themes into broader categories. These resulted in competing logic pressures and influence mechanisms. Third, we tabulated data according to Miles and Huberman (1994) method to compare across cases and examine the choices made by each RE in relation to each influence mechanisms. We discovered four distinct configurations - *Non-learner, Adaptor, Camouflage, and Innovator.* These configurations are different in terms of the degree of logic adherence, resulting in different choice of mechanism and impact on institutional change (Figure 1).

Findings

The institution consists of regulative, normative, cognitive pressures (Scott, 1995) and these pressures are so much different between home and host countries. Hence, when coming back, REs will be guided by two competing logics, namely *local adaptation logic* and *global integration logic.* On one hand, *local adaptation logic* pushes REs to adapt to local environment to get legitimacy. On the other hand, *global integration logic* pushes them to apply what they learned in host countries to achieve high level of innovation and efficiency.

Competing logic pressures

Regulative pillar

Regulative pressure pertains to the decision of REs to conform to local institution, which is described as "*unclear, lack of information and guidance*", or explore avenues to revise existing regulations facilitating the adoption of novel and innovative business models. New and innovative model are not well-enforced in the law, leaving REs perplexed and hesitant to pursue innovative ideas. Second, property rights are not well enforced, which means that high-invested innovations may be lost before they yield any return. "*Infrastructures and regulations are not supportive enough for innovative ideas*" (RE1). These difficulties can hinder the innovation of REs businesses.

Normative pillar

Regarding normative pressure, REs may face a dilemma when interacting with government officials or local partners. On one hand, they may opt to comply with local regulations, even if doing so may entail engaging in unethical practices like bribery, to expedite their operations. On the other hand, they may choose to uphold their integrity, which could result in slower procedures but could enhance their reputation and credibility in the long run. In developing countries where formal institutions are ineffective or lacking, REs have to resort to informal rules, which provide fallback solutions. This is so much different compared to host country institution where formal institutions are well-established. REs will find it difficult to know about, interpret, and navigate local rules. When formal institutions are underdeveloped, high levels of corruption are likely. RE10's company have received an investment from a state fund. After getting agreement from the fund, "*it takes a long time, a lot of paperwork (...) to get the money. The fund asks me to give some money back for their management board to take money out*". Hence, the norms push them in a hard situation of choosing a suitable action.

Cognitive pillar

In IT industry, "*Vietnamese customers are accustomed to free, unsecure, and even pirate products, so innovation markets are in their infancy*" (RE5), presentingsignificant obstacles to the successful adoption of new technologies. Addressing these issues may require a concerted effort by relevant stakeholders to cultivate a culture of innovation and promote the value of intellectual property rights among consumers.

REs may encounter various challenges when collaborating with Vietnamese employees. According to RE5, some Vietnamese employees may display unprofessional behaviours when interacting with customers. Furthermore, they may lack the necessary skills required for developing high-tech application products.

Hence, REs may encounter a tension between catering to customers' existing preferences by offering products that align with their habits or introducing innovative products that require educating the market. The pressure for REs is to decide whether to prioritize market demand or invest resources in promoting new technologies, training their employees and changing consumer behaviours.

Mechanisms to influence on institutional change

Our findings found four main mechanisms to influence on institution, including *Voice raising, Demonstration, Value education,* and *Value transference.* These mechanisms can impact differently on those three institutional pillars.

Voice raising

First, REs can use their voice to get the problem heard by the government. They can join software associations and contribute to change regulations by giving comments and opinions about policy documents relating to their field. REs also can attend national conferences and raise voice directly to state officials. According to RE13, even the latter way is not effective immediately, it can create changes in long-term. To make a change, the company must be big enough and create a common voice of many people. "*If the need to change regulation is big enough, our government will make the move. Now, what we can do is to provide information for our government.*" - RE13.

Demonstration

When confronted with institutional voids, RE8-RE11 believed that if more firms faced the same policy problem, the need for reforming the "grey areas" would become clear. Instead of directly impact the government to change, these firms choose to conduct indirect way by simply doing their jobs, hoping that as more firms succeed with new technological solutions, policymakers will be more inclined to change regulations to make them more conducive to the new technology. "*I focus on building my business. When I am big enough, the Government will see the problem and amend the law*" - RE8.

Value education

REs can train their employees and educate customers. First, by training and development activities provided and opportunities to work with international customers, employees can improve their IT and professional working skills.

Second, IT REs can assist their customers in reducing piracy and promoting the use of genuine software by providing affordable and appropriate software for Vietnamese users.

Besides, by IT ization other fields in economy, IT can reduce the involvement of human on procedures, resulting in more transparent procedures and better business environment. RE6 believes that "*in order to reduce corruption, we can either change the mindset of direct officials or make the process transparent. IT companies can help in both ways, especially the later one.*"

Value transference

REs can transfer their values to their employees and business partners. First, after learning form training and tacit knowledge transferred by REs, these employees will rotate to other companies and spread the values, becoming "carriers" of these values to other businesses.

Second, the values of integrity and transparency are frequently reflected in discussions, contracts, and implementation with partners. When RE13, for example, declined a contract containing a corruption risk, he made it clear to the partner that clean businesses exist. The products themselves can also be used to transfer values. REs can provide their products as a technical solution to improve transparency in public service delivery, such as in education (RE6) and healthcare (RE7) (RE8).

REs responses to competing logics and their impacts on institutional change

When facing those pressures, we identified four types of responses with different degree of

institutional change impact. These responses are driven by their degree of adherence to each of the competing logics, presented by the two-by-two model presented in Figure 1.

Non-learner

The first recognized configuration is Non-learner. These REs do not apply what they have learned or seen abroad and instead adapt to local business practices (RE1-4). These REs choose to follow traditional IT business model which is outsourcing industry. These REs consider unethical behaviours like "envelope culture" (bribery) as normal or even required to provide businesses flexibility. RE1 and RE4 affirm that they typically pay unofficial fees to complete tasks when collaborating with tax officials or auditors. As RE1 said, "*In Vietnam, do as Vietnamese people do*".

Figure 1: A two-by-two matrix of REs responses to competing logics and their impacts on institutional change
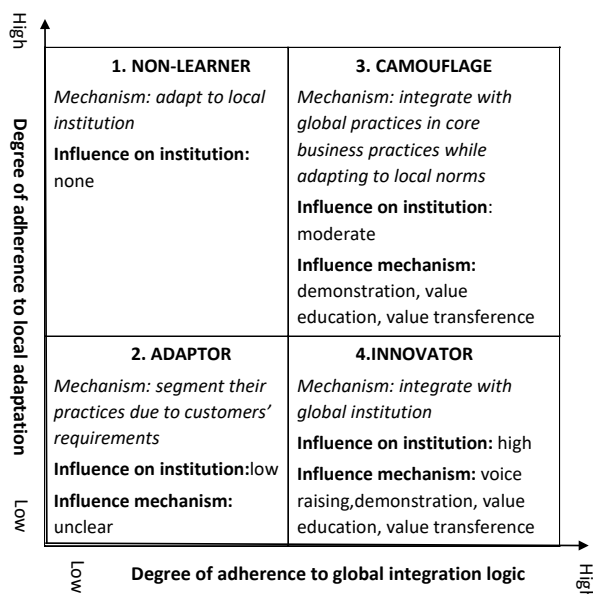
Adaptor

These businesses lack a definite pattern of local adaptation or international standards integration. Instead, companies will divide their practices according to various product lines and clientele, including product development and IT outsourcing.

While product development may only comprise a small portion of their overall revenues, the fact that REs are engaging in this activity implies that they are integrating global practices into their operations to some extent. This demonstrates a willingness to adapt and innovate, which can enhance their competitiveness and sustainability over time.

Regarding local norms and institutional change, these REs adapt to local institution and do not actively seek to change local institutions. When working with Vietnamese businesses and government authorities, adaptors will learn the rules of game and abide by them. For instance, RE5 discovers that local business owners frequently pay bribes to "*smooth things out*". He becomes used to the routine.

The only attempt this type of REs has conducted to change local institution is by educating their employees. They offer different kinds of training and participating in activities to build internal capacity and corporate culture. However, the goals of these actions are not to change local institution but rather to build their internal capacity to satisfy diverse demands from customers. Hence, we hypothesize as unclear impact on institutions.

Camouflage

These REs face highest level of difficulties when pressure from both logics are high. In order to overcome this situation, these REs employ the same technique as a camouflage by preserving the core components and modifying the exterior components to blend in with the surroundings. These REs create products that are cutting edge and beneficial to society to align with international standards while flexible adapting to local norms. Regarding institutional change, these REs influence on local institution by demonstration mechanism, value education, and value transference.

Innovator

Innovators pursuits high innovative products, such as a device to detect real-time neural signals to stimulate the brain to improve sleep (RE13) or a platform to integrate management applications for enterprises (RE12). This requires high level of global standard integration in their businesses. These REs are very active in contributing to change regulations. They conducted all

influence mechanisms found, including voice raising, demonstration, value transference, value education. Moreover, this is the only REs type that can directly influence on regulative pillar of local institutions.

Discussion

We investigate on REs to untangle the possibility of an actor to influence on institutional change. We highlight specific challenges induced by two competing logics, namely *local adaptation logic* and *global integration logic*. We further outline how these special actors can influence on institutional change. While earlier research emphasized that the regulative, normative, and cultural-cognitive dimensions of the institution shape entrepreneurial processes (Chang et al., 2022), our study discovered that firms do not passively comply to institutions but may be able to influence institutional. REs can influence changes to those institutional pillars directly or indirectly by voice raising, demonstration, value education, and value transference, depending to the degree of adherence to local adaptation and global integration logics.

Theoretical implications

Our study contributes to the literature on institutions and REs in various manners. First, our research is among the first one investigating on the possible impact of REs on local institutions. Our research show that REs can be agents of change in local institution by various mechanism, either directly or indirectly depends of the degree of adherence to a specific logic. Second, contrary to earlier research, which defined change agents as people with significant means who take deliberate activities to pursue their interests and transform institutions (DiMaggio, 1988), our study has demonstrated that small enterprises, such as RE ventures, can also have an impact on institutional reforms. We contribute to another way of changing institutions.

Practical implications

Our study also creates implications for REs firms and policy makers. First, our research demonstrates that a firm may be able to influence changes in a variety of ways and that institutional changes may not always begin with regulatory pillars. Second, our research also shows that REs, especially innovator REs, can be a driver of local institutional change. Hence, this study suggests that encouraging entrepreneurs who have already left to return is a beneficial for these developing nations.

Our findings also suggest that REs may move from one response to the other, especially form the left to the right quadrants in the matrix. However, we can only identify the four strategies without showing how REs may move from one to another strategy overtime. Future research should conduct a retrospective research design to test for such questions as "Will actors move from one to another strategy overtime? How? Why". Despite these drawbacks, the research can nevertheless provide useful contributions and offer ideas for future research.

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IFRS ADOPTION IN VIETNAM: CHALLENGES FROM THE DIFFERENCES BETWEEN FINANCIAL MECHANISMS AND TAX POLICIES FOR ACCOUNTING STANDARDS AND REGIMES

PhD. Nguyen Thi Hong Van*

Abstract: *The Government has developed a project to apply international accounting standards to the accounting work of enterprises in Vietnam. However, accounting standards, tax policies and financial mechanisms are still overlapping and inconsistent in approach. The article mentions the basic differences between accounting standards, accounting regimes and regulations on financial mechanisms and tax policies in order to clearly define their scope to serve the adoption of IFRS in Vietnam in the coming years.*

• Keywords: *international financial reporting standards (IFRS), financial mechanisms, tax policies, prevailed accounting regimes.*

Tóm tắt: *Chính phủ đã xây dựng đề án triển khai áp dụng các chuẩn mực kế toán quốc tế vào công tác kế toán đối với các doanh nghiệp ở Việt Nam. Tuy nhiên, các chuẩn mực kế toán, chính sách thuế và cơ chế tài chính còn chồng chéo, không nhất quán trong cách thức tiếp cận. Bài báo đề cập những khác biệt cơ bản giữa chuẩn mực kế toán, chế độ kế toán với các quy định về cơ chế tài chính, chính sách thuế, nhằm xác định rõ phạm vi khi áp dụng nhằm mục tiêu tiến tới áp dụng IFRS ở Việt Nam.*

• Từ khóa: *chuẩn mực báo cáo tài chính quốc tế, cơ chế tài chính, chính sách thuế, chế độ kế toán hiện hành.*

Introduction

In Vietnam, the differences between accounting, financial and tax regulations for enterprises have complicated developments associated with the process of renewing the economic management mechanism from a centrally planned economy to a market economy and international economic integration. In that process, Vietnam's accounting, financial and tax regulations are always renewed and perfected. In terms of accounting, Vietnamese accounting standards have been promulgated and

applied for more than 15 years. Realizing that these standards have not yet updated the changes in accordance with international accounting practices, while Vietnam is integrating more and more deeply with the global economy, the Government has developed and approved a project to apply international accounting standards to the accounting work of enterprises in Vietnam. In terms of financial and tax regulations, many recently issued, amended, and supplemented regulations have also recorded significant progress. However, it can be seen that the view on dealing with the relationship between financial mechanisms, tax policies and accounting regulations, in which the focus is on dealing with different issues, is not really consistent and is carried out in different processes and roadmaps, towards different goals.

Along with the general trend of the world, the difference between financial mechanisms and tax policies for the accounting standards and regimes in Vietnam is inevitable and becomes more and more obvious. Since the renovation of the economic management mechanism in the direction of a market economy, especially in recent years, Vietnam's financial mechanisms, tax policies and accounting systems have undergone many changes towards becoming more and more suitable with the new management mechanism and integration with

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economies in the region and the world. However, currently in Vietnam, there is no consensus on legal documents affecting the financial management of enterprises. Accounting standards, tax policies and financial mechanisms are still overlapping and inconsistency in the approach as enterprises and the State management agencies have not clearly distinguished the application scope of accounting standards, tax policies and financial mechanisms.

1. The differences in measurement and recognition of exchange rate difference

The current tax policy does not allow the recognition of differences due to the revaluation of cash and receivable items which are monetary items denominated in foreign currencies in the Income statement for the period. Meanwhile, under VAS, the difference due to revaluation of all monetary items denominated in foreign currencies at reporting date must be reflected in the Income statement for the period.

In addition, the tax policy stipulates that in the stage of capital construction investment to form fixed assets of newly established enterprises, which have not yet been put into operation, exchange rate differences arising when settling monetary items denominated in foreign currencies for capital construction investment and exchange differences arising when revaluation of monetary items denominated in foreign currencies at the end of the financial year is recognized cumulatively, separately in equity and amortized up to 5 years from the date of operation. While VAS stipulates that all exchange rate differences due to revaluation of monetary items denominated in foreign currencies at the end of the period are recorded in the Income statement.

2. The differences in measurement and recognition of allowances for impairment of assets

Allowances for loss of investments in other entities

The current financial mechanism stipulates that if the investee suffers a loss as planned, the investor is not required to make an allowance for the loss of investment in the investee. However, according to VAS, the basis for making allowance for the loss of investments in other entities is whether the investee

has suffered a loss in its business result or not, regardless of whether the investee's loss is planned or unplanned.

Allowances for bad debts

Vietnam's financial mechanism and tax policy stipulate that an allowance for bad debts is not based on the estimated loss but on the overdue period of the debt. This leads to the fact that if the entity has a 100% irrecoverable debt, but it is not overdue for 3 years, the entity is not allowed to make allowance for bad debts corresponding to the entire value of the receivable.

VAS, on the other hand, allows an expense to be recognized immediately in the Income statement for a period when it is likely that it will not bring economic benefits in the following periods. Accordingly, when an enterprise incurs bad debts due to the debtor's financial difficulties such as bankruptcy, missing, absconding, etc. or inability to repay the debt, it is necessary to estimate losses to make allowance for bad debts. The allowance should be based on the estimated loss of bad debts, not on the overdue period of the debt.

Additionally, the financial mechanism and tax policy stipulate those allowances such as allowance for devaluation of inventories, allowance for bad debts ỏ allowance for loss of investments in other entities are only made at the end of the year. However, according to VAS, they must be recognized at the end of the reporting period.

Provisions for payables

VAS requires that some liabilities, such as costs of dismantling and restoring the premises of fixed assets in the future, must be recorded as a provision for payables and measured at current prices and included in the historical cost of fixed assets. This issue has not been mentioned in the financial and tax regulations though.

3. The differences in recognition of fixed assets

Recognition of impairment loss of in-use fixed assets

The current financial mechanism and tax policy do not allow enterprises to write-off fixed assets in case the fixed assets are in use but no longer bring economic benefits in the future. Nevertheless, under VAS, one of the recognition criteria of an

enterprise's fixed assets is that such assets must bring future economic benefits to the enterprise. When such assets do not bring future economic benefits to the enterprise, they no longer satisfy the recognition criteria of fixed assets, thus, the fixed assets must be removed, and the entire residual value of the fixed assets must be recorded as a loss of the enterprise in the Income statement.

Measurement of initial cost of fixed assets

According to the financial mechanism, the determination of the initial cost for some types of fixed assets is usually based on the legal form, not on the nature of that asset item. For example, Circular No. 45/2013/TT-BTC stipulates that only one-time land rental payments that have been granted a land-use-right certificate and incurred before the effective date of the Land Law will be recorded as Intangible fixed assets. The one-time payment of land rental that has been granted a land-use-right certificate but incurred after the effective date of the Land Law shall not be recorded as an intangible fixed asset. Whereas, under VAS, the initial cost of the right to transfer or lease similar intangible fixed assets is determined based on the nature of that asset.

Changing depreciation method

Vietnam's financial mechanism stipulates that an enterprise is only allowed to change the depreciation method of a fixed asset once during its useful life, and the depreciable value of the fixed asset is calculated on the basis of its initial cost. According to VAS regulations, the calculation of depreciation of fixed assets depends on how the enterprise recovers future economic benefits from the use of that asset and the enterprise can annually review and change the depreciation method. Simultaneously, VAS also stipulates that the depreciation value of a fixed asset is calculated based on its depreciable value and useful life. In which, the depreciable value of an asset is calculated based on its initial cost after deducting the estimated recoverable value when liquidating such asset (the residual value).

Recognition criteria for value of the fixed assets

The current financial mechanism stipulates that one of the recognition criteria of a fixed asset is that the asset must have a value of VND 30 million or more. Meanwhile, VAS does not stipulate the minimum value of fixed assets. According to VAS, whether an asset is considered a fixed asset depends on the characteristics of each enterprise's operation as well as the way in which the enterprise's assets are recovered. This leads to the case that in large-scale enterprises, there are fixed assets with a value of over VND 30 million, but if based on the method of recovering the assets applied by the enterprise, these assets are not satisfied as fixed assets. This recognition is not in accordance with the regulations of accounting.

4. The differences in revenue recognition

Revenue recognition based on performance obligation.

According to the financial mechanism and tax policy, the recognition of revenue, especially the revenue from providing services, is usually based on invoices issued to customers, not on the performance obligations of enterprises to customers. For example, for telecommunications or digital television services that sell prepaid cards, although the enterprise has collected money from customers and issued invoices, the enterprise has not yet fulfilled its service provision obligations. According to VAS, the enterprise has not yet recorded the proceeds as revenue, but according to the provisions of tax law, the enterprise is allowed to record taxable income.

Revenue recognition point of time.

Tax policy stipulates that the recognition point of time of taxable income for service provision transactions is the first-incurred of the following two points of time:

+ The enterprise has issued an invoice for the provision of services to the customer;

+ The enterprise has completed the provision of services to the customer.

Meanwhile, VAS stipulates that revenue from service provision is only recognized when the enterprise fulfills its service provision obligations to customers, regardless of whether money has been collected or invoices have been issued.

Recognition of revenue from goods sent on consignment with fixed price

Tax policy stipulates that the revenue of the agent committed to selling goods at a fixed price

and receiving a commission is the amount on the invoice issued to the customer (according to the amount collected by the customer). The value of consignment goods received by the agent from the consigner is recorded as the agent's inventory.

VAS stipulates that the revenue of an agent who commits to sell goods at a fixed price and enjoys a commission is only the amount of commission paid by the consigner. All consignment goods received from the consigner are not the agent's inventory and the proceeds from the sale of the product to the customer are not the agent's revenue as it must be returned to the consigner. Revenue of the agent is recognized only on commissions earned. Although both methods of recognition according to tax policy and VAS do not change the business results of the enterprise, the specific items in the financial statements are different.

Recognition of donated goods and gifts

Tax policy stipulates that enterprises still have to issue invoices for donated goods and declare VAT. However, VAS stipulates that for donated and gifted goods, the enterprise does not record revenue and cost of goods sold, instead, records it in the enterprise's expenses, because, in fact, the enterprise does not receive any economic benefits from the transaction of donating or gifting goods, therefore, the revenue recognition criteria are not satisfied according to the provisions of accounting standards.

Recognition of promotion and advertising goods

Tax policy stipulates that the value of inventory used for promotional and advertising purposes shall be accounted into the enterprise's expenses. VAS, on the other hand, stipulates that the accounting of these inventories depends on the nature of the transaction. If the promotion and advertising are not for the purpose of collecting money and are not accompanied by any purchase conditions with customers, the value of this inventory is accounted into expenses. However, if the promotion is accompanied by conditions, for example, the customer must buy a certain number of products to receive the promotional goods, then the essence of this transaction is to reduce the selling price and the business must recognize revenue and cost of

goods sold for promotional goods on the basis of the allocated selling price.

5. The differences in expense recognition

Tax policy stipulates that among the expenses incurred in the enterprise, some expenses that do not satisfy the provisions of tax law are not included in deductible expenses when determining taxable income. VAS requires that all expenses of the enterprise, when incurred, be recorded to serve as a basis for cost accumulation as well as determining business results for the enterprise in the period.

Conclusion

Regulations on accounting, finance and tax are always a matter of concern both from a macro and micromanagement perspective. From the perspective of macroeconomic management, this relationship is related to the state management of enterprises and the state budget. From the perspective of microeconomic management, any enterprise is interested in accounting, finance, and tax issues in the process of managing and operating production and business activities. Full awareness of the relationship of accounting, financial and tax regulations in the context of integration is an important basis for the process of promulgating accounting standards and accounting regimes in Vietnam to achieve effective results.

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HUMAN RESOURCE MANAGEMENT FOR DEVELOPING THE SMART CUSTOMS MODEL IN VIETNAM

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Abstract: *In the context of today's complex and changing world, human resource management has become a major issue for any administration's stable development. Vietnam is widely recognized as one of the most attractive, integrative and fastest growing economies in the world which also means the era of digital transformation will soonly cover every aspect of the nation, includes the labour market. Besides a large number of significant opportunities, the digital transformation also creates a lot of challenges and new requirements to the local human resources in both of public sector and private sector. Therefore, the approaches of human resource management will be changing under the era of digital transformation in order to be more efficient to not only improving employees' performance quality but also promoting the organizational sustainable development.*

The main purpose of this research is to analyse the case study of General Department of Vietnam Customs (GDVC) to clarify the impacts of digital transformation on human resource management in the public sector of Vietnam and subsequently, to discuss several key elements in order to suggest a corresponding strategical human resource management system for developing the Smart Customs model. The research has covered theoretical backgrounds of human resource management, digital transformation, the Smart Customs model as well as a discussion of World Customs Organization's (WCO) up to date guideline on human resource management and capacity building to provide recommendations for GDVC' future innovation plans.

• Keywords: *human resource management, digital transformation, smart customs, sustainability, public sector, customs.*

Tóm tắt: *Trong bối cảnh thế giới đầy biến động và phức tạp hiện nay, quản trị nguồn nhân lực đã trở thành một vấn đề quan trọng đối với sự phát triển ổn định của bất kỳ nền hành chính nào. Việt Nam được công nhận rộng rãi là một trong những nền kinh tế hấp dẫn, hội nhập và tăng trưởng nhanh nhất trên thế giới, điều đó cũng có nghĩa là kỷ nguyên chuyển đổi số sẽ sớm bao phủ mọi khía cạnh của quốc gia, bao gồm cả thị trường lao động. Bên cạnh nhiều cơ hội to lớn, chuyển đổi số cũng tạo ra nhiều thách thức và yêu cầu mới đối với nguồn nhân lực địa phương ở cả khu vực công và khu vực tư nhân. Do đó, các phương pháp tiếp cận quản trị nguồn nhân lực sẽ thay đổi trong thời đại chuyển đổi số để hiệu quả hơn, không chỉ nâng cao chất lượng hiệu quả công việc của nhân viên mà còn thúc đẩy sự phát triển bền vững của tổ chức.*

Mục đích chính của nghiên cứu này là phân tích trường hợp điển hình của Tổng cục Hải quan Việt Nam để làm rõ tác động của chuyển đổi số đối với quản lý nguồn nhân lực trong khu vực công của Việt Nam và sau đó, thảo luận một số yếu tố chính nhằm đề xuất một chiến lược tương ứng về hệ thống quản lý nhân sự phục vụ phát triển mô hình Hải quan thông minh. Nghiên cứu đã đề cập đến các cơ sở lý luận về quản lý nguồn nhân lực, chuyển đổi số, mô hình Hải quan thông minh cũng như thảo luận về hướng dẫn cập nhật của Tổ chức Hải quan Thế giới (WCO) về quản lý nguồn nhân lực và nâng cao năng lực để đưa ra các khuyến nghị cho các kế hoạch đổi mới trong tương lai của Tổng cục Hải quan.

• Từ khóa: *quản lý nguồn nhân lực, chuyển đổi số, hải quan thông minh, bền vững, khu vực công, hải quan.*

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I. Introduction

The Fourth Industrial Revolution is developing strongly all over the world which directly influences on the state management towards customs activities in Vietnam. Along with that, the trend of digitization and the movement of supply chain require the customs procedures need to be carried out harmoniously between human intelligence and artificial intelligence (AI) in order to ensure the highest level of automation across all customs activities as well as to allow stakeholders to interact and connect effectively. Subsequently, it is crucial to develop highly skilled human resources as well as to build up a high-technologies system at the same time in order to create a stable foundation for the national digital transformation, gradually move forwards to the digital economy and digital society in Vietnam.

The role of customs is crucial to the economic development, especially the efficiency of customs clearance system is one of the key elements to maximize the values of an economy. Subsequently, in order to ensure these efficiency, Vietnam customs have to maintain a high-quality and adaptable human resource in the context of a changing world. Especially, under the pressure of the Government's policy on restructuring the management system and reducing number of civil servants by 10% in 2021, Vietnam Customs has been facing a serious challenge. For such a long time, from 2013 to 2020, Vietnam Customs did not organize any civil servant examination for new recruitments and only relied on the limited sources of recruiting civil servants transferred from other state agencies. On the other hand, while the total import - export turnover rate of Vietnam has been increasing steadily from 325 billion USD in 2015 to estimated 700 billion USD in the end of 2022 (approximately increasing by 12% each year). The rapid growth of import - export turnover does not only show the national economic development but it also describes the increasing workload and responsibilities that Vietnam Customs in general and the officers have to carry out. In order to solve this problem and to ensure a sustainable development, Vietnam Customs is urgently required to not only apply modern technologies, digital transformation but also to enhance the officers' working capacity in the era of fourth industrial revolution.

II. Literature review

1. Analysis of modern Human Resource Management (HRM) concept

The concept of HRM is introduced to serve the managerial requirements of several administrative procedures to maintain fair employment terms and conditions as well as manage personnel activities for individual employees within the organization. Besides, HRM performs these employment activities in a qualitatively distinctive approach which actively associates the personal career development with the organizational strategies to create long-term values and sustainable developments (Kazlauskaite & Buciuniene, 2008). Hence, HRM is expected to not only maintain fair employment relations between employers and employees but more importantly, encourage their emotional attachment and working engagement with each other as well (Hudselid, 1995).

As the result of linking employees' working interest with their organizational corporate strategy, this helps to increase their associations and improve employees' enthusiasm, working capacity and performance quality as well as the organizational overall outcomes. Moreover, HRM is considered to be more proactive as one of its significant features is forecasting organizational needs along with continual adjustment and monitoring of personnel systems to meet any managerial changes and future requirements (Guest, 1997; Savaneviciene & Stankeviciute, 2013). This feature allows a more flexible and adaptable employment management approach which is extremely ideal for nowadays' rapid economic development. In addition, HRM emphasizes more on developing employees as a part of the employing organizational distinctive culture and core competency so it is a holistic system related with total organizational interest while still recognizing the importance of individualism (Wright et al., 2003).

On the other hand, in the context of today's social and economic rapid developments, employment management requires a more and more sophisticated approach which goes even beyond the regular HRM concept. In order to maximize employees' individual working capacity and their performance quality, it is significant to critically assess their competency and have corresponding management strategy. Hence, the concept of competency based HRM has been introduced to standardize and integrate all HR activities based on competency that also helps to identify each position's expectations. By adopting a competency based HRM system, an organization could be able to measure their employees' suitability as well as provide a more corresponding personal career development plan. In general, the transition from regular HRM to competency-based HRM has been being occurred due to high demands and pressures of global changes for a more comprehensive long-term employment

management system to assist organizations gain sustained successes over time.

The function of a competency based HRM system is popularly acknowledged to add more incremental value into an organizational overall performance. In order to gain and sustain competitive strength and development in the context of today's rapid changing globe, every organization has to continually enhance their employees' working capacity and improve the efficiency of their HRM systems (Kazlauskaite, & Buciuniene, 2008). There are three main routes which have been largely accepted to emphasize that a strategic HRM system can improve organization performance by 1) improving employees' working capacity; 2) encouraging positive attitudes and long-term engagement and 3) enlarging employees' responsibilities to motivating their maximum use of skills and abilities (Patterson et al., 1997). Due to the fact that HRM system covers different areas of employment field so each of its functions contributes different values into the enhancement of organization performance.

Along with the objective of attracting, developing and retaining high-skilled people, a competency-based HRM's advanced function is to match them to the organizational needs and strategies. Hence, this function helps to transform employees' distinctive personal values and working strengths into the organizational core competency and competitive advantage. The core value of a competency-based HRM system is employee engagement which has an extremely impact on the improvement of organization performance. Employee engagement helps to enhance their behavioral and attitudinal involvements which will change the nature of working environment and relations within an organization from pure contractual basis to strong emotional attachment between employers and employees as well as between colleagues. Besides, a competency-based HRM system's decentralized power distribution and flexible rules will lead to improved performance as well because they encourage and nature the flow of opened ideas, communications, personal career development needs and feedback throughout every HR activity in order to fulfill the gap between employees' competencies and the organizational expectations (Guest, 1987).

Especially, another significant function of a competency-based HRM system is strategically managing and developing knowledge of employees based on their competency assessment. This function is strongly recognized as having an important role in determining how successful an organization could

be nowadays. As the result of rapid technological changes and new knowledge introductions, both of employees and organizations are required to continually update their knowledge (Kazlauskaite, & Buciuniene, 2008). The competency-based HRM helps to design long-term learning strategies to enrich the skill base and improve competence levels in order to meet the demand of constant changes (Wright et al., 2003). Furthermore, it is also expected to motivate employees actively seek to learn and improve the skills and knowledge that support the organizational corporation goals (Guest, 1987).

The following table will summarize values of competency-based HRM linked with HRM processes:

HRM processes	Values of competency-based HRM
To competency-based staffing process	- Match the right people to the right jobs at the right time. - Minimize the gap between employees' competencies and the jobs' requirements. - Provide a consistent staffing process to ensure fairness among people over time. - Lower the employee turnover rate.
To competency-based training management process	- Provide favorable environment and opportunities for employees to learn new knowledge and skills according to their competencies. - Save more time, financial and human resources to conduct trainings. - Improve communication between management and employees. - Motivate internal employee mobility and cross-training.
To competency-based performance management process	- Set a clear vision of performance expectations for employees to allow them make better decisions and perform more effectively. - Standardize performance standards within the organization. - Up to date performance appraisals. - Facilitate to develop career plans.
To competency-based career management process	- Enhance the potential for job satisfaction. - Provide a clear vision for both management and employees on their individual professional development plans. - Provide employees insight of the organizational overall strategy to enhance their engagement to the jobs. - Design formal structured career development programs for every job position. - Prepare a good human resource when any changes occurred.

2. The implementation of Digital Customs and Smart Customs in Vietnam

In the current context, Vietnam is aiming for the goal of (1) building a modern Vietnam Customs, on par with the international standards for Customs authorities, leading in implementing Digital Government, with a smart Customs model and (2) enhancing service quality for businesses community and people in carrying out customs procedures, creating a transparent and fair import-export environment that help to maximize national

competitiveness, ensure social security and protect national interests and sovereignty. Therefore, in parallel with the implementation of work related to high technology services to perform Digital Customs, Vietnam Customs has developed a Smart Customs model, which is appraised as one of the most important objectives in the Customs development strategy in 2021-2030, following the direction of a professional, modern and compatible with the global liberalization trend; exploiting the achievements of the fourth industrial revolution for customs sector.

A Smart Customs model is mainly about high degree of automation, modern technological and scientific achievements, digital transformation and paperless platform which aims for a transparent, fair and efficient Customs authority. There are several basic feature of a Smart Customs model, such as: chain and digital ecosystem management; Smart border management; intelligent connection, provides optimal services as follows:

First of all, according to World Customs Organization (WCO), smart border management must contains the virtual customs model and the electronic border gate in order to minimize the direct involvement of customs officers, reducing waiting time at the border and simplify administrative procedures. Furthermore, this model also requires the implementation of modern inspection and technological solutions at border gate areas.

The second, main service is the digital ecosystem management which deploy an integrated supply chain management model following the guideline of WCO's secure and Facilitate Global Trade (SAFE) framework. Besides, it manages the value chain of the production and business process to make sure that goods are used for the right purposes as their Customs declaration.

Thirdly, the model provides optimal services, through establishing a friendly, easy-to-access digital service environment, capable of using services anytime, anywhere and on any device as providing features to support businesses, organizations and people in carrying out administrative procedures.

Fourthly, smart connection and processing is the application of new technological achievements such as: Internet of Things (IoT), Blockchain, Artificial Intelligence (AI), Big Data, ICloud, Mobility to assist the Customs authority in automatically analyzing and processing information; promptly adapting to changes in the operating environment.

Finally, transparency, fairness and consistency in reforming administrative procedures in line with the WCO's standards and recommendations. The management for import and export activities of goods, means of transport on entry and exit must be unified, concentrated, and minimizing the handling process, cutting unnecessary intermediate stages. Encouraging and creating conditions for people, businesses and related parties to cooperate with the Customs authority in law enforcement and supervision.

3. The HRM system of Vietnam Customs sector in the era of digital transformation

Along with the trend of international economic integration, the establishment of various new FTAs and the rising of digital transformation, customs management in general and HRM of the customs sector in particular are undergoing a lot of changes. The customs clearance procedures have had fundamental changes to meet new requirements. Therefore customs officers are also required to regularly learn and master new regulations, be proficient in handling customs new technologies as well as ensure fast clearance procedures without disrupting the global supply chain.

Currently, Vietnam is moving towards to the digital government and e-Government model. Hence, the customs sector is also developing a strategy to implement Digital Customs and Smart Customs in line with the development of national IT infrastructure, adapting to the digital environment and requirements of integration. The application of information technology in Customs management is now carried out nationwide. The development of telecommunications networks and information technology systems will contribute to the deployment of Customs software applications which will be favorable such as fast transmission speed, data security, smooth operation... This is a great favorable condition for Customs authorities as well as businesses to carry out fast and efficient customs clearances and at the same time, support the information collection and risk assessment process to promptly detect and handle smuggling and commercial fraud cases. The implementation of these digital management models and technologies requires innovations in managing customs' human resources.

One of the significant contents of the Plan on Customs digital transformation to 2025, orientation to 2030 is about the implementation of the Smart Customs model. The Smart Customs model will be an important solution to continuously reform the administrative procedures towards transparency, simplicity and consistency which is in line with WCO's standards and recommendations, such as: Convention on simplification and harmonization of

customs procedures; The standard framework for security and global trade facilitation… which ensures goods are released quickly and reduces costs for businesses. The development of Smart Customs model which helps to modernize Vietnam Customs in line with the international changes and standards as well as satisfies the requirements of smart administration such as, a high level of automation, scientific technologies, paperless procedures, transparency, fairness, effectiveness, predictability and adaptability. In addition, Smart Customs model ensures the connection of all stages throughout customs procedure process by fully automated operations: automated information analysis, risks identification, customs documents inspection, classification of inspection flows, tax determination…which are the core professional requirements of the system. Besides, the main objectives of Smart Customs model also includes: trade facilitation through providing customs services anytime, anywhere and on any devices; digitizing documents and records; automatically receiving and returning documents; be able to integrate, connect and share information with other ministries, sectors and businesses through the National Single Window as well as to exchange customs data with other countries. Moreover, Smart Customs model provides a secured and safe platform for the economy by improving the Customs sector's management capacity, includes: high technologies, automated risk analysis system, smuggling prevention, trade fraud, illegal transshipment…

In order to implement the Smart Customs model successfully, a number of requirements need to be implemented into the HRM system:

Firstly, focusing on professionally trainings for Customs officers which provide up to date knowledge, high technology and customs specialized working skills. In order to meet the requirements of the Smart Customs model, training programs must be regularly revised and updated so Customs officers could approach new training methods that combine academic theories, real-work experiences and predicted customs management trends.

Secondly, planning on frequent job rotations in accordance with the actual conditions and needs of each customs department/unit is crucial to maximize human resources capacity that satisfy the Smart Customs model of the Vietnam Customs Development Strategy for the period of 2021-2030. By rotating job positions strategically, customs officers have more chances to learn new knowledge,

create networking and be more capable to overcome unexpected changes during the organization reform and modernization process while implementing Digital Customs and Smart Customs models.

Finally, customs officers must be active in improving their qualifications continuously, especially using modern equipment to deliver jobs. The digital customs model is expected to establish a friendly, easy-to-access digital service environment, capable of meeting the needs of service use anytime, anywhere and on any devices to support businesses, organizations and people in carrying out administrative procedures. Along with that is the development of tools and utilities to measure, monitor and evaluate the effectiveness of state agencies' management and public service quality. Within the working environment of the smart customs model, customs officers are all expected to have skills in analyzing information; operating supporting equipment and modern technologies for delivering customs procedures.

III. Discussion

1. The general introduction of Vietnam Customs' human resource

The following section will describe an overview of the human resource characteristics:
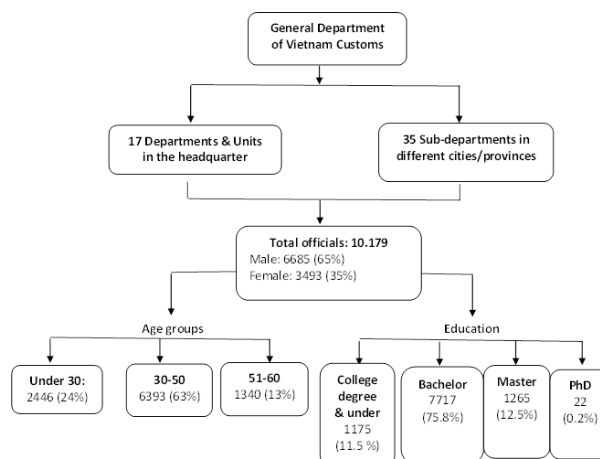
According to the diagram, it describes that Vietnam Customs has 10.179 officials and the number of male officials are also double the number of female officials (male: 65% and female: 35%). The officials are dived into three age groups which has the majority group is from 30 to 50 years old. In terms of the educational background, the majority of officials graduated Bachelor degrees - around 75.8%, 12.5% graduated Master degrees, 0.2% graduated PhD and 11.5% graduated College degrees or under.

2. The comprehensive analysis of Vietnam Customs' HRM

2.1. The current state of HRM in Vietnam Customs

The majority age group is from 30 to 50 years old which is considered as a golden age group because people in this age group tend to have considerable experiences and knowledge as well as still in the productive working period. This is also valued as one of the core strengths of Vietnam Customs in the process of reform and modernization. In addition, with the majority of officials graduated Bachelor degrees and higher that share a similar considerable knowledge foundation to facilitate the administration in implementing trainings successfully. Besides, another strength of Vietnam Customs' HRM system is the management's willingness to reform and modernize the managerial activities so this also helps to motivates employees' working engagement. The system is supported by several legislations and regulations which cover all aspects of human resource management in Vietnam Customs as well.

On the other hand, this legal framework also shows some disadvantages as it is either just short-term plans or too general. The human resource development strategy has just orientated generally for the whole organization instead of focusing on each officials group which has their distinctive needs and differences. Especially, in fact, the management and use of human resource in Vietnam Customs currently tend to be adopted in an administrative procedures manner rather a Strategic Human Resource Management (SHRM) approach. The current approach concentrates on primary managerial requirements such as, recruitment and selection, payroll, personnel record, performance management, redundancy and workplace rules application. There has not been much attention among management levels to distinguish the differences between these two management approaches and comprehend their pros and cons that might be one of the reasons impacts on the efficiency of developing officials' working capacity. Therefore, there are still a number of limitations to efficiently manage human resource. Especially, due to the nature of the current management approach which is only focusing on monitoring daily basic employment activities so the system is lacking of the ability to forecast future employment trends and needs as well as design corresponding strategies. Subsequently, this problem is more likely to create obstructs for the administration to develop a long-term employment management vision in order to maximize the officials' potential

working capacity and engagement. Moreover, the lack of long-term employment management strategies also adds more challenges to enhance the success of future goals as employees are the core component to perform tasks.

As Vietnam Customs have a large number of officials who are at different age groups and educational levels working in a complex organizational structure with different layers of management, this creates several gaps among their perceptions, working motivation, experiences, skills and competencies. Especially, in the current context of frequent economic, social and political changes, it requires a more sophisticated HRM system with flexible approaches. Therefore, the current regular employment management system cannot be able to maximize officials' individual potential competencies in order to meet the demand of a sustainable development for the organization which shows several limitations influencing on each individual HR activity.

2.2. Analysis of assessment operation

Since 2018, Vietnam Customs has been organizing competency assessment for officials from non-management positions of six major customs areas. There are several concerns that there should be a comprehensive assessment to evaluate the results' applicability and reliability before using as a tool for further HRM activities. Although, the competency assessment has brought multiple positive changes in terms of raising awareness of both management lines and officials in constantly monitoring their working competency, there are still several limitations. As the assessment was done in the online questionnaires format test that helped to save a lot of time and effort to conduct but it could not comprehensively assess officials' soft skills and emotional engagement which also play a key role in determining their potential competency.

The competency assessment results in Vietnam Customs are divided into four levels namely, level 0: fail (do not meet the requirement), level 1: pass (being able to perform tasks with frequent supervisions), level 2: intermediate (being able to perform tasks individually), level 3: expert (being able to perform task individually, guiding others and take part in policy development process). The tentative plan of Vietnam Customs will be mostly focusing on providing trainings for officials who achieve level 1 (1st priority) and level 2 (2nd priority) in order to improve their working competencies and minimize the gap among each level, especially when comparing to

level 3. In general, this tentative plan aims to provide the most favourable opportunities for those who lack of required competencies to improve and to meet the organizational demands. Besides, this also helps to motivate their engagements by making them feel as a part of the organizational development despite some of their limitations.

However, from a different point of view, this tentative plan raises some concerns as well. Although, officials who are able to achieve level 3 is the minority group, they are the core value to the success of the administration. In fact, it requires a lot of time, effort and financial resources to achieve the competencies of level 3 so the lack of training investments for officials who achieve level 3 might leads to major damages for the organization. In some extent, the tentative competency-based training scheme of Vietnam Customs should focus on those officials as the 1st priority group who need intensive trainings in order to quickly enhance the administration's efficiency.

2.3. Analysis of staffing process

Although, the competency assessment has been implemented, its results are not yet used for staffing process. Thus, Vietnam Customs purely rely on the legal framework and the management's decisions on proceeding HR activities instead of basing on qualitative and quantitative appraisals. As mentioned above, the recruitment source of Vietnam Customs is people transferred from other state agencies. This might help to decrease the urgency of lacking staff to carry out the increasing workload. However, Customs operations are complex that requires a set of distinctive skills and knowledge so people who are transferred from other state agencies tend to lack of those requirements. This also enlarges the gap among officials' competency levels which creates more and more challenges on the HRM system.

Besides, in term of job rotations, without a formal competency assessment before each rotation which also raises a concern of the efficiency, suitability and fairness. Officials are now rotated to different job positions based on either management's objective decisions or in some cases their proposals. Therefore, it will be more beneficial for both the administration and employees if the staffing process is carried out based on a more comprehensive evaluation such as: competency-based assessment.

2.4. Analysis of training management process

In the beginning of the 4rd quarter every year, the HR Department of Vietnam Customs sends out a training needs form to every department to propose.

Although, all of the trainings are designed based on the organizational overall objectives and development plan for the following year, it has not yet any formal assessment to estimate the distinctive needs and the targeted candidates of each department done by the HR Department. Therefore, the training scheme might have some gaps with the real needs that decreases its efficiency and applicability. Moreover, without a competency-based training management, it is a challenge for the HR Department to match trainings corresponding to the officials' competencies and monitor their performance developments.

Training management is not only about giving people regular trainings they need but it needs to be monitored and assessed constantly. Therefore, the HR Department is suggested to take the advance of the competency assessment results to develop a more in-depth training needs assessment and subsequently a competency-based training management scheme.

2.5. Analysis of performance management and career management processes

Due to the fact of adopting an ordinary administrative procedures approach and the limited use of competency assessment, the HR Department currently focuses on managing the overall performance. Therefore, this consequently leads the lack of career plan development for each individual development. This situation creates difficulties and challenges for both the management and employees to monitor their career paths. Especially, without a realisable system to manage performance and career, officials are less motivated to improve their working capacities and commitments. It is significant to note that in order to aim for a sustainable long-term development, the HR Department should consider performance management and career management are two effective tools to closely monitor officials' competency and improve their commitment.

3. The recommendations to develop competency-based human resource management for Vietnam Customs' reform and modernization

In order to resolve the challenging issue of imbalance between the increasing workload and standards and the limited human resource which Vietnam Customs is facing, it is urgent to establish a strategic competency based HRM system in order to enhance officials' working capacity. It is a complex process to design and fully implement a competency based HRM system which covers multiple stages and activities namely: competency assessment, competency-based staffing, competency-based training management,

competency-based performance management and competency-based career management. The following section will be discussing critically the process of developing competency based HRM with a detailed suggested work plan (Appendix 1).

3.1. Competency assessment operation

In order to increase the assessment's efficiency and validity to facilitate the development of a strategic competency based HRM system, WCO's guideline suggests that *"if competency appraisal is a new practice for the Customs administration, then it is essential to deal with it as part of a communication and change management process in order to reduce the impact of resistance to change".* Along with the online questionnaire assessment test, Vietnam Customs should also consider to adopt individual interview assessment approach to increase interactions between managers and officials for better understandings, valuable exchanges to assess their personal perceptions, engagement levels and aspirations. Moreover, through interviews, it is a great chance to deliver the organizational visions and expectations so officials could be more aware of their responsibilities and more active in developing their own working competencies. In addition, WCO's guideline suggests that in order to support the competency assessment process as well as to identify more insights of officials' potential capacity, the assessment has to consist of four key criteria: autonomy, complexity, issues at stake and occurrence. "Autonomy" describes the official's capacity to perform tasks efficiently with limited or no supervision. "Complexity" refers to the level of difficulty of the task and how complex the skills and knowledge should be employed to perform it. "Issues at stake" helps to assess the necessary of the competency required for the job. Occurrence evaluates the required competency level over a period of time. In order to deliver a successful competency-based training management process, it requires a serious consideration of identifying the core competencies which are the most beneficial to the administration

3.2. Competency-based staffing process

Staffing process includes a set of HR activities: planning, recruitment, induction and integration which aims to estimate and develop the required human resource to satisfy the organizational needs. This process has a lot of influences on how capable the human resource could meet the organizational expectations and consequently, the organizational overall performance. Although, in Vietnam Customs, there is a distinctive system with several regulations, policies and legislations cover every aspect of staffing process, this system tends to assess people based on their qualifications, years of experience and family background rather than assessing comprehensively their competencies and suitability. If the staffing process is done based on the assessment of qualifications, years of experiences and family backgrounds that might help to assess people's suitability at that certain time only but it will not be able to provide the organization a predicted assessment of their potential working capacity.

Hence, according to the WCO's best practices, Customs administrations must develop a strategy for establishing a system of job, workforce and competency planning. Furthermore, an effective staffing process must satisfy three major requirement are: 1) to helping Customs administration to create steward mechanisms that develop a code of conduct which will enhance the HRM department's efficiency and its role as a strategic partner; 2) to allow the Customs administration to achieve a balance between the availability of employees and the staffing requirements in all HR activities and to select the best qualified personnel for the achievement of the organization's development; 3) to enable Customs administration to produce corresponding strategies that will make it easier to integrate and retain employees' commitment.

In order to achieve this suggested staffing process, Vietnam Customs should consider to implement an overall reform plan. Firstly, in regard to the HR planning process, an in-depth analysis of the organizational objectives and operational environment should be done to identify all existing opportunities and challenges. After competency assessment is conducted, it requires an analysis to assess the result to clarify competency gaps. Subsequently, the analysis will be a foundation to produce and introduce plans, strategies and trend measurement for future HRM implementation. Secondly, the HR planning will be a guideline to establish job descriptions and competency dictionary which facilitate the competency-based recruitment process. It is important to note that the organizational vision, tasks and strategy will be used as the core values to monitor the whole process. Finally, the induction and integration process will not be conducted only after the recruitment process completes but it requires frequent monitoring and assessment to promote and retain employees' engagement.

3.3. Competency-based training management process

Training and human resource's capacity building are two major factors to ensure the maintenance and

re-innovation of competency capital. Nowadays, Customs administrations have to deal with constant internal as well as external changes which create pressure on the organization to provide more relevant and effective trainings. Hence, this helps to enhance employees' flexibility and adaptability in a changing working environment. According to WCO's comment, the development of competency capital would be affected by two factors that are constantly interacting each other namely: law of obsolescence and competency inflation (or principle of increasing jobs complexity). Under the influence of these two factors, the Customs administration's competency will gradually decrease over time until it becomes outdates.

The orientation on training management is a tool to help Customs administrations overcome strategic challenges. In order to improve the efficiency and suitability of trainings which are given to officials, it is necessary to develop a competency-based training system to fulfil their individual needs for further career development and the organization's vision as well. Besides, to maximize the added values of each training activity, it is necessary to clarify the nature and goals of training so it could motivate employees to change their regular work rhythms and to contribute into the maintance of competency development. Training activities must be considered as a part of development rationale which allows every official, despite their position, category, gender and duty nature to have all the required competencies for their position, preparations to adapt with changes, chances for professional advancement in line with the career management and contribution to the development of their own performance as well as the organizational achievements. A competency-based training process includes four stages: 1) gathering and analysing the training needs, 2) designing and planning corresponding training activities, 3) trainings delivery and 4) post-training evaluation. This process needs to be done constantly to ensure continuous improvement and to maximize officials' competency over time.

3.4. Competency-based performance management process

According to WCO's discussion, among all HRM activities, competency-based performance management seems to have the greatest gap between plans and reality which also requires to be taken ethically and objectively. The concept of performance management describes a process of assessing employees' working ability, managing the quality of their performances and planning their personnel

developments. In order to add more values to the management process, competency-based performance management has been introduced to provide assessments not only on "what has been achieved" but furthermore, "how the performance has been taken". There are four main components of a competency-based performance management system: operational objectives, competencies, individual development and appraisal process. Among these components, the performance appraisal plays a significant role in the success of the whole performance management process as it provides information resources to directly assess employees' contribution and to determine accurate managerial strategies.

The performance management process is considered as a continuous proactive measure which has three stages: 1) planning and performance agreement, 2) mid-term appraisal or review objectives, and 3) performance assessment. Management tends to assume that employees are aware of what is expected of them but this is not always the case. Therefore, the first stage is extremely important to review and discuss the principle work objectives, the relevant competencies, individual development plans and the implementation plan. In the second stage, a set of activities needs to be carried out continuously throughout the whole period in order to review employees' individual performance timely. These activities are to supervise the process towards achieving work objectives, to give feedback and constantly maintain communication between the management and officials. Finally, although, the management is mainly responsible for the performance assessment stage, it requires employees' cooperation to achieve more reliable results. It is crucial to note that an effective performance appraisal is a combined understanding of the quality, the scale and the competencies of performance. Besides, officials' self-appraisal should also be considered as a referenced information source to appraise their performance even sometimes they might be inaccurate.

The implementation of competency-based performance management could be varied among Customs administrations due to the differences of organizational culture and operational context. However, according to WCO's suggestion, in order to develop a successful competency-based performance management process, there are several conditions must be satisfied. The process must be aligned with the administration's strategy to make sure that the practice will always concentrate on key competencies and closely link to the changes of officials' performances. In addition, the competency measure must transform

the culture of the work to a new efficient paradigm. Furthermore, throughout the whole process, it must integrate all customs stakeholders to achieve a participatory approach based on the management of changes and strategic communication.

3.5. Competency-based career management process

In the traditional model of career management, this activity is adopted as a HR tool to help the organization takes control over the employees' commitment and loyalty towards delivering its objectives. However, in order to maximize the efficiency and to achieve a long-term commitment, it is suggested that a career management process should balance the needs of management and employees. Therefore, a competency-based career management process does not only allow employees to actively maintain and improve their competencies adjusting with changes in their career paths but also the administration to exploit and foster the core competencies for a further sustainable development. From this perspective, the career planning process should include career information (provided by the administration), information on employees, negotiations and support measures. There are numerous career management tools which are encouraged to adopted flexibly such as, information on career flow, self-appraisals, supervisor appraisals, tailored personal development plans, a form which validates employees' competencies, catalogues of educational resources organized by competency, collaborative learning, formal development programmes, professional resource centres, mentoring and training.

The first stage of the process is to identify an inventory of positions and the required competencies which could be referenced from the job descriptions. Besides, during the exercise, it is also crucial to analyse the changes of circumstances, operational plans, employee turnover and critical jobs. These analyses also help to promote internal mobility and competencies' development by identifying the similarities among different positions.

IV. Conclusion

To sum up, due to the rapid global changes, digital transformation as well as the national and international demands for high-quality customs services, every administration is required to invest more effort in improving the efficiency of their employment management approach. Besides, nowadays, customs officials are not only expected to perform usual daily working tasks but more importantly, to advance their working capacities to become the administration's core competency for a long-term development in the context of constant changing world and scientific technology innovations. Therefore, the implementation of a competency-based HRM system has been occurred to satisfy the needs and demand for a better employment management system which meets the requirement of Smart Customs and Digital Customs models.

In order to solve the problematic issue of the imbalance between increasing workload, rapid and constant changes of high technologies implementations in public services management and decreasing number of staff as well as to ensure a sustainable development, Vietnam Customs is urgently required to enhance the officials' competencies. Firstly, it is crucial for the management of Vietnam Customs to transform from the traditional regular employment management to a more sophisticated and updated HRM system in order to advance the management to a higher standard. Besides, a comprehensive assessment of the current human resource management to clarify both strengths and weaknesses that will be beneficial for developing a new innovation plan. In addition, Vietnam Customs is also suggested to adopt WCO's guideline on implementing a competency-based HRM system to not only improve the organizational performance but also to benefit the officials' career development plans. A comprehensive competency-based HRM system covers multiple stages and activities namely: competency assessment, competency-based staffing, competency-based training management, competency-based performance management and competency-based career management.

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FACTORS AFFECTING THE PERSONAL FINANCIAL MANAGEMENT

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Abstract: *The study identifies factors affecting personal financial management behaviors of young adults in Vietnam by examining the relationships among five factors including personal financial attitude, financial knowledge, locus of control, financial self-efficacy and personal financial management behaviors. The study's findings could be useful for organizations, government and other institutions to develop more projects in developing personal financial management.*

• Keywords: *personal financial management behavior, financial attitude, financial knowledge, locus of control, financial self-efficacy,…*

Tóm tắt: *Nghiên cứu các nhân tố ảnh hưởng đến hành vi quản lý tài chính cá nhân của giới trẻ tại Việt Nam được thực hiện thông qua kiểm định các mối quan hệ giữa năm nhân tố bao gồm: thái độ tài chính cá nhân, kiến thức tài chính, điểm kiểm soát, tin tưởng năng lực tài chính và hành vi quản lý tài chính cá nhân. Kết quả của nghiên cứu là cơ sở nền tảng giúp các tổ chức, cơ quan quản lý đẩy mạnh phát triển các dự án nhằm nâng cao khả năng quản lý tài chính cá nhân.*

• Từ khóa: *hành vi quản lý tài chính cá nhân, thái độ tài chính, kiến thức tài chính, điểm kiểm soát, tin tưởng năng lực tài chính,…*

1. Introduction

In recent years, personal financial management practices in particular to youth has been contemporary issues for the society as a whole, which is considered as the huge challenges for youth globally (OECD, 2014). In the today's modernized age under the rapid globally economic developments, younger generations are growing up with higher living standards, non-stoppable growing in personal demands, especially in a culture of debt facilitated by a wide ranges of complexity financial products, credit choices and many different digital financial services. Therefore, it is alert for a surge in financial risks that youth have to confront with. In fact, it is pointed out that the financial and economic developments are not always matched by an increase in financial management skills of youth. According to OECD surveys conducted in 2014,

young people tend to have lower levels of financial knowledge as well as attentions on personal finance compared with those of later generations. Birari and Patil (2014) also indicate young people are lack of attention on practices of essential financial skills like making budgeting, keeping records on daily expenses, maintaining and developing a regular saving amount from income or even prepare for urgent or long-term requirements. In addition, recent study conducted by Financial Time in 2022 indicates nearly half of UK young adults are in financial pressures and have to require urgent helps for day-to-day finance as lack of financial management skills. In Vietnam, an emerging economy, with relative low level of income, third of students in higher education always face up with problem of budget deficit because of spending most of received allowances from parents on personal interests like clothing, cosmetics, traveling, cinema tickets,… (Vnexpress, 2022). These evidences prove that the young generation around the world do not have adequate essential abilities to manage their own finance. A failure in managing personal finances not only affects to each individual's current financial welling-being, but also accumulatively impacts on future saving goals and then leads to negative profound long-term influences in the financial systems as well as the comprehensive economic, financial and social stability and developments of a nation and even global scale (Faboyede et al, 2015). Hence, it is imperative for young adults to have sufficient financial management behaviors.

In general, Personal Financial Management Behavior (PFMB) is the subject of the financial discipline, regarding to all facet of behaviors related to

process of planning, implementing and evaluating the cash flow, investments, risk management, retirement planning, tax planning, and estate planning. Another way, PFMB considers to all financial decisions and activities of each individual. Behaviors on financial management is not limited in taking charge of a daily budget, but also take care of saving, investing to have ready preparations for future, either expected or unexpected issues. Therefore, having solid PFMB enable individuals to be secured, have financial well-being, eventually obtain financial freedom and vice versa, the weak PFMB can lead to poor consequences like debt burdening, poor quality of life, mental health problems,… Hence, in order to establish and enhance PFMB for young generation, it is necessary to determine factors affecting to PFMB, then propose suggestions and solutions to improve individual's PFMB.

In the global context, the term of PFMB is not innovative, there are many researchers attempting to determine and examine various factors impacted in PFMB under many different approaches in a wide ranges of sectors like psychology, sociology, finance, economics and event information technology (Ibrahim and Alqaydi, 2013; Robb and Sharpe, 2009). However, the differences in cultures, regions, levels of education, levels of economic and social development could have significant impacts on factors affecting PFMB. Besides that, such studies are still limited in the Vietnam context, especially studies considering young generations. Therefore, the purpose of this paper is determining and examining the factors affecting PFMB of Vietnamese young adults in the age of 18 to 30. The findings of this study will help individuals, educational organizations, governments, parents, non-profit organizations take benefits of obtaining more deep understanding financial management behaviors, then may use the information into their training and practicing programs to be more effective and efficient.

The paper comprises 5 sections. Section 2 refers to previous literatures regarding to PFMB and relevant factors. The following sections is selected methodology. Section 4 relates to results and discussions and final sections is conclusions and recommendations.

2. Literature review

The previous literatures have identified various factors affecting PFMB under different perspectives. However, based on studies and characteristics of young Vietnamese as well as Vietnamese culture and region, the paper emphasis on testing the relationship between financial behavior and financial attitude, financial knowledge, locus of control and financial self-efficacy.

Hypothesis 1 (H1): The relationship between financial attitudes and Personal Financial Management Behaviors is a positive correlation.

Parrota and Johnson (1998) defined financial attitude as the psychological inclinations expressed under judgements of financial management practices. It refers to the ability to plan ahead, control and maintain a saving amount for financial issues. There are several studies advocated the positive relation between financial attitudes and personal financial management behaviors (Dwiastani, 2017; Ameliawati and Setiyani, 2018). They all agreed that the attitudes toward financial matters play as a key element to decide how a person manage his/her financial resources.

Hypothesis 2 (H2): Financial knowledge and Personal Financial Management Behaviors are positively correlated.

According to *Chowa, Despard, and Akoto (2012)*, financial knowledge refers to the individual's competence in applying his/her knowledge into making appropriate financial decisions. It is clearly, financial knowledge plays an essential role to explain the variations in individuals' behaviors and their financial outcomes. A positive association between financial knowledges and PFMB is concluded by various studies. *Robb and Woodyard (2011) and Zakaria et al.,(2012) found that people possessing high level of financial knowledge tend to make financial decisions responsibly and manage their money efficiently and effectively*. Van Rooij et al., (2011) determined the level of financial knowledge impact significantly on retirement planning, which means that financial knowledgeable people are able to better prepare for their future. Especially, in the context of digital transformation and the appearances of wide ranges of digital financial services, financial knowledge affects positively to the adoption of online services for making saving or investments or using debit and credit cards for daily payments (Sharma and Joshi, 2015; Roy and Jain, 2018).

Hypothesis 3 (H3): Financial knowledge moderates the relationship between financial attitudes and financial management.

Eagly and Chaiken (1993) supposed that the relationship between financial attitudes and PFMB could be affected by other correlated factors such as competence in finance. In research conducted by Bhushan and Medury in 2014, the good and reasonable

educational programs or trainings are able to enhance personal financial attitude toward financial decision making such as lessening frequency of using credit cards. Joo and Grable (2004) found the interconnection between financial knowledge, financial attitude and financial behaviors. They indicate high level of perceptions on what people are considering are able to derive their attitudes on decision-making.

Hypothesis 4 (H4): There is a negative relationship between external locus of control and Personal Financial Management Behavior

According to Hellrigel et al. (2010), locus of control relates to an individual's belief that they are able to control over events that impact them. Internal control and external control were two aspects of the locus of control. Those with an internal center of control are more likely to be goal-oriented. External control refers to occurrences that were under the control of others, such as luck, chance, and fate (*Hoffman et al., 2000*). According to Mien & Thao (2015), the external locus of control negatively affects the Personal Financial Management Behavior of young adults: people who have a stronger sense of external control exhibit poorer financial management skills.

Hypothesis 5 (H5): Locus of control plays a mediating role in relation between financial knowledge and personal financial management behaviors

Many literatures found a consideration impact of locus of control on the association between financial knowledge and personal financial management (Hayes, 2006; Zakaria et al., 2012; Perry and Morris, 2005; Mien & Thao, 2015). They identified that financial knowledge cannot be applied into practices if individuals do not have ability to control and monitor their financial decisions.

Hypothesis 6 (H6): Financial self-efficacy and financial management behavior are positively correlated.

Hypothesis 7 (H7): Financial self-efficacy impacts positively on the relation between financial attitudes and personal financial management behavior.

Self-efficacy refers to a person's belief in their ability to perform at a certain level and exercise control over events in their life (Bandura, 1994). Therefore, under perspective of financial management behavior, a person who has strong self-efficacy tends to consider financial difficulties in their life as challenges to be overcome rather than threats to be avoided. In the later studies, Qamar, Khemta, and Jamil (2016); Farrell et al., (2016); Asandhimitra & Kautsar (2020)

asserted that the higher level of self-efficacy the more responsible individuals will be in making their financial decisions.

Besides that, Qamar, Khemta, and Jamil (2016) found a positive moderating role of financial self-efficacy affects to the association between financial attitudes and personal financial management.

3. Methodology

3.1. Research design

To examine the relations between factors and personal financial management behaviors, the study adopts a mixed method, using both qualitative and quantitative approach. In this paper, there are 05 constructs examined including personal financial management behavior (PFMB), financial attitude (FA), financial knowledge (FK), locus of control (LC) and financial self-efficacy (FSE). In order to measure these constructs, a questionnaire has been made based on previous studies and has been moderated to be suitable with Vietnamese cultures and life styles as well as younger generation. Personal financial management behavior was measured by 11 items. 15 items were used to estimate financial attitudes. Financial knowledge was measured by 6 items in terms of individual's self-assessment of knowledge of financial issues, financial self-efficacy was measured by 4 items and there are 6 items used to measure external locus of control. Five-point Likert-type scale was used for all items in this study. The questionnaire was firstly made in English, then was translated into Vietnamese to ensure respondents in Vietnam can understand. The questionnaire comprises 2 parts: first part refers to respondents' information and characteristics and second part contains items to measure five constructs in the proposed model.

3.2. Sample

The study population includes the adult youth studying or working in Vietnam from 18 to 30 years old. Total 230 questionnaires have been sent to respondents. After the collection, 218 questionnaires are acceptable.

3.3. Research method

The first step of testing collected data is using Cronbach's alpha to test the reliability of data. After that, exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were adopted to test the validity of measurement scales. Convergent validity and discriminant validity of data is assessed through Average Variance Extracted (AVE). The discriminant validity is assessed through Fornell-Lacker Criterion. Then the structural equation model (SEM) was applied to analyze the research model to

test the hypotheses. The data was analyze by both SPSS and AMOS package.

4. Data analysis and results

4.1. Respondents' characteristics

Total 218 responds are gathered from 18- to 30-year-old. According to the collected data, in total of respondents, male and female achieved 46.8%, 53.2% respectively. Age ranged from 18 to 30 years old, in which 58.2% of respondents from 18 to 22 years old, 18.8% from 23 to 26 years old and 22.9% from 27 to 30 years old. Regarding marital status, 76,1% of respondents unmarried and 23.9% of respondents married. The academic levels of respondents are relatively low with 39.9% of respondents being under bachelor, 38.5% of respondents' education level in bachelor and only 21.6% of respondents being in master degree or above. The employment status was represented with 54.1% of respondents are students and 45.9% are working full-time. Regarding to educational background, 43.1% of respondents are working in non-finance and 56.9% of them having finance or related finance background 33.5% of the respondents have the income under 2 million VND per month, 20.6% of respondents have the income ranging from 2 to 5 million VND per month, 11.5% of respondents earn amount of money from 5 to 10 million VND per month and 34.4% have income above 10 million VND. This could be matched by the percentages of employment status.

4.2. Results

The reliability of all scales in the main survey was examined by using Cronbach's alpha. The results showed that, almost scales met requirement of reliability, however eight items gained low corrected item-total correlation (under 0.3). These eight items were deleted from the measurement scale, which results to a significant increase of Cronbach's alpha (all Cronbach's alpha is higher than 0.8 except financial self-efficacy, just achieving 0.697).

After testing Cronbach's alpha coefficient, all measures were analyzed by EFA. The KMO value (0.882) is higher than 0.5, indicating the presence of a strong partial correlation. The significant value of Bartlett's test is 0.000, less than 5%, which means that the correlation matrix is indeed not an identity matrix. As the result, the test's results confirm that the data is suitable for factor analysis. There were 7 factors gaining the eigenvalues greater than 1 and simultaneously the extraction sum of squared loading indicated that 7 factors were extracted; the information contained in the original variables could

be explained by 64.612%. However, the result is not aligned with determined constructs in part of literature review, therefore seven variables were removed from measurement to enhance the significance of analysis. After that, extraction method of principle axis factoring analysis was continue to be used to identify factors. As the result, KMO value is 0.871, significant value of Bartlett's test is 0.000, confirming the data set is still suitable for factor analysis. There were 5 factors extracted and it could explain 60,337% the information contained in the original variables. These 5 factors are matched well by the determined constructs.

To establish convergent validity and discriminant validity, AVE and Fornell-lacker criterion has been used. In order to convergent validity were within the acceptable value, 5 items having CR less than 0.7 and AVE less than 0.5 were removed, including FA11, FSE4, PFMB1, FSE3, PFMB6.

Table 1: Results of convergent and discriminant validity

	CR	AVE	MSV	MaxR(H)	FA	FK	LC	FSE	PFMB
FA	0,894	0,515	0,181	0,900	**0,717**				
FK	0,870	0,576	0,424	0,896	0,127†	**0,759**			
LC	0,862	0,556	0,424	0,866	-0,426***	-0,651***	**0,745**		
FSE	0,801	0,689	0,077	1,088	-0,253*	-0,161†	0,277*	**0,830**	
PFMB	0,704	0,545	0,305	0,722	0,248*	0,521***	-0,552***	-0,008	**0,738**

Source: The data was extracted from software AMOS 24

The CFA result indicated that the measurement model of all five factors received an acceptable fit of data: Chi-square = 371.782 (p-value = 0.000<0.05), CMIN/df = 199, CFI = 0.923, TLI =0.911, RMSE = 0.063 and GFI = 0.858. The finding indicated that all scales measuring the components of all constructs are validity.

All proposed hypotheses are tested by the structural model. The chi-square divided by degree of freedom was 1.9715 less than 3, the RMSEA value is 0.067 less than 0.8, CFI and TLI indices were 0.914 and 0,9 respectively (both are greater than 0.8), GFI is 0.914, so the model was acceptable.

Hypothesis 1 assumed that, financial attitude has a positive relation with financial behavior, however the result shows a p-value = 0.241 greater than 0.1. Therefore, it means that financial attitude does not have effect on personal financial management behavior.

Regression estimator of relationship between financial knowledge and financial behavior is 0.25 with p-value is 0.007, which means the higher level of financial knowledge, the more responsible in financial behavior. The impact of financial knowledge was confirmed to financial behavior. Besides that,

financial knowledge has a direct impact on financial attitude with coefficient is 0.141. However, there are no relation between financial attitude and financial behavior, so the hypothesis 3 does not support. The coefficient of external locus of control is -0.438 less than 0 (p-value=0.003), which means external locus of control has a negative effect on personal financial management behavior. In addition, financial knowledge has significant negative impact on external locus of control with regression coefficient is -0.452. The result of Sobel test indicated locus of control was a mediator of the relationship between financial knowledge and personal financial management behavior (P-value = 0.004). Apart from that, financial self-efficacy affect positively to financial behavior. The coefficient represented for this relationship was 0.258 at the significant level 0.05.

Table 2: Result of hypothesis testing

			Estimate	S.E.	C.R.	P
LC	<---	FK	-0,452	0,05	-9,079	***
FA	<---	FK	0,141	0,049	2,901	0,004
FSE	<---	LC	0,165	0,099	1,677	0,094
FSE	<---	FA	-0,157	0,08	-1,968	0,049
FSE	<---	FK	0	0,053	0,001	0,999
PFMB	<---	LC	-0,438	0,145	-3,02	0,003
PFMB	<---	FK	0,25	0,093	2,683	0,007
PFMB	<---	FA	0,123	0,105	1,173	0,241
PFMB	<---	FSE	0,258	0,113	2,275	0,023

Source: The data was extracted from software AMOS 24

5. Conclusions and recommendations

The paper investigates factors affecting the personal financial management behavior in the sample of 218 Vietnamese young adults. The findings indicate that financial knowledge and locus of control plays essential roles in explaining financial management behavior. Financial knowledge and financial self-efficacy were positively impact on financial behavior, while the opposite is true for external locus of control. These findings are in line with previous studies such as Parrotta and Johnson (1998), Mien & Thao (2015). However, this result above also shows that there is no relation between financial attitude and financial behavior. These findings suggest that for Vietnamese younger generation, being competence in finance, self- oriented approach in financial decision making and being confident in ability of handling financial complexity are main factors affecting their responsibly financial behaviors. Besides that, different from previous studies conducted in Vietnam such as Mien & Thao, 2015, the study found a moderating role of locus of control on relationship between financial knowledge and financial behavior. It might be true for young Vietnamese people as theory and practice are not always going together and behaviors in management are sometime more influenced by psychology factors and people's characteristics rather than their knowledge. Therefore, there would be some recommendations proposed for enhancing the public attention as well as improving personal financial management behavior.

Firstly, for educational organizations, government agencies, the labor Union at companies, it is necessary to organize more and more financial seminars, workshops to emphasis the importance of responsible financial management behavior. The students and employees should be trained to take responsibility for their financial decisions.

Secondly, educational initiatives, educational organizations should pay more attentions on providing more lectures, training programs or even online courses to equip for young people basic financial knowledge enabling them to enhance the effectiveness and efficiency in using, allocating and managing their finance resources. Especially in context of rapid digital transformation, there are more and more innovative financial products and services, therefore to help young people avoid fall in the trap of financial risks, implementing programs to improve financial levels is urgent demands.

Thirdly, for parents who have children are in college-age, it is necessary to forecast their children financial management behaviors based on their locus of control, knowledge, self-efficacy. Then they are able to have reasonable monitor in their children's financial management behavior.

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IMPACT OF SUSTAINABILITY REPORTING ON COMPETITIVENESS OF UTILITY SERVICE COMPANIES LISTED ON THE VIETNAMESE STOCK MARKET

PhD. Nguyen La Soa* - PhD. Ngo Van Hau**

Abstract: *This study was conducted to determine the impact of sustainability reporting on the competitiveness of utility service companies listed on the Vietnamese stock market. The scales of the model are established and tested by Cronbach's Alpha reliability coefficient, exploratory factor analysis and confirmatory factor analysis. Then, the model and the research hypotheses were tested using the SEM structural equation model. Research results show that there is a reciprocal relationship between the components of a sustainability report. Moreover, the level of compliance with the sustainability report has a positive impact on the competitiveness of enterprises. Since then, the research team has made recommendations to encourage utility enterprises to make sustainability report.*

• Keywords: *competitiveness, sustainability report, sustainable development, utility services.*

Tóm tắt: *Nghiên cứu này được thực hiện nhằm xác định tác động của báo cáo phát triển bền vững đến khả năng cạnh tranh của các công ty dịch vụ tiện ích niêm yết trên thị trường chứng khoán Việt Nam. Các thang đo của mô hình được thiết lập và kiểm định bằng hệ số tin cậy Cronbach's Alpha, phân tích nhân tố khám phá và phân tích nhân tố khẳng định. Sau đó, mô hình và các giả thuyết nghiên cứu được kiểm định bằng mô hình phương trình cấu trúc SEM. Kết quả nghiên cứu cho thấy có mối quan hệ qua lại giữa các thành phần của một báo cáo phát triển bền vững. Hơn nữa, mức độ tuân thủ báo cáo phát triển bền vững có tác động tích cực đến năng lực cạnh tranh của doanh nghiệp. Từ đó, nhóm nghiên cứu đưa ra các khuyến nghị nhằm khuyến khích các doanh nghiệp tiện ích lập báo cáo phát triển bền vững.*

• Từ khóa: *năng lực cạnh tranh, báo cáo bền vững, phát triển bền vững, dịch vụ tiện ích.*

Enterprises develop and disclose information on their performance in terms of environmental and social aspects in addition to information on financial performance and capital management. Sustainability reporting is a new way to build and quantify business value. Through transparent, accountable reporting, businesses strengthen stakeholder confidence in their businesses. The trend of deepening and widening integration requires Vietnamese businesses to aim to publish sustainable development information according to international standards to increase investor confidence and promote capital market development, expanding cooperation relations and increasing the competitiveness of enterprises.

A utility business is a business that provides basic amenities such as electricity, water, natural gas, waste services, and dams. The utility industry has been and is an important economic sector and a comparative advantage for the economic development of each country. However, in Vietnam, recently, the operation of several utility enterprises has caused serious consequences to the environment and negatively affected residential areas. Therefore, information transparency is necessary for utility businesses to increase trust with stakeholders. However, the managers of Vietnamese utility

1. Introduction

Sustainability reporting is the disclosure and accountability of businesses to stakeholders for their activities towards sustainable development.

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enterprises do not really believe in the benefits of implementing sustainable development reports. Therefore, this study was conducted to help managers have a more correct view of the effectiveness of sustainability information disclosure, encourage businesses to implement sustainability reporting, increase competitive advantage, and increase competitiveness.

The rest of the paper is structured as follows: Section 2 discusses the relevant research and theoretical background. Part 3 builds research hypothesis and describes the research method used. Section 4 reports the research results and discussion. Section 5 concludes and recommends.

2. Literature review and theoretical background

2.1. Literature Review

Today, sustainability reports have been enthusiastically responded to by the business community around the world. Therefore, studies related to the relationship between information disclosure for sustainable development and business competitiveness are attracting the attention of many researchers around the world. Some case studies in this area can be mentioned:

The study of (Nejati et al., 2010) pointed out that although there are some initial limitations when businesses fulfill their sustainability role, they will benefit from the positive image created, as well as other competitive advantages for long term development. The research of (Krishna & Lucus, 2010) showed that there is a relationship between sustainability information disclosure, especially information related to social and environmental responsibility, and business performance. Research has also shown that increasing support for disclosure can increase business value and performance. The study of (Martínez-Ferrero et al., 2015) continue to affirm the significance of the disclosure of sustainable development information in general and especially information on the environment and society to investors. Detailed disclosure of financial information can improve a business's performance.

Currently, the pressure to disclose information is increasing, businesses want to stand firm and attract investment, they need to transparently disclose information about the environment and society (Dibia & Nwaigwe, 2018). Transparency of information related to sustainable development is seen as a tool to attract investment, retain talented workforce, attract customers, enhance reputation (Platonova et al., 2018), reduce costs through effective use of environmental initiatives and the cost of capital (Salvi et al., 2018), reduce financial risk and the possibility of bankruptcy in the future (Harjoto & Laksmana, 2016). According to the theory of stakeholders, the business has a role to balance the requirements of shareholders and stakeholders, the responsibility of the business to the stakeholders will increase the image and reputation of the business, increase the business power (Dibia & Nwaigwe, 2018).

In Vietnam, the case studies can be mentioned, according to the study of (Long, 2019), Social responsibility is considered a long-term and sustainable development strategy of each enterprise, is a business culture as well as a catalyst to engage employees in the enterprise, and is the foundation for the sustainable development of the business. This research also found a positive relationship between corporate responsibility for the environment and society and image of the business with stakeholders. According to research by (Thien, 2018) the level of disclosure on social responsibility positively affects the performance of enterprises. Research of (Nguyen & Tran, 2019) demonstrated that the level of disclosure of environmental accounting information on the financial statements of the enterprise will increase the financial performance of the enterprise in both the current year and the next year.

From the research overview, the benefits of sustainability reporting are issue of interest to domestic and foreign scientists, however, the research mainly focuses on developed countries and focuses on research on the relationship between sustainability disclosure and business performance. Studies in Vietnam on sustainability reporting have also been carried out, but most studies focus on the benefits of sustainability reporting, the relationship between social responsibility and business performance, no research has been conducted to evaluate the impact of sustainability reporting and the competitiveness of enterprises. That is the reason why, this research was conducted, with the aim of encouraging businesses to prepare and publish sustainability reports.

2.2. Theoretical Background

Signaling theory is useful for describing behavior when two parties (individuals or organizations) have access to different information. Typically,

one party, the sender, must choose whether and how to communicate (or signal) that information, and the other party, the receiver, must choose how to interpret the signal. Accordingly, signaling theory holds a prominent position in a variety of management literatures, including strategic management, entrepreneurship, and human resource management (Garg, 2015). Research of (Laskar & Maji, 2016) argue that when some investors have more private information than others, information asymmetry occurs in the capital market. To reduce the cost of capital, corporations exert great effort at reducing information asymmetry. Therefore, lower information asymmetry in the capital market leads to a lower cost of capital (Laskar, 2018). The signaling theory can offer one solution to information asymmetry. The research of (Uwuigbe et al., 2018) use a signaling timeline to explain the signaling process between the signaler and receiver

Stakeholder Theory was first used by Edward Freeman in 1984 in his work of strategic management (Garg, 2015). Related parties include any person or group of people who are interested in the company because they may be influenced or influenced by the company. According to the theory of stakeholders, the greater the pressure from stakeholders, the more transparent businesses are required, especially those related to the environment and society, to meet the demand for information of related parties. Stakeholder theory is used by the research team to hypothesize the impact of social responsibility information disclosure on the sustainable development of enterprises, and thereby increase the competitiveness of enterprises.

3. Research model and research methodology

3.1. Research model

From a review of related studies and research on background theories, the research team has proposed a model to evaluate the impact between sustainability reporting compliance and the competitiveness of utility enterprises in Vietnam. The model was established based on previous studies and background theory to match the characteristics of the research object, which are utility enterprises in Vietnam. Then, the research team consulted experts and adjusted again to best suit the actual conditions in utility enterprises in Vietnam. The research model is built according to Figure 1.

Figure 1. Research model
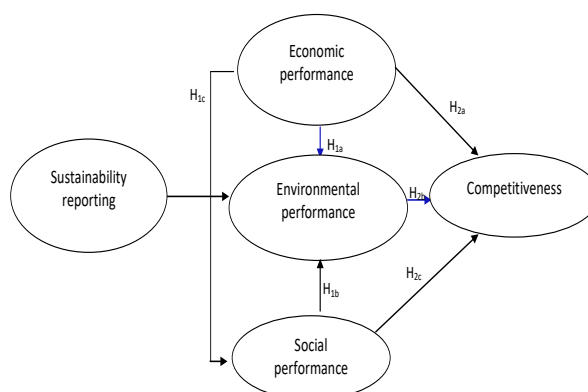
Source: Developed by the author

3.2. Research Methodology

Table 1. Measurement of variables in the model

Code	Observed variables	Source
1. Disclose Economic performance (FP)		
FP1	The level of information disclosure about production and business activities	(Platonova et al., 2018)
FP2	The level of information disclosure on the investment and implementation of projects	
FP3	Degree of disclosure of financial position	
2. Disclose Environmental performance (EP)		
EP1	Disclosure level regarding materials used and savings	(Salvi et al., 2018)
EP2	Disclosure of information on energy consumption and energy saving initiatives	
EP3	The level of information disclosure on the amount of water used and recycled	
EP4	The level of information disclosure complies with environmental protection laws	
3. Disclose social performance(SP)		
SP1	The level of disclosure of information on employment and labor policies	(Harjoto & Laksmana, 2016)
SP2	The level of information disclosure on employee training and retraining activities	
SP3	Reports regarding responsibility to the local community	
SP4	Reports related to green capital market activities under the guidance of the State Securities Commission	
4. Competitiveness (CC)		
CC1	Enterprises have the ability to expand and develop market share	(Özdemir & Aslan, 2011)
CC2	The position and image of the business is highly appreciated in the market share	
CC3	The business is growing steadily and sustainably	
CC4	Enterprises have the ability to expand business cooperation	

Source: Developed by the author

Applying qualitative research methods, the author has built a scale of variables shown in Table 1. Using a 5-point Likert scale (from 1 point corresponding to Very low level to 5 points corresponding to Very Good) to measure and evaluate the variables in the model. Survey subjects are senior managers, financial directors at utility companies listed on Vietnam's stock market during the survey period from January 2022 to June 2022. The number of survey questionnaires distributed was 172 votes, 131 votes were collected, and the number of valid votes included in the study was 128 votes. Preliminary survey forms are developed and sent to the survey subjects through the Google forms application (https://docs.google.com). The proportion of enterprises included in the sample included in the study was 128 enterprises, accounting for 74.4% of listed utility enterprises by the time of the study.

Applying the quantitative research method, the data obtained from the survey will be processed using SPSS 20 and AMOS 20 software. First of all, the scale is tested for reliability, convergence and discriminant throughness. Cronbach's alpha coefficient and exploratory factor analysis (EFA), then conduct confirmatory factor analysis (CFA) to evaluate the scale. Finally, the SEM linear structural modeling method is used to test the research model and confirm the influence of the factors inside the research model.

4. Results and Discussion

4.1. Evaluate the reliability and validity of the scale

The results of the analysis of the reliability and validity of the scale are presented in Table 2. Cronbach's Alpha test was conducted on 4 scales with 15 observed variables, obtained results showing the reliability of the scales. All measurements satisfy Cronbach's Alpha criteria for each scale > 0.6, correlation coefficient of variable - total > 0.3 (Gliem & Gliem, 2003). Except for the variable CC4 of the "Competitiveness" scale, which has a variable correlation coefficient - the sum is 0.06, less than 0.3, so it is excluded from the model. Therefore, the remaining 14 observed variables continue to be included in the EFA exploratory factor analysis. The study sample size of 128 is five times larger than the number of observed variables used in the study, so the research sample is suitable for performing exploratory factor analysis (Chan & Idris, 2017)

The results of exploratory factor analysis (EFA) for independent variables through Bartlett's test and KMO show that Bartlett's test has a value of 1,201,018 with the Sig significance level equal to 0.000 (less than 0.05), rejecting the hypothesis that the observed variables of the independent variable are not correlated with each other in the population. Thus, the hypothesis of the factor model is not suitable will be rejected. This proves that the data used for the study is completely appropriate. KMO has a value of 0.697 (greater than 0.5), satisfying $0.5 < KMO < 1$. Factor loading coefficients are all greater than 0.5. EFA analysis showed that 4 factors were extracted and the observed variables in the factors remained the same, so it can be concluded that the EFA exploratory factor analysis method is suitable for the study. The coefficient Eigenvalues of the factor Economic disclosure has the lowest value of 2.028 > 1 and the total variance extracted is 65.514% > 50%. Therefore, 4 factors with 14 observed variables satisfy the requirements when analyzing CFA.

Table 2: Summary of results of analysis of reliability and validity of the scale

Concept	Number of observed variables	Aggregate reliability	Variance extracted	Eigenvalue
Disclose Economic performance (FP)	3	0,821	0,787	2,028
Disclose Environmental performance (EP)	4	0,706	0,652	2,125
Disclose social performance (SP)	4	0,784	0,742	2,216
Competitiveness (CC)	3	0,719	0,667	2,178

Source: Developed by the author

4.3. Confirmatory factor analysis (CFA)

The research model consisting of 4 factors and 14 observed variables after satisfying the conditions for EFA analysis continues to be included in the CFA confirmatory factor analysis. The first confirmatory factor analysis results in CMIN/DF = 2,675< 3; TLI = 0.921> 0.9, CFI = 0.937 > 0.9; GFI = 0.932> 0.9 and RMSEA = 0.030 < 0.05. The research results show that the critical model all achieve the set index, so the research model has a high degree of agreement with the research data. The reliability and discriminant tests both satisfy the requirements. In addition, the reliability, discriminant, and convergence of the scales in the research model are guaranteed.

Figure 2. Result of confirmatory factor analysis CFA
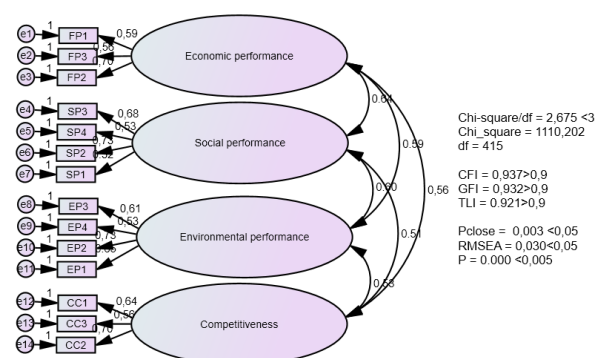
Source: Developed by the author

4.4. Analysis of the linear structural model SEM.

Through the analysis of the linear structural model, the chi-square index = 1010,303 and the degrees of freedom df = 423, from which we calculate the chi-square/df = 2.388< 3 ratio; In addition, there are TLI = 0.910> 0.9; CFI = 0.941> 0.9; GFI = 0.925> 0.9; RMSEA = 0.032< 0.05; P = 0.000. From there, it is possible to see the fit of the research model with the collected data in reality.

Fig. 3: Linear Structure Model Analysis SEM
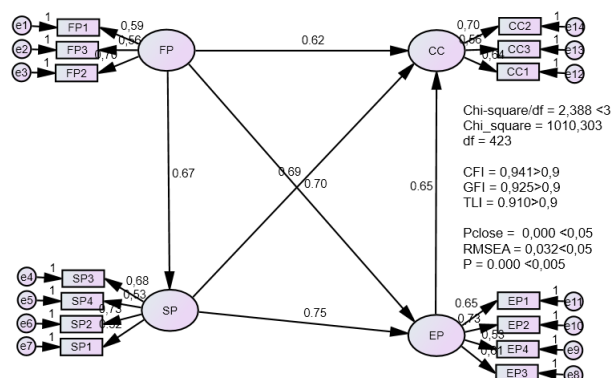
Source: Developed by the author

4.5. Test model estimation using Bootstrap

Table 3. Model estimation results by Bootstrap with N = 1000

Relationship			Bias	SE-Bias	CR
EP	←	FP	0,001	0,002	0,500
EP	←	SP	0,001	0,002	0,312
SP	←	FP	0,002	0,003	1,014
CC	←	FP	0,002	0,002	0,416
CC	←	EP	0,002	0,002	0,519
CC	←	SP	0,001	0,002	0,312

Source: Developed by the author

Perform Bootstrap test after checking the SEM model to verify the parameters in the theoretical model and re-evaluate the reliability of the estimates. Bootstrap is a sampling method that repeats and changes from the original template. Use sample size of 1000 to test Bootstrap for research. Table 4 presents the model estimation results by Bootstrap with N = 1000.

The results show that the absolute value of CR indexes does not exceed 1.96, so it can be concluded that the non-zero deviation has no statistical significance at the 95% confidence level. Thus, it can be concluded that the estimated model is reliable.

4.6. The results of testing the hypotheses and discussing the results

Table 4 presents the results of estimating the relationship between the factors in the model and the results of testing the proposed hypotheses.

Table 4. Hypothesis test results

Hypotheses/Relations			Coefficient (standardized)	S.E.	C.R.	P	Result
H_{1a}:EP	←	FP	0,126	0,054	2,712	0,013	Accept
H_{1b}: EP	←	SP	0,203	0,046	5,334	***	Accept
H_{1c}: SP	←	FP	0,127	0,042	3,123	***	Accept
H_{2a}: CC	←	FP	0,141	0,056	1,219	0,018	Accept
H_{2b}: CC	←	EP	0,156	0,053	1,643	0,012	Accept
H_{2c}: CC	←	SP	0,283	0,052	2,719	***	Accept

Source: Developed by the author

The analysis results show that the hypotheses H1a, H1b and H1c are all accepted, which means that economic, environmental, and social information disclosure components interact with each other at a statistically significant level 95% (P < 0.05), this result is consistent with the study of (Nejati et al., 2010). The results of hypothesis testing on the relationship between the components of information disclosure and the competitiveness of enterprises (H2a, H2b and H2c) show that there exists a direct relationship between the components of the disclosure. Sustainable development information includes economic disclosure, environmental information disclosure and social information disclosure on business performance. This relationship is a positive relationship, so the more businesses are interested in completing the disclosure of sustainable development information, the higher the business performance of the business. This result is consistent with the study (Salvi et al., 2018)

5. Conclusion and Recommendation

From the above research results, in order to encourage utility enterprises in Vietnam to comply with the publication of sustainability reports, the authors have focused on the relationship between the components of development information disclosure and the relationship between the components of information disclosure on the competitiveness of enterprises, thereby having policies to encourage utility enterprises in Vietnam, specifically as follows:

- There is a correlation between economic disclosure, environmental disclosure and social disclosure. This shows that businesses with a sense of transparency in economic information tend to be transparent in environmental and social information, and businesses with a sense of transparency in social information often have trend of information transparency related to the environment.

- There exists a positive relationship between economic information disclosure, environmental information disclosure and social information disclosure to the sustainable development of enterprises. Research results show that environmental information disclosure and social information disclosure strongly affect the sustainable development of enterprises. This proves that businesses that are transparent about information related to society and the environment are those that are very interested in sustainable development and have a high sustainability index.

- There exists a direct relationship between economic disclosure, environmental disclosure and social disclosure to the competitiveness of enterprises. This proves that businesses with a sense of information transparency, concern for the environment and society in addition to profit goals are the basis to help businesses develop more sustainably and thereby promote the improve the operational efficiency of enterprises, increase the competitiveness of enterprises in the market.

Applying a combination of qualitative and quantitative research methods, the study analyzed, evaluated, and measured the impact of sustainability reporting compliance on the competitiveness of enterprises. The results of the study once again confirm the role of information transparency, especially information related to the environment and society, in promoting growth and improving the competitiveness of enterprises. The results

imply to the managers of enterprises in raising awareness about information disclosure, especially environmental and social information. Research results help managers have a more correct view of the effectiveness of sustainability information disclosure. However, the study has some limitations such as: the research sample (not evenly covered and the number is not much), so the research results inferred for the whole have not high reliability. These are suggestions for future studies.

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INVESTMENT-CASH FLOW SENSITIVITY UNDER UNCERTAINTY - EVIDENCE FROM EMERGING COUNTRIES

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Abstract: *This paper investigates investment - cash flow sensitivity under uncertainty in emerging countries. With a sample of non-financial firms from 13 emerging countries in the period of 2000 - 2020, our study shows that investment of firms from emerging countries is significantly dependent on cash flow. Financially constrained firms exhibit higher investment - cash flow sensitivities than their unconstrained counterparts. With regard to uncertainty, our study shows that uncertainty aggravates investment - cash flow sensitivity. Our results suggest government in emerging countries should broaden access to finance for their firms especially during uncertain periods. It is also suggested that firms should reinforce their financial health together and utilize risk management policies to alleviate negative effect of uncertainty.*

• Keywords: *cash flow, emerging countries, investment, uncertainty.*

1. Introduction

The study examines investment - cash flow sensitivity under uncertainty in emerging countries. Recent empirical literature shows that investment - cash flow sensitivity is fading in developed countries. The possible reasons behind this disappearance are the growing wealth of economies worldwide and relaxation of financial constraints at the firm level (Larkin et al., 2018). Provided with that evidence, one may concern whether investment - cash flow sensitivity is still present in emerging countries where financial markets are underdeveloped. In a perfect world, with frictionless capital markets of the sort envisioned in Modigliani and Miller (1958), the cost of external finance does not differ from the one of internal finance and hence internal and external finance are perfect substitutes (Stein, 2003). However, in the real world with the presence of imperfections such as information asymmetry, agency problem and transactions costs, firms find themselves in a situation where access to external finance is constrained (De la Torre et al., 2017).

Emerging countries are characterized by a high level of uncertainty (Mody, 2003; Bloom, 2014). An increase in uncertainty can either directly increase the extent of financial imperfections or indirectly amplify the impact of financial imperfections on the economy. First, an increase in uncertainty may worsen the information asymmetry between economic agents Ascioglu et al. (2012). In addition to information asymmetry, uncertainty can also aggravate agency problems (Rantakari, 2008). Not only directly exaggerating financial imperfections, uncertainty may amplify the real effects of financial imperfections. Alfaro et al.(2021) and Arellano et al. (2019) show that under uncertainty, the firm's access to external finance is more limited and therefore cash flow plays a more important role to firms' investment decisions.

To investigate the relationship between investment and cash flow under uncertainty in emerging countries, we construct an extended version of the q investment model proposed by Baum et al. (2010). We supplement uncertainty and let uncertainty interact with cash flow in the investment model. Our sample includes non-financial firms from 13 secondary emerging countries for the period 2000 - 2020. Our model is estimated using Blundell and Bond (1998) to overcome endogeneity of dynamic panels.

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2. Literature review and hypothesis development

2.1. Investment - cash flow sensitivity

After the groundbreaking paper of Fazzari et al. (1987), many studies have continued to examine the influence of internal finance on firm investment such as Almeida and Capello (2007), Lewellen and Lewellen (2016), Ağca and Mozumdar (2017) and Moshirian et al. (2017). Most studies show that investment positively depends on cash flow. However, those studies do not agree on the extent of the relationship as well as the causes leading to the sensitivity of investment to cash flow. Fazzari et al. (1987) and similar studies argue that investment - cash flow sensitivity is evidence for the financing constraint that firms have to face in imperfect capital markets.

Capital markets in emerging countries are less efficient than capital markets in developed countries (Marquis and Raynard, 2015). In these markets, financial intermediaries (such as banks and other financial institutions) and information intermediaries (such as auditing firms, analysts and credit rating agencies) show no or only little presence (Mody, 2003). Given the inefficiency of financial intermediaries and information intermediaries, the degree of information asymmetry is often higher in emerging countries than in developed countries (Seifert and Gonenc, 2010). In this situation, firms are more likely to depend on internal funds as external funds become more expensive (due to the external financing premium) or become more limited (due to credit rationing). Ascioglu et al. (2008) shows that investment - cash flow sensitivity goes up as information asymmetry increases. From the above arguments, we propose our hypothesis H1A as follows:

H1A: Investment is positively related to cash flow.

In general, although there are disagreements about the extent and causes of the relationship between investment and cash flow, most empirical evidence suggests that cash flow has a certain influence on firm investment (Lewellen and Lewellen, 2016). Besides, the literature shows that investment - cash flow sensitivities are not identical among firms. To be more specific, investment - cash flow sensitivity increases with the extent of firms' financial constraint (Chowdhury et al., 2016). Fazzari et al. (1987) suggests that the difference in the coefficient of cash flow between financially constrained and unconstrained groups reflects the difference in the degree of firms' financing constraint. Regarding the concern about measurement error in q, Fazzari et al. (1987) argue that even if the Q investment model is mis-specified, this mis-specification applies to all firms, so the difference in the estimated coefficient of the financial variable added in the Q investment model may reflect the difference in firms' financing constraint.

To examine whether investment - cash flow sensitivity is evidence for the existence of financing constraints, we compare the estimated coefficient of cash flow between constrained and unconstrained firms. We expect that investment - cash flow will be higher among constrained firms

H1B: Investment - cash flow sensibility is higher among constrained firms.

2.2. Uncertainty and investment - cash flow sensitivity

An increase in uncertainty can exacerbate the extent of financial imperfections. First, uncertainty can inflate information asymmetry. Silva et al. (2014) and Peterson and Arun (2018) show that under uncertain conditions, firms are more likely to manipulate their earnings than in stable conditions. Jin et al. (2019) and Ozili (2021) show that financial reporting quality tends to diminish in response to an increase in uncertainty. Earnings manipulation behavior reduces accounting information quality, and hence increasing the information asymmetry in the economy (Ascioglu et al., 2012). Uncertainty can also aggravate agency problems. Rantakari (2008) argues that the behavior of principal and agent will change under uncertainty. In particular, an increase in uncertainty reduces the agent's stewardship. At this time, the principal must increase incentives to reassure the agent that they will properly perform their duties.

In addition to directly augmenting the extent of financial imperfections, uncertainty can amplify their real effects. An increase in uncertainty can raise the cost of external finance because under uncertainty, risk aversion leads to an increase in risk premium (Bloom et al., 2014 and Arellano et al., 2014). Uncertainty can also limit credit supply because in uncertain conditions, banks are more unlikely to provide firms credit (Alessandri and Bottero, 2016). The increase in the cost of external finance and the decrease in credit supply due to financial imperfections mean that firms have less access to external financing and more reliance on internal finance. In the context of underdeveloped financial markets such as in emerging countries, we expect that uncertainty will hinder firms from accessing external finance and thus increase investment - cash flow sensitivity. Therefore, we propose the hypothesis H2 as follows:

H2: Uncertainty increases investment - cash flow sensitivity.

3. Methodology

3.1. Research model

To test hypothesis H1A on the sensitivity of investment to cash flow, we build our investment model according to Baum et al. (2010). The investment model of Baum et al. (2010) is constructed based on the optimization problem of firm value and is a generalization of the q-based investment model of Blundell et al. (1992). Our investment model is as follows:

$$\left(\frac{I_{it}}{K_{i,t-1}}\right) = \beta_0 + \beta_1 \left(\frac{I_{i,t-1}}{K_{i,t-2}}\right) + \beta_2 q_{it}$$
$$+ \beta_3 \left(\frac{CF_{it}}{K_{i,t-1}}\right) + \beta_4 \left(\frac{B_{i,t-1}}{K_{i,t-2}}\right) + \kappa_i + \epsilon_{it} \quad (1)$$

Where I_{it} is the investment of firm i in year t, K is the capital stock, q is investment opportunities, CF is the cash flow and B là the total debt. κ_i is firm fixed effect and ϵ_{it} is the residuals of the model. Our variables are defined as follows. Investment I is the capital expenditure. The capital stock K is the sum of debt and equity. Cash flow CF is the sum of pre-tax profit and depreciation and amortization expense. Our H1A hypothesis expects the coefficient of cash flow β_3 is significantly positive.

To test hypothesis H1B on the difference in investment - cash flow sensitivity among firms with different financial conditions, we separately regress model (1) for financially constrained and unconstrained groups. We then compare their β_3 to verify if β_3 for constrained group is higher than β_3 for unconstrained groups as postulated in our H1B hypothesis.

To examine hypothesis H2 on the effect of uncertainty on investment - cash flow sensitivity, we follow Baum et al. (2010) to insert uncertainty in our investment model and let uncertainty interact with cash flow. Our investment model after augmenting uncertainty is as follows:

$$\left(\frac{I_{it}}{K_{i,t-1}}\right) = \beta_0 + \beta_1 \left(\frac{I_{i,t-1}}{K_{i,t-2}}\right) + \beta_2 q_{it} + \beta_3 \left(\frac{CF_{it}}{K_{i,t-1}}\right) + \beta_4 \left(\frac{B_{i,t-1}}{K_{i,t-2}}\right)$$
$$+ \left(\frac{CF_{it}}{K_{i,t-1}}\right) x (\omega_1 \eta_{i,t-1} + \omega_2 \varepsilon_{i,t-1} + \omega_3 v_{i,t-1}) + \kappa_i + \epsilon_{it} \quad (2)$$

Equation (2) consists of three proxies for uncertainty proposed by Leahy and Whited (1996) and Baum et al. (2010), including: (i) intrinsic uncertainty η; (ii) market uncertainty ε and (iii) CAPM-based uncertainty *v* to capture the relationship between intrinsic uncertainty and market uncertainty. Our H2 hypothesis expects the coefficients of interactive terms between uncertainty and cash flow (i.e. ω_1, ω_2 and ω_3) are significantly positive.

To overcome the endogeneity problem caused by measurement error, we use the marginal q à la Gala (2019) instead of average Q. Equation (1) and (2) include the lagged variable of investment and hence suffer from endogeneity. To overcome this endogeneity problem, we regress our model using System GMM proposed by Blundell and Bond (1998). To differentiate firms' financial condition, first we use the KZ index according to Baker et al. (2003). Firms with KZ index above the median are classified as constrained whereas the others as unconstrained.

3.2. Sample and data

Our sample consists of non-financial firms in 13 secondary emerging countries according to Russel (2021) including Chile, Colombia, Egypt, India, Indonesia, Kuwait, Pakistan, Philippines, Qatar, Romania, Saudi Arabia, UAE and Vietnam in the period 2000 - 2020. Using a cross-country

sample helps to overcome the limitation of firm data in emerging countries (Ayyagari et al., 2013). Stock returns and financial data of the firms in the sample are collected from the Refinitiv Eikon database. The study eliminates observations with insufficient data to construct variables in the investment model. Observations with investment and leverage ratios below 0 are excluded from the sample. Besides, we also winsorize the observations in the 1st and 99th percentiles. The final sample consists of 14,936 observations from 2,755 firms.

4. Result and discussion

4.1. Investment - cash flow sensitivity

a. Firm investment is sensitive to cash flow

The System GMM estimation results of investment - cash flow sensitivity for the whole sample are presented in column (1) Table 2. The estimated coefficient of cash flow is 3.74 at the 1% statistical significance level. Positive coefficient reflects the positive relationship between investment and cash flow. Among the explanatory variables in the investment model, cash flow is the only factor capable of explaining investment behavior of firms in emerging countries. This result is consistent with the prediction in hypothesis H1A and shows that in emerging countries, investment is sensitive to firm cash flows.

The investment - cash flow sensitivity found in this study is considerably higher than the estimated coefficients of cash flow in other studies with data from developed countries such as Chowhudry et al. (2016), Lewellen and Lewellen (2016) and Ağca and Mozumdar (2017). Larkin et al. (2018) argue that financial development and economic growth contribute to overcoming financial imperfections, thereby reducing investments - cash flow sensitivity in developed countries. Meanwhile, in emerging countries, financial imperfections such as information asymmetry, agency problems or transaction costs remain significant, and hence external finance is more expensive than internal sources (Seifert and Gonenc, 2010). Limited access to external finance is the most critical impediment to firm growth in emerging

countries (Ayyagari et al., 2013). The evidence for a significant investment - cash flow sensitivity found in this study is consistent with the argument on firms' financing constraints faced in emerging countries.

Table 2. Estimation result for investment - cash flow sensitivity using System GMM

VARIABLES	(1) Whole	(2) Constrained	(3) Unconstrained
$\dfrac{I_{i,t-1}}{K_{i,t-2}}$	0.0005	0.0012	-0.0002
	[0.0008]	[0.0023]	[0.0003]
q_{it}	0.0000	0.0000**	-0.0000
	[0.0000]	[0.0000]	[0.0000]
$\dfrac{CF_{it}}{K_{i,t-1}}$	3.7471***	3.8148***	0.3540***
	[0.0045]	[0.0035]	[0.0095]
$\dfrac{B_{i,t-1}}{K_{i,t-2}}$	0.0004	-0.0001	0.0001
	[0.0004]	[0.0010]	[0.0002]
Country FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Obs.	14,936	11,648	3,288
No. of firms	2,755	1,987	1,123

Source: Authors' calculation

b. Investment - cash flow sensitivity is higher among financially constrained firms

A number of studies such as Goergen and Renneboog (2001) and Bond and Cummins (2004) disagree with the argument that cash flow sensitivity is evidence for the presence of financial imperfections. Instead, these papers argue investment - cash flow sensitivity only implies that cash flows contain information about the firm's future investment opportunities. To reinforce the argument that financial imperfections lead to investment - cash flow sensitivity, Fazzari et al. (1987) proposes a test to take the difference in the regression coefficient of investment by cash flows between groups of firms with varying degrees of financial constraints.

The estimation results for investment - cash flow sensitivity for constrained and unconstrained groups classified by KZ index are shown in Table 2 - Column (2) and (3). The results show that constrained firms' investment exhibit higher sensitivity to cash flow than unconstrained

firms. The result from the endogenous switching regression model even shows that the coefficient of cash flow among unconstrained groups is still positive but insignificant. This result is consistent with the expectation of hypothesis H1B. This result helps us to reinforce the argument that investment - cash flow sensitivity is evidence for financing constraints arising from financial imperfections.

4.2. Uncertainty amplifies investment - cash flow sensitivity

Estimation results for the impact of uncertainty on investment - cash flow sensitivity are shown in Table 3 in which, column (1) presents the results when we only include interactive terms of uncertainty and cash flow while column (2) include both uncertainty and interactive terms of uncertainty. The coefficients of interactive terms between uncertainty and cash flow in both column (1) and (2) are significantly positive. This means uncertainty increases the sensitivity of investment to cash flow as expected in hypothesis H2.

The results of the amplifying effect of uncertainty on investment - cash flow sensitivity found in this study show that besides the direct effect, uncertainty also shows an indirect effect on investment through amplifying the impact of financial imperfections on investment. These imperfections become more severe under uncertain conditions such as crises or pandemics. Empirical evidence from this study shows that uncertainty makes firm investment become more dependent on cash flow which implies a higher level of financing constraint. Under uncertainty, the obstacle in accessing external finance not only comes from the disparity in the cost of internal and external finance but also from the credit rationing of financial institutions. Alessandri and Bottero (2016) show that an increase in uncertainty reduces the likelihood that banks would accept firms' credit applications. The limited credit supply makes it more difficult for firms to access external finance and more sensitive to cash flow.

Table 3. Estimation result for the relationship between uncertainty and investment - cash flow sensitivity

VARIABLES	(1)	(2)
$\frac{I_{i,t-1}}{K_{i,t-2}}$	0.0017**	0.0018**
	[0.0007]	[0.0009]
q_{it}	0.0000	0.0000
	[0.0000]	[0.0000]
$\frac{CF_{it}}{K_{i,t-1}}$	1.1307***	0.8662***
	[0.0690]	[0.0875]
η_{it}		-0.0180***
		[0.0040]
ε_{it}		-1.4790***
		[0.1702]
v_{it}		-0.9161***
		[0.0661]
$\frac{CF_{it}}{K_{i,t-1}} * \eta_{it}$	0.0001**	0.0760***
	[0.0000]	[0.0169]
$\frac{CF_{it}}{K_{i,t-1}} * \varepsilon_{it}$	6.3251***	6.6240***
	[0.2080]	[0.2713]
$\frac{CF_{it}}{K_{i,t-1}} * v_{it}$	2.5681***	3.0617***
	[0.0801]	[0.1094]
$\frac{B_{i,t-1}}{K_{i,t-2}}$	-0.0005	-0.0004
	[0.0004]	[0.0004]
Country FE	Yes	Yes
Industry FE	Yes	Yes
Year FE	Yes	Yes
Obs.	14,936	14,936
No. of firms	2,755	2,755

Source: Authors' calculation

5. Conclusion

This study examines the relationship between investment and cash flow in emerging countries which are featured by underdeveloped financial markets and high uncertainty. Our result shows that firm investment in emerging countries is still sensitive to cash flow. In addition, we find that investment - cash flow sensitivity is higher among constrained firms. Provided that measurement error in q has already been controlled, these two pieces of evidence imply investment - cash flow sensitivity found in firms from emerging countries is evidence for financing constraint originated from imperfections in financial markets. Regarding the impact of uncertainty,

we find that uncertainty amplifies investment - cash flow sensitivity. The amplification effect of uncertainty on the dependence of investment on cash flow implies it is getting harder for firms to access external finance under uncertainty. The evidence of significant sensitivity of investment to cash flow and amplification effect of uncertainty on investment - cash flow sensitivity suggest emerging countries' governments should pay more attention to facilitating access to finance for firms especially during times of uncertainty such as crises or pandemics.

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DETERMINANTS OF FINANCIAL PERFORMANCE OF VIETNAMESE LISTED FIRMS IN THE FOOD AND BEVERAGE INDUSTRY

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Abstract: *This paper is implemented to investigate the relationship between internal factors and the firm's financial performance. The research data were the financial ratios of 41 listed Vietnamese food and beverage firms between 2011 and 2021. Using OLS, FEM, and REM regression models, the study identified a significant and positive impact of sales growth and inventory management on firms' financial results. On the other hand, the proportion of debt used, investment in fixed assets, and cash ratio have a negative correlation with firms' financial performance.*

• Keywords: *financial performance, Vietnamese listed firms, food and beverage industry, ROA, ROE.*

Tóm tắt: *Nghiên cứu này được thực hiện để kiểm định mối quan hệ giữa các yếu tố bên trong doanh nghiệp và hiệu quả tài chính của doanh nghiệp. Dữ liệu nghiên cứu là các chỉ số tài chính của 41 công ty thực phẩm và đồ uống Việt Nam niêm yết từ năm 2011 đến năm 2021. Sử dụng các mô hình hồi quy OLS, FEM và REM, nghiên cứu đã xác định tác động tích cực và đáng kể của tăng trưởng doanh thu và quản lý hàng tồn kho đến kết quả tài chính của các công ty. Mặt khác, tỷ lệ sử dụng nợ, đầu tư vào tài sản cố định và tỷ lệ tiền mặt có mối tương quan ngược chiều với hiệu quả tài chính của doanh nghiệp.*

• Từ khóa: *hiệu quả tài chính, doanh nghiệp niêm yết Việt Nam, ngành thực phẩm và đồ uống, ROA, ROE.*

1. Introduction

One of the most significant targets of a firm is to maximize its shareholder value, and financial performance is the key to achieving this target (Bacidore et al., 1997). Financial results do not only show the production level but also help the firm find ways to increase income, reduce costs and improve operating efficiency (Jemiriye, 2020).

In Vietnam, the food and beverage industry have an indispensable role in the development of the economy and the society. This industry provides essential goods and products for people's lives. According to the Vietnamese ministry of Industry and Trade (2019), this industry contributed up to 15% to the value of Vietnamese GDP. In addition, Vietnamese consumers' spending on food and beverage products are highest among other categories, accounting for over 20% of their total household expenditures (Nguyen et al., 2020). With many advantages, the food and beverage industry in Vietnam has appropriate conditions to develop (Tsai et al., 2022). However, the financial performance of many Vietnamese food and beverage firms still have some limitations (Hau Nguyen et al., 2021). Therefore, it is crucial for them to have a good understanding of the determinants of their financial performance.

In general, there were a number of studies investigating the determinants of the financial performance of listed companies in developing countries (Alarussi & Alhaderi, 2018; Cahyaningtyas & Muharam, 2022; Li et al., 2020) and in Vietnam (Hoang et al., 2019; Le Thi Kim et al., 2021). However, this study differs from the previous ones in the following points: *Firstly,* the study focuses on the internal

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determinants of financial performance, including financial leverage, assets efficiency, fixed assets investment, liquidity, and sales growth. *Secondly,* this research is conducted over a long period of 11 years ranging from 2011 to 2021, covering the period of Covid-19 pandemic. *Thirdly,* the study analyses only food and beverage listed firms.

This paper consists of 5 sections. The next section presents the literature review. Section 3 explains the research methodology. The results and discussion are presented in section 4 and a conclusion is given in section 5.

2. Literature review

Financial performance is defined as the capability of a company to manage and control its internal and external resources (Fatihudin, 2018). Besides, ROA and ROE are the most popular ones representing how effectively a company uses its assets and equity to generate profit (Bayaraa, 2017). For this reason, this article uses ROA and ROE as proxies for financial performance.

Financial leverage

Financial leverage measures the proportion of borrowed funds used to finance the firms' assets (Jemiriye, 2020). The aim of using financial leverage is to make the income from the assets greater than the cost of borrowing. Alarussi & Alhaderi (2018) investigated the impact factors on the profitability of listed companies in Malaysia for 4 years from 2012 to 2014. The results revealed an inverse relationship between financial leverage and corporate profitability. Le Thi Kim et al. (2021) supports a negative influence of financial leverage and the financial performance of the firm. The reason for this negative correlation is that the more debt the business uses, the easier it will be to face bankruptcy and financial risks (Cahyaningtyas & Muharam, 2022). Thus, the first hypothesis is:

H1: Financial leverage has a negative effect on the financial performance of food and beverage firms

Asset efficiency

If firms use assets efficiently, they will be able to gain more profits and thereby improve their financial performance (Alarussi & Alhaderi,

2018). Asset efficiency refers to the ability of the firm to utilize its assets to generate income (Dhillon & Vachhrajani, 2012). The efficiency ratios can also be known as activity ratios or turnover ratios and may include total assets turnover ratio, inventory turnover ratio, receivable turnover ratio, and fixed asset turnover ratio (Osazefua Imhanzenobe, 2020). In an analysis of the factors affecting the profitability of listed companies in Malaysia, (Alarussi & Alhaderi, 2018) demonstrated that assets turnover ratio has a significant and positive impact on the firms' ROE. In the contrary, Alarussi & Alhaderi; Chinedu Innocent et al. (2013) showed a negative and insignificant correlation between total assets turnover and profitability of Nigerian firms in the pharmaceutical industry but highlighted a significant and negative impact of inventory turnover on the firms' profitability. In addition, Lina Warrad & Rania Al Omari (2015) found no significant relationship between the total assets ratio and ROE or ROA of Jordanian companies in the services sector.

This study chooses 3 ratios including assets turnover ratio, inventory turnover ratio, and receivable ratio as measurements of asset efficiency to examine the overall impact of this variable on the firm's financial performance and come up with the following hypotheses:

H2: The asset turnover has a positive effect on the financial performance of food and beverage firms.

H3: The inventory turnover has a positive effect on the financial performance of food and beverage firms is.

H4: The account receivable has a positive effect on the financial performance of food and beverage firms.

Fixed assets investment

With the help of modern machines, a firm can significantly reduce labor costs and save production time (Olatunji et al., 2014). Therefore, when investing in fixed assets, firms will be able to cut costs, thereby increasing profits. Olatunji et al. (2014) found that the production capacity of a firm can be improved by investment in fixed

assets such as factory, machinery, or equipment. Similarly, Purba & Bimantara (2020) conducted a study on a group of Indonesian companies in the transport industry during the period from 2014 to 2017 and found that the proportion of investment in fixed assets has a significant and positive impact on the financial performance of the company. However, negative correlation between fixed assets investment and financial performance of a firm were found the several studies (Iqbal & Mati, 2012). In addition, firms in the manufacturing sector usually invest heavily in fixed assets such as machinery, equipment, and factory in order to expand their production. Considering that fact, it is important to consider the level of investment in fixed assets when we conduct research about firms in the manufacturing industry. Based on the above discussion, the fifth hypothesis is as follows:

H5. There is a positive relationship between the investment for fixed assets and the financial performance of food and beverage firms.

Liquidity

Liquidity is defined as the ability of a firm to meet an immediate financial obligation when it is matured by transferring short-term assets into cash without any loss (Li et al., 2020). The liquidity of a firm can be measured by several criteria such as quick ratio, current ratio, or cash ratio.

Maintaining an adequate liquidity level can contribute to the profitability improvement of a firm. Kimondo et al. (2016) researched 39 non-financial companies listed in Kenya over a five-year period from 2010 to 2014 and found that firms with higher liquidity will have better financial performance. The positive relationship between liquidity and the financial performance of firms is also supported by the study of (Cahyaningtyas & Muharam, 2022; Omondi & Muturi, 2013)

However, a company that retains excessive liquidity will gain low profit because the additional money is sitting idly in liquid assets (Banerjee, 2015). According to the trade-off theory between liquidity and profit, when a business holds a high proportion of liquid assets, especially cash and cash equivalents, the liquidity of the business will be very high, but the profit target is limited

because firms cannot make the most of these assets for investment (Eljelly, 2004). Therefore, to achieve the "twin conflicting" objective of liquidity and profitability, a firm need to find a balanced mix between asset and liability, where they will be able to meet their financial obligations and remain profitable and liquid. Thus, the sixth hypothesis is:

H6. Liquidity has a positive effect on the financial performance of food and beverage firms

Sales growth

Various studies have proved that the growth of sales is a significant determinant of firms' financial performance. If a firm increases its revenue, it can be implied that this firm's operating results can increase accordingly. This point of view is supported by Liuspita & Purwanto (2019); Yazdanfar (2013). The reason given by these authors is that when the business grows, the productivity of the business also increases, and ultimately has a positive impact on its financial results.

H7. Sales growth has a positive effect on the financial performance of food and beverage firms.

3. Research model and methodology

3.1. Research model

Variables in the research model includes 9 financial ratios that were transformed and computed from the original data. All variables are measured by percentage units. These variables were described in detail in Table 3.1.

Table 3.1. The list of variables in models

Index	Variable	Description	Measure
Dependent variables			
1	ROA	Return on Asset	Annual net Income/Total Assets
2	ROE	Return on Equity	Annual net Income/ Shareholder Equity
Independent variables			
1	Lev	Financial Leverage or Debt Ratio	Total Liabilities/ Total Assets
2	AssetTO	Asset Turnover	Net sales/Total Assets

Index	Variable	Description	Measure
3	Inventory	Inventory turnover	Cost of goods sold/Average Inventory
4	Reveivable	Account Reveivable	Net Revenue/ Average receivable
5	FixA	Investment in Fixed Asset	Fixed Assets/ Total assets
6	Liquidity	Cash Ratio	(Cash + Cash equivalents)/Total Current Liablitilies
7	Salegrow	Sales growth	(Sales in the current period- Sales in the previous period)/ Sales in the previous period

3.2. Research methods

For the panel data regression model, there are 3 commonly used methods: the Least Squares Estimator model (Pooled OLS), the Fixed Effect Model (FEM) and Random Effect Model (REM).

In order to determine the relationship between ROA, ROE and internal factors of firms, all of these methods were used, evaluated, and compared to select the best suit model. After selecting the best model, the factors affecting the output variable will be analyzed and clarified.

From the hypotheses and research methods, the regression multivariable models for this study are described as followings:

$$ROA_{i,t} = \beta_0 + \beta_1 Lev + \beta_2 AssetTO + \beta_3 Inventory + \beta_4 Receivable + \beta_5 FixA + \beta_6 Liquidity + \beta_7 Salegrow + u_{i,t}$$

$$ROE_{i,t} = \beta_0 + \beta_1 Lev + \beta_2 AssetTO + \beta_3 Inventory + \beta_4 Receivable + \beta_5 FixA + \beta_6 Liquidity + \beta_7 Salegrow + u_{i,t}$$

4. Experiment and results

4.1. Data description

The study uses panel data collected information of 56 enterprises in the food and beverage industry in the period from 2011 to 2021. This dataset was obtained from audited financial statements and annual reports that were published on the website https://vietstock.vn/. After filtering and eliminating the firms that did not fully provide statements, the balanced dataset contains data from 41 enterprises.

Table 4.1. Summary of statistics

Variables	Observation	Mean	S.D	Min	Max
ROA	451	0.091	0.094	-0.317	0.722
ROE	451	0.152	0.178	-1.292	0.912
Lev	451	0.434	0.183	0.030	0.970
AssetTO	451	1.471	1.009	0.062	5.597
Inventory	451	13.881	61.284	0.400	771.2
Reveivable	451	139.3	1.106.515	0.910	14816.87
FixA	451	19.471	1.911	15.405	24.627
Liquidity	451	0.552	0.846	0.010	11.890
Salegrow	451	0.105	0.336	-0.729	3.139

Source: Author's calculation

4.2. Results

Firstly, the fixed effect model (FEM) is applied, and its results reveal that, with the Prob>F = 0.000, the FEM is more suitable than OLS in both ROA and ROE models. After that, we conduct the random effect model (REM) along with the Breusch and Pagan Lagrangian test and found that with a low p value of 0.000 in both two models with ROE and ROA, REM is more suitable than OLS in all the two models.

Table 4.2. FE and RE regression results

Variables	Regression with ROA				Regression with ROE			
	FE model		RE model		FE model		RE model	
	Coef.	P-value	Coef.	P-value	Coef.	P-value	Coef.	P-value
Lev	-0.220	0.000***	-0.228	0.000***	-0.259	0.000***	-0.280	0.000***
AssetTO	0.011	0.155	0.012	0.048**	0.002	0.891	0.014	0.283
Inventory	0.000	0.052	0.000	0.062	0.001	0.001**	0.001	0.001**
Reveivable	-0.000	0.983	0.000	0.768	-0.000	0.608	-0.000	0.316
FixA	-0.111	0.003***	-0.068	0.045**	-0.243	0.004**	-0.103	0.148
Liquidity	0.001	0.774	-0.001	0.779	-0.003	0.783	-0.011	0.308
Salegrow	0.033	0.001***	0.035	0.000***	0.079	0.000***	0.082	0.000***
No. of obs	451		451		451		451	
Prob>F	0.000		0.000		0.000		0.000	

Notes: ***: 0.01 Sig; **: 0.05 Sig

Source: Author's calculation

In comparison between REM and FEM to find out the most suitable model for the dataset, the Hausman test is implemented. The Prob>chi2 in ROA model is 0.0101<0.05 and Prob>chi2 in ROE model is 0.0063<0.05, meaning that FEM better fit with the data rather than REM. After that, Wald test is conducted to see whether there is heteroskedasticity problem in the FE

regression model. Results presented shows that since Prob>chi2 equals to 0.000 in both the ROA model and ROE model, the heteroskedasticity issue does not exist in FEM regression with both dependent variables of ROA and ROE. To check for the autocorrelation problem in panel data, we choose Woodridge test. While in the ROA model, autocorrelation is found, in the ROE model, no autocorrelation issue is detected. To correct the autocorrelation issue in ROA model, the feasible generalized least squares (FGLS) approach is used.

Table 4.3. FGLS and FEM regression results

	FGLS regression - ROA			FEM regrestion - ROE		
	Coef	S.E	P-value	Coef	S.E	P-value
Lev	-0.261	0.032	0.000***	-0.250	0.068	0.000***
AssetTO	0.005	0.006	0.397			
Inventory	0.0001	0.000	0.113	0.001	0.000	0.000***
Reveivable	-1.28e	4.13e	0.756			
FixA	-0.070	0.039	0.068	-0.254	0.086	0.003***
Liquidity	-0.011	0.005	0.035**			
Salegrow	0.0339	0.009	0.000***	0.080	0.022	0.000***
No. of obs	451			451		
Prob>chi2	0.0000			0.0000		

Notes: ***: 0.01 Sig; **: 0.05 Sig

Source: Author's calculation

It can be inferred from the above table that FGLS is the suitable regression model and there are three independent variables that affect the ROA of Vietnamese listed companies in the Food and beverage industry, which are: Salegrow, Liquidity and Lev.

For the ROE model, after eliminating non-significant variables including Liquidity, Receivable and Asset TO, the fixed effect regression is re-run. Results from the Table 4.3 indicates that Sale grow and Inventory positively affect ROE while Lev and Fix A witness reverse impacts on ROE.

To be more specific, sales growth (Sale grow) is positively correlated with both ROA and ROE meaning that the greater the increase in sales growth, the better the profitability and financial performance of the firm. This result is consistent with the research hypothesis and the findings of Liuspita & Purwanto (2019), Yazdanfar (2013).

Moreover, the food and beverage industry is characterized by low profit per product, so higher sales growth can ensure profitability for the firms (Le Thi Kim et al., 2021).

An inverse correlation is identified between the level of debt used (Lev) and ROA or ROE. This result is in agreement with the findings of previous research (Cahyaningtyas & Muharam, 2022; Omondi & Muturi, 2013) which suggested that high financial leverage can reduce company's performance. Due to short production cycle, the food and beverage manufacturers usually rely much on debt for financing their business. However, large fluctuations in the price of raw materials and the disruptions in supply chain due to the Covid-19 epidemic have made it difficult for firms in the food and beverage industry to bear large interest cost. This finally led to negative impact to the firms' financial results.

On the other hand, cash ratio (as a proxy for liquidity) is found to have a negative relationship with ROA but no significant correlation with ROE. Holding excessive cash is considered as risky as holding too much debt since unused money can create opportunity costs (Calcagnini et al., 2022). For that reason, it can be inferred that when companies hold a great amount of idle cash, it may reduce its financial performance.

In addition, regression model proved that there is no evidence of correlation between ROA and inventory management but a positive impact of inventory and ROE. Since inventory is an essential part of any manufacturing firms, including those in the food and beverage industry, the more effectively the firms manage its inventories, the greater financial results they may achieve. In the same vein, investment in fixed assets (Fix A) is found to have negative relation to ROE but no significant impact on ROA. This result may imply the inefficiency in managing fixed assets of F&B firms.

5. Conclusion

After analyzing the impacts of internal variables on financial results of 41 Vietnamese listed firms in the Food and beverage area, the study indicated that sales growth, financial leverage, cash ratio, inventory turnover and

investment in fixed assets were significant determinants while assets turnover and receivable turnover were found to have no correlation with the firms' financial performance. The growth in sales, inventory turnover was proved to have positive impacts on the firms' profitability. On the contrary, financial leverage, cash ratio and the fixed assets investment were negatively correlated with financial results of firms. Therefore, it can be inferred that companies in the food and beverage industry should concentrate on improving their sales and inventory management, establish a more appropriate capital structure, reduce the idle cash, and invest more effectively in fixed assets.

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THE RELATIONSHIP BETWEEN SUSTAINABLE KNOWLEDGE AND CONSUMER PREFERENCE FOR SUSTAINABLE FASHION PRODUCTS

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Abstract: *According to the Knowledge-Attitude-Behavior model, knowledge serves as a gauge of one's attitude, a connection to one's worldview, and a resource for preparing for future behaviors. However, existing products have revealed conflicting results regarding the relationship between sustainable knowledge and sustainable behavior. In the context of sustainable fashion, sustainable knowledge is composed of four types of knowledge (declarative knowledge, procedural knowledge, effectiveness knowledge, and social knowledge). However, the impact of each type of consumer behavior on consumer behavior is also controversial. Thus, the present study explores whether four types of sustainable knowledge positively influence consumer preference for sustainable fashion products. An online survey questionnaire among fashion consumers was conducted and data collected from 264 participants were analyzed with SPSS version 20. Findings support the significant association between sustainable knowledge as a multidimensional construct on consumer preference for sustainable fashion products.*

• Keywords: *sustainable knowledge, declarative knowledge, procedural knowledge, effectiveness knowledge, social knowledge, consumer preference.*

Tóm tắt: *Theo mô hình Kiến thức-Thái độ-Hành vi, kiến thức đóng vai trò là thước đo thái độ của một người, kết nối với thế giới quan của một người và là nguồn lực để chuẩn bị cho các hành vi trong tương lai. Tuy nhiên, các nghiên cứu hiện có đưa ra các kết luận trái ngược nhau về mối quan hệ giữa kiến thức bền vững và hành vi tiêu dùng bền vững. Trong bối cảnh thời trang bền vững, kiến thức bền vững bao gồm bốn loại kiến thức (kiến thức mô tả, kiến thức quy trình, kiến thức hiệu quả, kiến thức xã hội). Tuy nhiên, theo các nghiên cứu hiện hành, tác động của từng loại kiến thức đến hành vi tiêu dùng bền vững cũng có nhiều điểm mâu thuẫn. Do đó, nghiên cứu này nhằm tìm hiểu ảnh hưởng của bốn loại hình kiến thức bền vững đến sự ưa thích của người tiêu dùng đối với các sản phẩm thời trang bền vững. Nghiên cứu thu thập dữ liệu thông qua bảng hỏi khảo sát trực tuyến với những người tiêu dùng thời trang. Dữ liệu thu thập được từ 264 người tham gia được phân tích bằng công cụ SPSS phiên bản 20. Các kết quả nghiên cứu đều cho thấy có mối quan hệ thuận chiều giữa kiến thức bền vững dưới góc độ một khái niệm đa chiều nhìn từ bốn khía cạnh và sự ưa thích của người tiêu dùng đối với các sản phẩm thời trang bền vững.*

• Từ khóa: *kiến thức bền vững, kiến thức mô tả, kiến thức quy trình, kiến thức hiệu quả, kiến thức xã hội, sự ưa thích của người tiêu dùng.*

1. Introduction

The environment is increasingly becoming a top concern of the whole society. As the earth is gradually warming and the climate changes complicatedly with natural disasters, each person needs to be responsibe for their own behavior. To protect the environment, people need to control their consumption behaviour in daily life. Recently, sustainable fashion emerges as a popular trend for many people. In the fashion industry, Black (2011) offers guidelines for a sustainable fashion designers, including design for the entire lifecycle of apparel (including use and disposal). Overall, there should be systematic changes to make the entire fashion system more sustainable and achieve a sustainable approach.

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Sustainable fashion is referred to as the stages of the product life cycle, along with key actions (Brismar, 2014). Specifically, sustainable fashion can be defined as clothing, shoes and accessories that are manufactured, marketed and used in the most sustainable manner possible, taking into account both environmental and socio-economic aspects. In practice, this implies continuous work to improve all stages of the product's life cycle, from design, raw material production, manufacturing, transport, storage, marketing and final sale, to use, reuse, repair, remake and recycling of the product.In order to promote the preference for and consumption of sustainable fashion products, knowledge of sustainable fashion plays a decisive role (Alvarado-Herrera et al., 2017). Sustainable knowledge is referred to as environmental knowledge in which individuals understand the environmental and social impacts of the fashion items they purchase and use and the ability to understand which products are produced in an eco-friendly manner (D'Souza et al., 2006; Kong et al., 2016). Sustainable knowledge is comprised of four main types: declarative knowledge, procedural knowledge, effectiveness knowledge, and social knowledge (Kaiser & Fuhrer, 2003).

Existing research findings about the impact of sustainable knowledge on environmental behaviors are not consistent. On the one hand, research reveals the positive impact of sustainable knowledge on green purchase intention (Lin &Chang, 2012; Huang et al., 2014); attitudes towards green behaviors (Fraj-Andrés & Martínez-Salinas, 2007); or attitudes towards sustainable fashion (McNeill &Moore, 2015). On the other hand, environmental knowledge was found not to be associated with green purchase intention (Wolsink, 2007). Moreover, previous studies seem to have investigated sustainable knowledge as a unidimensional construct. Among some few studies investigating the impact of four types of sustainable knowledge on sustainable or pro-environmental behavior, many contradictory results have been recorded. For example, procedural knowledge and declarative knowledge are occasionally even combined into a single form of knowledge, measured on a single scale (Moore

et al.,1994). Additionally, declarative knowledge is not a predictor of sustainable behavior for food and waste (Redman & Redman, 2014) or other environmental behaviors (Kong et al., 2016; Kollmuss & Agyeman, 2002). Therefore, a thorough understanding of the importance of different types of sustainable knowledge towards consumer preference requires further research, especially in sustainable fashion. Hence, the objectives of this study are to conceptualize sustainable knowledge as a multi-dimensional construct and to explore the impact of each type of knowledge on consumers' preference for sustainable fashion products.

2. Literature review

As defined by Kaiser & Fuhrer (2003), sustainable knowledge is composed of declarative knowledge, procedural knowledge, effectiveness knowledge, and social knowledge. *Firstly,* declarative knowledgeindicates knowledge of facts, statistics or information stored in a database. In the context of sustainable fashion, declarative knowledge is known as understanding of general principles of sustainable fashion. A person with declarative knowledge of sustainable fashion understands that sustainable fashion is a trend that is consistent with the current environmental situation, and understands sustainability as a combination of ethical, environmental factorsand economic factors. *Second,* procedural knowledge, is "how-to" knowledge which refers to actions that can be taken (Kaiser & Fuhrer, 2003). Procedural knowledge about sustainable fashion addresses the issue of how to achieve a particular conservational goal, for instanceways to reuse and prolong the life of fashion items. *Third,* effectiveness knowledge refers to potential cost and benefits from energy efficiency and effectiveness (Gardner & Stern, 1996). This type of knowledge in the context of sustainable fashion could include facts and reflections on outcomes of actions or choices that consumers make, for example the environmental impact of different types of fabrics (Mesiranta et al., 2021). Fourth, social knowledge is understanding other people's "motivations and intentions" (Ernst, 1994). Regarding sustainable fashion, social knowledge can be what is legitimate and acceptable and what

is not on one hand, and social understanding of what other consumers do and think on the other hand.

Previous research has revealed conflicting results about the relationship between sustainable knowledge and environmental behaviors. On the one hand, consumers who have some sustainable knowledge and positive past experience with ecological product purchases are reported to have a high tendency to exhibit strong intentions to purchase a green product due to its green attributes and successful green brand positioning (Lin and Chang, 2012). Likewise, earlier studies by Fraj-Andrés and Martínez-Salinas (2007) affirmed that environmental knowledge influences consumers' ecological attitude toward green behavior. In the context of sustainable fashion, consumers' attitudes toward sustainable fashion are determined by their general level of concern for social and environmental well being (McNeill and Moore, 2015). On the other hand, previous studies such as Wolsink (2007) could not determine any links between environmental knowledge and green purchase intention. In this study, although people know more about the environmental impacts of owning and using more fuel-efficient vehicles, their environmental knowledge is found not to have an impact on the numbers of vehicles owned, miles driven, or fuel consumed.

Additionally, research findings about the impact of different types of sustainable knowledge are also contradictory. Declarative knowledge reduces uncertainty, which allows people to take action. However, research findings by Kong et al (2016) have indicated an insignificant relationship between declarative knowledge and attitude toward sustainable fashion products. Furthermore, procedural knowledge and declarative knowledge are occasionally even combined into a single form of knowledge, measured on a single scale (e.g. Diekmann & Preisendörfer, 1992; Moore et al., 1994).

To sum up, based on the above literature review, we have identified two research gaps that we could fill in. The first research gap emerges from the conflicting results in the relationship between sustainable knowledge and environmental behaviors. Therefore, we would like to explore this relationship in the context of sustainable fashion. The second research gap evolves from the fact that numerous existing research findings center around the impact of generic sustainable knowledge on environmental behaviors but the impact of each of the four dimensions of sustainable knowledge on preference for sustainable fashion has been scarce or even contrasting. To fill in these gaps, we aim at exploring the relationship between sustainable knowledge from the perspective of a multidimensional construct (including declarative, procedural, effectiveness, and social knowledge) and preference for sustainable fashion.

3. Hypothesis development

Knowledge, attitude, and behavior (KAB) (Kallgren and Woods, 1986), posits that consumer behavior is determined by either positive or negative attitudes resulting from a set of knowledge about the product. KAB model has been applied to analyze consumer preference for corporate social responsibility (Boccia & Sarnacchiaro, 2018), pro-environmental behavior (Taufique et al., 2017). Besides, consumer preference refers to significant factors that may influence purchase behavior such as product attributes. In the context of sustainable fashion, consumer preference represents critical characteristics that can transform positive attitudes to actual consumer behavior. In other words, consumer preference for sustainable fashion is the selection and preference of fashion items that are environmentally friendly, easily recyclable, and have ethical manufacturing processes (World Health Organization, 2012). In this research, with the application of the KAB model, knowledge of sustainable fashion products is used to represent the knowledge set in the relationship between knowledge and consumer preference for sustainable fashion.

Declarative knowledge and customers' preference for sustainable fashion

Declarative knowledge, which encompasses knowledge of actual events underlying

sustainability theory, is utilized as a prerequisite for changing one's mindset (Kaiser & Fuhrer, 2003). As declarative knowledge is considered to be able to reduce uncertainty which impedes people from taking action, declarative knowledge about sustainable products is assumed to be one important variable helping people to form positive thoughts and attitudes towards them. Empirically, declarative knowledge and ecological behavior were indicated to have a substantial relationship with each other (Kaiser & Fuhrer, 2003). One other study found that farmers' declarative knowledge of climate change directed farmers' attitudes toward the causes of climate change (Nguyen et al., 2019). This suggests that declarative knowledge has a positive impact on attitudes toward sustainability, which can possibly result in changes in preferences. In the context of sustainable fashion, declarative knowledge may provide consumers with detailed descriptions of sustainable fashion products, which can encourage them to confidently express their preferences for sustainable fashion products. Thus, we suggest the following hypothesis:

H1: Declarative knowledge about sustainable fashion positively influences consumers' preference for sustainable fashion products.

Procedural knowledge, which is referred to as action-related knowledge, describes "how-to" processes that handle potential actions (Lansana, 1992). As a result, when consumers are aware of the extensive effects of the sustainable process, they may tend to favor sustainable products. In reality, procedural knowledge may influence ecological attitudes, which may then influence consumer preferences for sustainability. Additionally, promoting procedural knowledge will result in behavior that supports biodiversity (Schaffner & Demarmels, 2015). Therefore, procedural knowledge also may have a positive impact on consumers' behavior toward environmental issues. In the context of sustainable fashion, we also assume that procedural knowledge about sustainable fashion will provide customers with reliable and trustworthy information about the schemes or processes of producing fashion items that are environmentally friendly. When fully aware of this information, customers will form

a preference for sustainable fashion products. Therefore, the following hypothesis is posited:

H2: Procedural knowledge of sustainable fashion positively influences consumers' preference for sustainable fashion products.

Behavioral choices and attitudes toward cost-benefit objectives are related to effectiveness knowledge (Kaiser &Fuhrer, 2003). Likewise, according to Gardner & Stern (1996), knowledge of effectiveness also refers to energy efficiency and effectiveness which have the potential to reduce cost. Therefore, if people want to adjust their behavior or develop an ecological behavior, they must always decide between many behavioral alternatives, which can be a sign of a shift in people's inclinations toward sustainability preference. As a result, a rational individual must have knowledge of the effectiveness of different behavioral options and then evaluate personal expenses associated with each behavioral option. It is therefore clear that behavioral decisions involving cost-benefit intents and relative conservation effectiveness are significantly impacted by effectiveness knowledge. In the context of sustainable fashion, we also assume that effectiveness knowledge may motivate consumers to form their preference for sustainable fashion products because it can provide them with knowledge about how their consumption behaviors can reduce not only their personal costs but also environmental costs. The following hypothesis is posited:

H3: Effectiveness knowledge of sustainable fashion positively influences consumers' preference toward sustainable fashion products.

Fourthly, as stated by Ernst (1994), social knowledge entails comprehending the "motives and intentions" of other people in the surrounding environment. From another perspective, Kaiser and Fuhrer (2003) refer to social knowledge as actions taken in response to social expectations and requirements for acceptance. Their research also indicates that social knowledge is the type of social understanding that enables others to observe how one feels and behaves. It is also closely related to social norms and one's understanding of common social expectations. Empirically,

social knowledge is also reported to significantly affect attitudes toward items made of sustainable materials (Nam et al., 2007). With regards to sustainable fashion, social knowledge may center around whether other people buy sustainable fashion products or what are other people's attitudes toward sustainable fashion products. This may force people to form a preference for sustainable fashion products. Based on the above arguments, in the context of sustainable fashion, we suggest the following hypothesis:

H4: Social knowledge about sustainable fashion positively influences consumers' preference for sustainable fashion products.

Fig. 1 illustrates the research framework which is built on extant literature that proposes the impact of sustainable knowledge about sustainable fashion as a multidimensional construct on consumers' preference for sustainable fashion products. Four dimensions of sustainable knowledge in the context of sustainable fashion include declarative knowledge, procedural knowledge, effectiveness knowledge, and social knowledge.

Fig. 1. Research framework
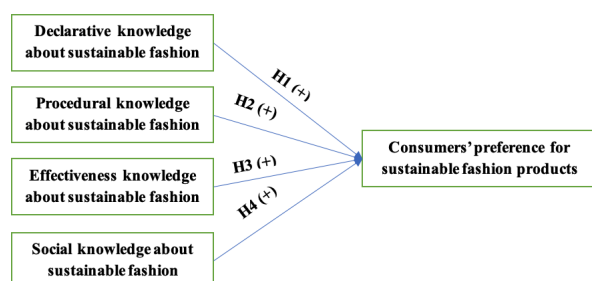
4. Research methods

4.1. Participants and procedure

The research methodology was quantitative, based on an online self-administered questionnaire. This study sought to investigate the opinions of consumers who participated in Facebook groups about fashion in Vietnam. We composed a post in those Facebook groups, explaining clearly the objectives of our study and inviting them to answer the survey questionnaire in the provided link. Potential participants were told that the survey would take them 7 minutes to complete

and they would receive ebooks with tips about mixing fashion items as an acknowledgment. A general sample of 264 individuals completed the survey from 9 to 17 October, 2022. This sample size meets the standard requirements of Hair et al. (1998) and is suitable to conduct further analysis.

Table 1 presents the sample characteristics. 58.3% of respondents were females. 53.1% were between 18 and 25 years old (53.1%), followed by 34.8% from 26 to 35 years old. 48.9% of the participants lived in Hanoi while 37.1% lived in Hochiminh city and only 14% lived in other cities or provinces in Vietnam. The vast majority of the survey respondents had an average monthly income of between 10 and 20 million dong (85.2%).

4.2. Measurement scales

Measurement scales employed to measure the constructs in this study are adopted from well-established scales, grounded in extant literature. Declarative knowledge, Procedural knowledge, effectiveness knowledge and social knowledge were measured using the scales by Kaiser et al. (2016) on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). Preference for sustainable fashion products was measured using the items adapted from that of Achabou et al. (2020) using a 5-point scale (1 = strongly disagree, 5 = strongly agree).

4.3. Data analysis

After data were collected, Cronbach's alpha and exploratory factor analysis (EFA) were conducted with the statistical software of SPSS 20.0. After that, a multilinear regression analysis was performed to test the proposed hypotheses Demographic variables (age, gender, and income) were used as control variables.

5. Results

First, Cronbach's alpha of the constructs was analyzed. The individual item reliability for all factor loadings was confirmed, as they were all greater than 0.70, and the composite reliability (CR) of all constructs was greater than 0.69, confirming internal consistency reliability (Fornell & Larcker, 1981). Therefore, the sample meets all requirements of reliability and validity for further statistical analysis.

Table 1. Reliability and Validity results

Construct		Items	Factor loading	Cronbach's alpha	CR	AVE
Declarative knowledge (Kaiser et al., 2016)	DK1	I am interested in information about manufacturing system.	.814	.910	.890	.705
	DK2	I am interested in the textile dyeing factor.	.855			
	DK3	I am interested in the required resource of dyeing and finishing information on special finishing of the fabric.	.850			
Procedural knowledge (Kaiser et al., 2016)	PK1	I am interested in information on the special finishing of the fabric.	.829	.869	.704	.531
	PK2	I am interested in the finishing process of apparel production.	.736			
	PK3	I am interested to know about the chemical pollutants produced during the process of natural fibers.	.603			
Effectiveness knowledge (Kaiser et al., 2016)	EK1	Behavior affects consumers' attitudes.	.743	.872	.860	.671
	EK2	Sustainable fashion products are influenced to reduce clothing waste.	.847			
	EK3	Sustainable fashion products prevent water pollution.	.862			
Social knowledge (Kaiser et al., 2016)	SK1	One's use of sustainable fashion products can contribute to resource savings.	.737	.893	.690	.517
	SK2	I am against animal experiments for tested fashion products.	.701			
Consumers' preference for sustainable fashion products (Achabou et al., 2020)	PSF1	I prefer sustainable fashion products made from as many environmentally friendly materials as possible.	.901	.799	.900	.718
	PSF2	I prefer sustainable fashion products if they have a clear display of commitment towards sustainability.	.894			
	PSF3	I am willing to pay premium prices for sustainable fashion products.	.737			

The discriminant validity tests of independent constructs can be seen in Table 2. All explained variances are greater than the correlation squared between constructs in the model, demonstrating discriminant validities of the measures (Fornell and Larcker, 1981).

Table 2. Discriminant validity of measurement scales

Constructs	1	2	3	4	5
1. Consumers' preference for sustainable fashion products (PSF)	.718	.470	.524	.573	.585
2. Declarative knowledge (DK)		.705	.602	.387	.473
3. Procedural knowledge (PK)			.531	.437	.717
4. Effectiveness knowledge (EK)				.671	.643
5. Social knowledge (SK)					.517

Note: Numbers in the diagonal are AVEs. Other numbers are correlation squared between variables.

Then the linear regression analysis was performed. In regression Model 1, only control variables were entered while in the full model (Model 2), four independent variables of declarative knowledge, procedural knowledge, effectiveness knowledge and social knowledge were entered together with control variables. Table 3 presents the results for regression models. Regression results showed that R^2 for the full model (Model 2), 69.7%, is relatively higher than that of Model 1 with only control variables (2.3%). The highest variance inflation factor (VIF) is only 3.638, indicating that multicollinearity would not be a problem. Findings show that the relationship between declarative knowledge and consumers' preference for sustainable fashion products was significant (β = .143, p-value = .014 < .005), leading H1 to be supported. In support of H2, H3 and H4, procedural knowledge (β = .231, p-value < .001), effectiveness knowledge (β = .326, p-value < .001), and social knowledge (β = .239, p-value < .001) were positively associated with consumers' preference for sustainable fashion products.

Table 3. Regression analysis results

	Model 1						Model 2					
	B	Std. Error	β	t-value	p-value	VIF	B	Std. Error	β	t-value	p-value	VIF
(Constant)	3.742	.289		12.948	.000		.695	.208		3.341	.001	
Age	.206	.133	.101	1.543	.124	1.133	-.072	.077	-.035	-.941	.347	1.190
Gender	-.228	.123	-.115	-1.858	.064	1.015	-.066	.070	-.033	-.944	.346	1.057

	Model 1						Model 2					
	B	Std. Error	β	t-value	p-value	VIF	B	Std. Error	β	t-value	p-value	VIF
Income	-.101	.125	-.053	-.805	.422	1.148	-.054	.071	-.029	-.765	.445	1.181
Declarative knowledge (DK)							.129	.052	.143	2.485	.014	2.797
Procedural knowledge (PK)							.217	.057	.231	3.823	.000	3.089
Effectiveness knowledge (EK)							.329	.060	.326	5.440	.000	3.036
Social knowledge (SK)							.214	.059	.239	3.639	.000	3.638
R²	0.023						0.697					
Adjusted R²	.012						0.689					

Dependent variable: Preference for sustainable fashion products

6. Discussion

Our research examined sustainable knowledge as a multidimensional construct in the context of sustainable fashion. Four dimensions of sustainable knowledge include declarative knowledge, procedural knowledge, effectiveness knowledge, and social knowledge. In fact, our analysis results indicate that each type of sustainable knowledge plays an important role in promoting consumers' preference for sustainable fashion products. Firstly, the positive association between declarative knowledge about sustainable fashion and consumers' preference for sustainable fashion products found in this study is contradictory to the results of previous literature (Redman & Redman, 2014; Kong et al., 2016; Kollmuss & Agyeman, 2002). In the specific context of sustainable fashion, providing such declarative knowledge as a manufacturing system, or requirement resource of dyeing and finishing information on special finishing of fabric will help reduce any potential uncertainties consumers may have, which will thereby encourage them to take action or change perception. This finding, thus, is supported by Reif (2017) who indicated that if provided with declarative details about sustainability, consumers' overall perceptions about sustainable fashion will be increased.

Secondly, the positive relationship found in this study between procedural knowledge, effectiveness and social knowledge about sustainable fashion on consumers' preference for sustainable fashion products is in line with the conclusion of previous scholars, for example supporting biodiversity behaviors (Schaffner & Demarmels, 2015); household preferences for the waste management system (Setiawan et al., 2019), sustainable food and waste behaviors (Redman & Redman, 2014); conservation behaviors (Frick et al., 2004); cleanliness, recycling, electricity and buying local produce (Levy et al., 2016); or recycling (Barr, 2007).

Theoretically, our research further contributes to existing literature regarding sustainable knowledge by confirming that sustainable knowledge is a multidimensional construct and the positive influence of sustainable knowledge on consumers' preference for sustainable fashion products is reinforced through declarative knowledge, procedural knowledge, effectiveness knowledge, and social knowledge. This result can be also generalized in other contexts related to sustainability.

Practically, we recommend that consumers' preference for sustainable fashion products can be promoted by enhancing all four types of sustainable knowledge. Thus, sustainable fashion brands should conduct marketing campaigns to communicate to their potential customers' sources of information about sustainable fashion products. Communication strategies of sustainable fashion brands should take into account that different levels of sustainable knowledge should be offered to address consumers from varied backgrounds, from the general public to target consumers. It would also be advisable for the government to initiate public education programs by providing more accurate and reliable information about sustainability to increase general people's sustainable knowledge, especially details about the manufacturing system, the requirements and procedures of the production process, the effectiveness that the production of sustainable fashion as well as messages about how others are buying or consuming sustainable fashion products. Accordingly, customers may form a preference for sustainable fashion products afterward.

7. Limitations and further research suggestions

This research is not without limitations. First, the findings of this research are constrained in that the sample mostly included young consumers living in big cities in Vietnam. Future research could investigate a broader sample for more generalized results. Second, in this research, only the preference for sustainable fashion products is examined. Thus, another fruitful research area is to explore the impact of different types of sustainable knowledge on sustainable fashion intentions or behaviors of consumers.

In conclusion, this paper stresses the importance of understanding the influence of different dimensions of sustainable knowledge on consumers' preferences for sustainable fashion products. These significant positive relationships indicate that different approaches of providing consumers with various aspects of knowledge regarding sustainable fashion should be adopted so as to advocate consumers' preference for sustainable consumption behaviors that can be expected to reduce the harm to the environment.

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DEVELOPING ONLINE PAYMENT SERVICES IN VIETNAM: SITUATION AND SOLUTIONS

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Abstract: *The article uses secondary data of domestic and foreign market research organizations on the development of electronic payment types, the explosion of smart mobile devices, the number of application users payment usage, young population, Internet access costs, thereby analyzing the current status of online payment services, and at the same time mentioning important challenges and proposing some solutions to contribute to the development of online payment services online payment in Vietnam in the coming time.*

• Keywords: *online payment service, development solution, Vietnam.*

Tóm tắt: *Bài viết sử dụng số liệu thứ cấp của các tổ chức nghiên cứu thị trường trong và ngoài nước về sự phát triển của các loại hình thanh toán điện tử, sự bùng nổ của các thiết bị di động thông minh, số lượng người dùng ứng dụng thanh toán, dân số trẻ, chi phí truy cập Internet, từ đó phân tích thực trạng dịch vụ thanh toán trực tuyến, đồng thời đề cập đến những thách thức quan trọng và đề xuất một số giải pháp nhằm góp phần phát triển thanh toán trực tuyến tại Việt Nam trong thời gian tới.*

• Từ khóa: *dịch vụ thanh toán trực tuyến, giải pháp phát triển, Việt Nam.*

Introduction

Online payment is a payment method used frequently by customers on the internet or mobile devices. Customers use credit cards, ATM cards, or other online payment methods to pay for products or services they have purchased online. This process is conducted through an online payment gateway system connected to the bank to ensure the authenticity of all online transactions. In addition to digitization, online payments are becoming more prevalent in Vietnam and other countries. Due to the pandemic, online payments have become an explosive service. The rise of e-wallets has contributed to the increasing number of people who use online payments. Besides making transactions through mobile banking and Internet banking, people can also pay using facial recognition and QR codes. According to a survey by Visa, in the post-Covid-19 pandemic, Vietnamese consumers are gradually choosing to use e-wallets as well as contactless payments and payments with QR codes. Up to 57% of consumers have up to three e-wallet apps on their phones, 55% of consumers prefer an app that can make all transactions. According to the State Bank of Vietnam, in the first months of 2021, there were more than 200 million transactions made through e-wallets, with a value of about 77.7 trillion VND. Not to mention, more than 85% of consumers own at least one e-wallet or payment app, more than 42% of consumers use contactless payments using mobile devices. In particular, 71% of users use e-wallets or payment applications at least once a week. In 2021, Vietnam's fintech market is increasingly diversified with many industries such as digital banking, e-wallets, pre-paid post-purchase (BNPL)...

The above figures have shown that online payment in Vietnam is experiencing great development, especially payment via e-wallets. Experts say that with the enhancement of the experience to expand the customer base, the

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future e-wallet market will be a very fierce battle. Thus, under the pressure of constantly changing technology as well as the needs of customers in the new context, the development and promotion of electronic payment services in the near future is an urgent requirement for businesses credit Vietnam.

The development status of online payment services in Vietnam

The State Bank of Vietnam is tasked with managing payment activities. For many years, the State Bank of Vietnam has focused on researching and building institutions, policies and legal corridors to facilitate the formation and development of digital banking services, digital payment, and exchange new utilities, applying the latest technologies to improve operational capacity and service quality. The State Bank has submitted to the Government for promulgation the Decree on non-cash payment, the Decision allowing the pilot deployment of mobile payment service (Mobile Money); Develop, amend and supplement many joint circulars guiding the Decree, develop and implement a plan for digital transformation of the banking sector. The State Bank of Vietnam has also issued guidelines for opening an online payment account based on customer identification by electronic means of eKYC, and issued a uniform application of a number of standards in the field of payment such as QR Code, chip cards, requirements and measures to ensure security and safety of payment systems and electronic payment transactions of businesses and people.

The entire commercial banking system is responsible for providing payment services to customers. The banking system focuses on investment and development of payment technical infrastructure, including: Inter-bank electronic payment system, electronic switching and clearing system, system of card payment acceptance points POS); ATM automatic teller machine system; digital banking service system... Electronic payment techniques based on the latest digital technology platform but suitable to the practice of commercial banks and the Vietnamese economy are focused on developing, investing and expanding services. Commercial banks have pioneered the application of digital technology

in the banking service market, such as eKYC, Big data and AI (artificial intelligence) security technologies to process requests for high-limit credit cards. of cutomer. Over the past time, electronic payment systems based on digital technology of many Vietnamese commercial banks and payment intermediary organizations in Vietnam operate safely, securely, quickly and conveniently in transactions. Transactions between businesses and people, the system also ensures a smooth connection between banks, payment intermediaries, e-wallets, public service providers, and businesses and organizations. Sales and other service providers, meeting the payment needs of people and businesses in the trend of digital economy development and the context of social distancing under the impact of the Covid-19 pandemic.

In addition, payment service providers and payment intermediaries have actively researched and invested heavily in financial resources to develop technological infrastructure and apply advanced technical solutions. synchronously integrate many important services such as: telecommunications, health care, hospitals, schools, electricity, clean water, taxes, insurance... in the economy. Commercial banks and payment intermediaries have established a digital ecosystem and provided many modern and convenient payment products and services to improve customer experience and satisfaction. Many new, modern, cost-effective payment methods and solutions have been born with convenience, high security, great benefits and added value for customers.

The Vietnamese government has implemented various initiatives, programs and projects to promote the strong development of electronic payments. The Government has adopted guidelines and policies to develop non-cash payment methods, such as: Decision No.2545/QD-TTg (2016), of the Prime Minister, on approving the Proposal No. project to develop non-cash payment in Vietnam for the period 2016 - 2020; Decision No.241/QD-TTg (2018), of the Prime Minister, approving the Scheme to promote payment through banks with public services: Tax, electricity, water, tuition fees, hospital fees and payments for social security programs; Resolution No.02/NQ-CP (2019),

of the Government on continuing to perform tasks and solutions to improve the business environment, improve national competitiveness in 2019 and orient to 2021; Directive No.22/CT-TTg (2020), of the Prime Minister on promoting the implementation of solutions to develop non-cash payment in Vietnam, especially in the context of the Covid-19 pandemic there are complicated developments… The guidelines and policies focus on completing and creating a legal corridor, creating a favorable environment for the development of diverse products and services, and building and developing infrastructure. infrastructure, electronic payment system, building startup portal with financial support, training.

In the coming time, in order to create favorable conditions for businesses to catch up with the trend of efficient consumption and business, the Prime Minister has approved the National Digital Transformation Program up to 2025, with orientation to 2030, prioritizing agriculture, finance - banking, transportation and logistics, energy, natural resources and environment, industrial production. At the same time, on the basis of summarizing the results achieved in the previous period, reviewing and assessing the current status and needs of e-commerce development in the coming period, the Ministry of Industry and Trade has submitted to the Government a proposal to develop a plan to develop e-commerce. National e-commerce development master plan for the period 2021 - 2025 and approved by the Government in Decision No. 645/QD-TTg (2020). The plan prioritizes the issuance of policies, regulations and implementation of comprehensive solutions to increase the rate of electronic payment, payment on mobile platforms in online transactions and reduce the usage rate cash, cash on delivery (COD) in e-commerce; Developing infrastructure and solutions to support electronic transactions integrating payment in e-commerce; focusing on developing payment utilities on mobile platforms, e-wallets, QR codes, NFC, POS,...

However, to develop online payment in Vietnam, it is necessary to note the main challenges, including: *Firstly,* the habit of cash payment in Vietnam is not easy to change overnight; *Secondly,* with the characteristics of high-tech products and

services provided mainly by network operators, supervision and management must be closely coordinated between relevant agencies such as the State Bank, the Ministry of Information and Communications, Ministry of Public Security; *Third,* if customer identification, garbage sim management and anonymous transactions are not done well, online payment transactions can be a channel to "wash transactions", affecting anti-money laundering; *Fourth,* developing an agent network will generate risks related to the level, capacity, awareness and responsibility of this network; *Fifth,* if there is no appropriate security and management plan, customers' money is at risk of being lost, which may originate from suppliers, agents, information technology criminals or even people close; *Sixth,* the legal environment for online payment transactions is still incomplete and synchronous. Vietnam has not yet finalized the issuance of citizenship codes, regulations that manage anonymous transactions and allow service providers to flexibly set minimum identification requirements; The infrastructure and investment environment are quite average because Vietnam does not have a national database on population and regulations allowing the use and distribution of interest for mobile money accounts.

Solutions

On the basis of studying the current situation of online payment service development in Vietnam over the past time, the authors propose some solutions as follows:

Firstly, to limit the risks of information and data: the legal provisions on confidentiality and security of information - data must be prioritized for development, in which there should be regulations on the exchange of information - data data between individuals and enterprises, between enterprises and partners, within enterprises and between state management agencies. For example, the sharing of customer identification results between businesses providing online payment solutions and credit institutions needs clarification; at the same time with raising the awareness of information security - personal data of each customer.

Secondly, for systemic (technical) risks: for e-payment service providers, it is necessary to

master the transaction processing system and payment center; develop response processes and scenarios to prevent and minimize systemic risks that may cause disruption or stoppage of transactions; perfecting business processes such as operational risk assessment and information technology risk analysis.

Third, solutions to minimize money laundering, gambling, and terrorist financing transactions: there should be regulations on the limit on the number of accounts a customer can hold, the limit per transaction or per transaction month, and the number of transactions per month. maximum balance on the account; have a system that monitors transaction flows to potentially notify service providers of unusual transactions.

Fourth, limit the risk of losing money in customer accounts: it is necessary to stipulate that customers must have an otp verification code, pin code or password when conducting transactions on the phone to verify the user's identity; ensure every transaction is tracked and can locate the mobile subscriber making the transaction. In addition, customers need to raise their awareness and protect themselves in order to understand their rights and complaint procedures to handle effectively when risks occur.

Fifth, to minimize risks related to the agency system: accordingly, the management agency needs to issue frameworks of standards for the agency system (including subjects, qualifications, capacity, equity, ...) to orient online payment service providers to build their own internal criteria for agent selection. The rights and responsibilities of online payment service providers and agents need to be clearly defined, along with the requirement to develop and standardize the process in order to raise awareness and responsibility of the agent system.

Sixth, promoting online payment habits through increasing service features and utilities: ensure fast, low cost (applicable to small transactions in the first time) and safety (when problems occur, they will be handled immediately); conduct communication and settlement work in a professional manner; along with promoting financial education (via Mobile channel will also achieve the same results

as other countries are doing). It is necessary to quickly develop and promulgate a national strategy on financial education (which becomes an important component for the implementation of the Comprehensive Financial Strategy); in which, personal finance education should be a compulsory subject at the high school level.

Seventh, clarifying the coordination process and responsibilities of stakeholders in the management, supervision and operation of online math transactions. According to world experience, as a payment service, the focal point for management should be the State Bank and must have the close cooperation of many other ministries and sectors such as the Ministry of Information and Communications, the Ministry of Information and Communications, and the Ministry of Information and Communications. Police, Ministry of Finance, etc. At the same time, the cooperation mechanism between electronic payment service providers, credit institutions and agents should also have clear regulations.

Last but not least, improve customer identification by completing and promulgating regulations on customer identification and verification; accelerate the project of building a national database on population and granting citizen codes. Telecommunications businesses also need to soon complete the registration of new subscriber information, customer identification, garbage sim management...

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SOLUTIONS FOR FOSTERING SUSTAINABLE GROWTH OF TELECOMMUNICATION COMPANIES IN VIETNAM

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PhD. Pham Duy Khanh** - MSc. Pham Thuy Duong***

Abstract: *Based on the result of empirical research: Factors including company size, return on sale, return on equity, leverage, asset turnover, dividend payout ratio, company age, and inflation rate affect the sustainable growth of 46 telecommunication (telecom) companies in the period from 2014 to 2021, authors propose suggestions to foster the sustainable growth of the telecom companies.*

• Keywords: *company, telecom companies, factors, sustainable growth.*

Tóm tắt: *Dựa trên kết quả nghiên cứu các nhân tố: Quy mô doanh nghiệp, hệ số sinh lời hoạt động, hệ số sinh lời vốn chủ sở hữu, đòn bẩy tài chính, hiệu suất sử dụng tài sản, tỷ lệ chi trả cổ tức, tuổi doanh nghiệp và tỷ lệ lạm phát tác động đến tăng trưởng bền vững của 46 doanh nghiệp viễn thông niêm yết giai đoạn từ năm 2014 đến năm 2021, nhóm tác giả đã đưa ra các khuyến nghị nhằm thúc đẩy tăng trưởng bền vững của các doanh nghiệp viễn thông.*

• Từ khóa: *doanh nghiệp, doanh nghiệp viễn thông, nhân tố, tăng trưởng bền vững.*

Introduction

Telecom companies always play an essential role in building and developing the global connection. In Vietnam, the telecom industry is one of the main industries, contributing significantly to national economic development. According to the general statistic office, in 2021, the telecom industry contributed 14.3% to Vietnam's GDP, 28 times greater compared to 2020 (just around 0.5%). In the context of the digital era, the outbreak of industrialization revolution 4.0 and the considerable impacts caused by the Covid-19 pandemic, the digital transformation has been

fostered significantly. In addition, decision No 749/QĐ-TTg dated 03/06/2020 of the Prime Minister about approving of "National digital transformation program to 2025, with orientation to 2030", which has led Vietnam to become one of the leaders in the national digital transformation program. This is a huge favor for the companies in the telecom industry to actively seize the opportunities to transform the business models to satisfy the market's diversified demands. However, the significant challenges for listed telecom companies, which are: lack of financial capability, investment capacity, investment scale; high competitiveness, lack of high-quality employees, the confidentiality of customers' information, service quality…. require telecom companies to renovate more strongly. As a result, studying factors affecting sustainable growth to propose solutions for fostering sustainable growth of telecom companies is an urgent issue for telecom companies and related parties.

Model

Dependence variable: Sustainable growth is the maximum growth rate of asset to be suitable with the growth rate of revenue, net income and net cash flow from the operation without influences on the company's financial resource. Therefore, ensuring the sustainable growth, the companies need to determine and maintain an

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optimal financial structure for their business. A stable financial structure is ensuring the growth rate of owners' equity obtained from retained earnings always balances with growth rate of account payables. So, authors determine the ratio used to measure sustainable growth as below: Sustainable growth ratio (G) = retained earnings/ owners' equity at the beginning the year or average owners' equity.

Independent variables: According to the telecom companies' operation characteristics and previous studies, authors chosen 8 independent variables presented for 3 groups of factors: the company's financial features (6 factors) including: firm size, return on sales, return on equity, leverage, asset turnover, dividend payout ratio; corporate governance (1 factor) which is firm age and macro-economic factor (1 factor) which is the inflation rate. Hypotheses related to factors affecting the sustainable growth of telecom companies are presented below:

Hypothesis 1: Firm size (SIZE) affects positively to the company's sustainable growth

According to economies of scale theory, the larger the firm size, the more expenses are saved, which helps to enhance the company's growth rate. However, the increase of firm size without control of the board of directors can lead to a waste of financial resources, then results in a decrease in the company's financial capability. Previous research conducted by Robert C. Higgins (1977, 2001, 2007), Van Horne (1987, 2007), Van Horne and Wachowicz (2008), Dhannapal and Ganesan (2010), Nghiem Thi Tha, et al (2018)... advocated this relationship.

Hypothesis 2: Return on sale (ROS) affects positively to the company's sustainable growth.

The company's financial performance presented by ROS has a positive impact on the company's sustainable growth. Robert C. Higgins (1977, 2001, 2007), Van Horne (1987, 2007), Van Horne and Wachowicz (2008), Dhannapal and Ganesan (2010), Nghiem Thi Tha, et al (2018)... have examined this hypothesis.

Hypothesis 3: Return on equity (ROE) affects positively to the company's sustainable growth.

The empirical studies conducted by Robert C. Higgins (1977, 2001, 2007), Van Horne (1987, 2007), Van Horne and Wachowicz (2008), Dhannapal and Ganesan (2010), Nghiem Thi Tha et al (2018)....agree that ROE has a positive impact on the company's sustainable growth.

Hypothesis 4: Leverage (LEV) affects positively/negatively to the company's sustainable growth.

LEV can influence either positively or negatively to the company's sustainable growth. Robert C. Higgins (1977, 2001, 2007), Van Horne (1987, 2007), Van Horne and Wachowicz (2008), Dhannapal and Ganesan (2010), Nghiem Thi Tha et al (2018)... examine the company's financial structure.

Hypothesis 5: Assets turnover (TAT) affects positively to the company's sustainable growth.

The higher the assets turnover, the higher company's growth rate and vice versa. Robert C. Higgins (1977, 2001, 2007), Van Horne (1987, 2007), Van Horne and Wachowicz (2008), Dhannapal and Ganesan (2010), Nghiem Thi Tha et al (2018)... examined the positive relationship between assets turnover and the company's growth.

Hypothesis 6: Dividend payout ratio (DPR) affects positively to the company's growth.

Taking advantages of internal financial resources obtained from retained earnings to increase the equity scale and financial potential enables the company to grow sustainably, Robert C. Higgins (1977, 2001, 2007), Van Horne (1987, 2007), Van Horne and Wachowicz (2008), Dhannapal and Ganesan (2010), Nghiem Thi Tha et al (2018)... found a positive association between dividend payout ratio and the company's sustainable growth.

Hypothesis 7: The firm age (AGE) affects positively/negatively to the company's growth.

Hult et al (2008) found there is no relation between Age and the company's sustainable growth. Nevertheless, Robert C. Higgins (1977, 2001, 2007), Van Horne (1987, 2007), Van Horne and Wachowicz (2008), Dhannapal and Ganesan (2010), Nghiem Thi Tha et al (2018)... determined

the two-way effect of Age to the company's sustainable growth. This effect can be explained by the business life cycle. If the company is in the development and growth period, the growth rate is high and has increased relatively. The firms who have high age, have a lower ability to adapt, renovate to the movement of the market and the requirement of applying high-advanced technology, which can result in a decrease in growth.

Hypothesis 8: Inflation rate (CPI) affects positively/negatively to the company's sustainable growth.

Inflation rate which is high or low may have a positive or negative impact on the company's growth, Hult et al (2008), Onaolapo & Kajola (2010), Van Horne (1987, 2007), Van Horne and Wachowicz (2008), Dhannapal and Ganesan (2010), Nghiem Thi Tha et al (2018)... stated the two-way effect between inflation rate and the company's growth.

Table 1: Variables and hypotheses for research

Items	Definitions	Measurement	Hypo
Dependence variable			
G	Sustainable growth rate	*Retained earnings/Charter capital (or average owners' equity)*	
Independence variable			
SIZE	Firm size	*Natural Logarit of total assets*	+
ROE	Return on equity	*Net profit/Average owners' equity*	+
ROS	Return on sales	*Net profit/total sales*	+
LEV	Leverage	*Total payable accounts/owners' equity*	+/-
TAT	Asset turnover	*Total sales/average total assets*	+
DPR	Dividend payout ratio	*Paid dividends/charter capital (or average owners' equity)*	-
AGE	Firm age	*The number of operation years since the establishment*	+/-
CPI	Inflation rate	*Consumer price index (CPI)*	-

Research model:

$$G_{it} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 ROE_{it} + \beta_3 ROS_{it} + \beta_4 LEV_{it} + \beta_5 TAT_{it} + \beta_6 DPR_{it} + \beta_7 AGE_{it} + \beta_8 CPI_{it} + \mu_{it}$$

In which: Git is the sustainable growth rate of company i in year t, β_0 is coefficient beta, β_1, β_2.. β_8 are regression coefficients of independent variables, it is the company i, year t (t: 2014-2021), μ_{it} is residuals.

Data: Data used for research is collected from audited financial statements of 46 listed telecom companies in Vietnam during the period of 2014-2021, data is obtained from the data center provided by Finfinance. In addition, the consumer price index (CPI) is obtained from the database of the general statistic office. Among 46 referred companies above, there are 06 companies listed in HOSE, 23 companies listed in HNX, and 06 companies listed in UPCOM.

Research method: The study analyses and tests the impacts of factors on the sustainable growth of 46 listed telecom companies during the period of 2014-2021, by regression model in panel data by using Stata 14. The authors conducted the Hausman test, and F-test to decide the most suitable model for the research sample. Using the Fixed effects model enables to control and eliminate of effects of factors related to each company's characteristics to explain variables, then enhance the reliability of results. Besides that, the authors also apply the VIF test to examine the multicollinearity among explain variables and eliminate explain variables which are significantly similar in terms of economic nature.

Results

Data description

Table 2: Description of variables

Variable	Obs	Mean	Std. Dev.	Min	Max
G	368	0.0284905	0.4616618	-8.687789	0.3915725
SIZE	368	12.57988	1.873945	9.51488	17.92423
ROE	368	0.1018152	0.4709017	-8.687789	0.5592108
ROS	368	0.0595671	0.0858665	-0.3810958	0.5795156
LEV	368	1.104643	1.56614	-5.069544	13.83886
TAT	368	1.587965	1.192226	0.0866049	9.990883
DPR	368	0.0733129	0.0745320	0	0.5499271
AGE	368	3.180852	0.4546218	2.484907	4.174387
CPI	368	0.0278875	0.0103695	0.0063	0.0409

Source: Results extracted from Stata 14

The description table presents the average sustainable growth rate (G) of listed telecom companies from 2014 - 2021 is 2,84% and witnessed a significant fluctuation between the minimum and maximum values. This result is relatively lower compared to these companies' potential, while the average economic growth

rate in the same period is 6% per year. This indicates that the capital structures of researched companies are not stable and depend considerably on external liabilities.

Correlation analysis

Table 3: Correlation matrix between independent variables in the model

	SIZE	ROE	ROS	LEV	TAT	DPR	AGE	CPI
SIZE	1.0000							
ROE	-0.0077	1.0000						
ROS	0.1169	0.3742	1.0000					
LEV	0.3058	0.1984	-0.1166	1.0000				
TAT	-0.3729	0.0235	-0.2457	-0.1310	1.0000			
DPR	0.0310	0.2014	0.3586	-0.0350	0.1478	1.0000		
AGE	0.0738	-0.0037	0.0333	0.0371	-0.3738	-0.1788	1.0000	
CPI	-0.0080	0.0512	0.0092	0.0044	0.0350	0.0021	-0.0000	1.000

Source: Results extracted from Stata 14

Table 3 shows, the correlation between independent variables is very low (Absolute value of correlation is lower than 0.8), so it could be concluded that there is no multicollinearity in this research model.

Regression results: After conducting tests and eliminating errors in the model, the authors chose the FGLS model. Regression results are shown in table 4: Regression results by using the FGLS model.

G	Coef.	P>|t|
SIZE	0.0000153	0.928
ROE	1.00011	0.000
ROS	-0.0028309	0.501
LEV	-0.00078	0.697
TAT	-0.0000305	0.918
DPR	-0.9989804	0.000
AGE	-0.00000742	0.991
CPI	-0.0287861	0.356
Constant	0.0008073	0.815

Source: Results extracted from Stata 14

Results indicate that there is no significant relation between firm size (SIZE) and the sustainable growth rate of listed telecom companies from 2014 to 2021, which is caused by the companies have not taken advantages of operation scale, capital scale to enhance efficiency and effectiveness in managing and using financial resources, then improve the business performances and growth.

Return on equity (ROE) has a positive effect on the companies' sustainable growth rate with meaning 1% and beta which is 1.00011, presents a significant effect. It can be seen that owners' equity management creates the companies' financial capability, which is the basis for sustainable growth. Return on sales (ROS), Leverage (LEV), and Asset turnover (TAT) do not have an association with the sustainable growth rate, which indicates that financing policy, capital management, and cost management of listed telecom companies do not affect to the sustainable growth. Firm age (AGE) and consumer price index (CPI) do not have significant relations with the sustainable growth rate of listed telecom companies in Vietnam. These results indicate that history of development and inflation does not affect to the company's sustainable growth. Dividend payout ratio (DPR) has a negative relation with the sustainable growth rate of listed telecom companies with meaning of 1% and beta which is 0.99989804, which means that dividend policy has a significant impact on the sustainable growth of companies in the telecom industry.

Regression result:

$G = 1.00011ROE - 0.9989804DPR + 0.0008073$

Conclusions and solutions

Empirical research's result shows that there is a positive relation between return on equity (ROE) and the sustainable growth rate, while the dividend payout ratio (DPR) has a negative relation to the sustainable growth rate. According to these findings, the authors propose the following solutions:

Firstly, it is necessary for the company to improve return on equity by applying the proposed following solutions: increasing capital scale, using on investment project control and management, especially focusing on the management of fixed-asset investment, enhancing the efficiency of investment appraisal as well as operation performances, exploiting and using invested assets, taking advantages of economic scales, re-assessment of the total asset portfolio, classifying portfolio of invested assets to fully exploiting operation performance which

enables to increase revenues; disposing of, selling obsolete assets which have low performances to recover capital investment; restructuring investment portfolio to increase assets' liquidity. In addition, for small and medium-listed telecom companies, although expanding capital scale is essential to enhance operational capabilities and competitiveness, it is necessary to have a detailed plan for raising capital, and efficient and effective capital management, ensuring expanding scale in parallel with enhancing financial capabilities. In the context of rapid digital transformation, companies need to pay attention to fixed-asset project investment appraisal, prevent investment in technological solutions which are lack of integration, enhance asset turnover, effectiveness of cash flow management and then foster the sustainable growth. Big firms that have a high debt ratio, the high-interest expense should restructure capital: the increase of owners' equity is equal to or greater than the increase in debt, raising owners' equity by retained earnings not only improve financial independence, maintain the right of control but also minimize financial risks in the uncertain business environment.

Secondly, listed telecom companies should enhance the efficiency and effectiveness of cost control and management, investigate and determine waste cost. Besides that, the companies should take the advantages of the 4.0 industrial revolution to expand the business networks, continue to broaden and the market and targeted customers to gain more competitiveness, select suitable suppliers, expand target customers in both terms of quantity and quality. All of these then contribute to increase revenue and minimize costs, then increase net profit.

Thirdly, the companies should enhance cashflow management capability, decide the dividend payout policy which is suitable with the current cashflow situation, business strategies and the business performances. Making and controlling cashflow plans in short-term, mid-term and long-term to be suitable with business plans, strategies, dividend policy, simultaneously analysing risks for each business plan, early forecasting business environment's impacts to flexibly, timely, stable address such impacts and

ensuring the stable cashflow in the uncertain business environment, in order to enhance business resilience, then foster the business sustainable growth.

Fourthly, implementing comprehensive business restructuring strategies for the listed telecom companies in state-owned telecom groups. Almost listed telecom companies are state-owned companies and under privatization (especially, state-owned companies in Vietnam Posts and telecommunications group - VNPT), so these companies remain poor corporate governance, lack of high-advanced technology, obsolete machines. Therefore, speeding up the privatization and restructuring of state-owned companies enables telecom companies to reimage, change management mechanisms, enhance operational capability and competitiveness, increase financial resources, minimize financial risks… all of which are motivations for state-owned companies in the telecom industry to grow sustainably.

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Data of 46 listed telecom companies presented in following link:

https://docs.google.com/spreadsheets/d/18EW6VcntUUx3rla9xsU1Fmchuk UAFo3p_3xwNeyEHZk/edit?usp=sharing

THE ROLE OF EMPLOYEE VOICE AND TEAM MEMBER SATISFACTION ON DIFFERENT TYPES OF TEAM PERFORMANCE

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Abstract: *The positive influence of employee voice on performance is widely accepted among the literature. However, voice behavior in the East is found to be significantly different from the West which has been dominating the voice literature. The purpose of this research is to fill this literature gap and evaluate the impact of employee voice on two different types of team performance with the moderation of team member satisfaction. The findings are based on the survey of 816 employees and mangers working in IT departments of large telecommunication organizations in Vietnam. Theoretical contributions and practical implications are also discussed.*

Tóm tắt: *Nhiều nghiên cứu trước đã khẳng định rằng tiếng nói của nhân viên có tác động tích cực đối với hiệu quả công việc. Tuy nhiên, tiếng nói của nhân viên tại các nước phương Đông với một nền văn hóa khác biệt được cho là có sự khác biệt đáng kể so với các nước phương Tây vốn đang là bối cảnh nghiên cứu chính của tiếng nói nhân viên. Do đó, nghiên cứu này nhằm mục đích lấp đầy khoảng trống nghiên cứuvề tiếng nói của nhân viên và đánh giá tác động của hành vi này đối với hai loại hiệu quả làm việc nhóm. Mô hình cũng nghiên cứu tác động của mức độ hài lòng của các thành viên trong nhóm với vai trò điều tiết. Kết quả dựa trên khảo sát 816 nhân viên và quản lý làm việc trong bộ phận công nghệ thông tin của các công ty, tập đoàn viễn thông lớn tại Việt Nam. Nghiên cứu cũng thảo luận các đóng góp lý thuyết và ý nghĩa thực tiễn.*

• Từ khóa: *tiếng nói của nhân viên, hiệu quả làm việc nhóm, mức độ hài lòng, hành vi tổ chức, phương Đông.*

Introduction

Employee voice is become more and more important to businesses since it first appeared in1970 in the model of *Exit, Voice and Loyalty* (Hirschman, 1970). It is a source of innovative ideas or process improvement that help

organizations to adapt to highly competitive and agile business environment. It is also widely recognized that employee voice would prevent knowledge and skill loss, improve job design, reduce job dissatisfaction, promote cultural change, etc. Research regarding employee voice is quite abundant among literature, however, they mostly focused on the Western context, while voice research in Eastern countries is rare.

Eastern cultures such as Vietnam normally have characteristics that discourage the expression of voice namely large power distance, collectivism, face-saving, relationship-keeping and respect for elders (Heider, 1958; Hoang et al., 2023; Park & Kim, 2016). Thus, employee voice in these contexts could be very different regarding its type, usage and its influence on other organizational variables. Aiming to fill this gap, this study testedthe impact of employee voice on different types of team performance in Vietnam organizations.

In addition, this study also highlights the direct and indirect role of members' satisfaction in enhancing team performance. Employee voice can be more useful to organizations with certain conditions such as high level of members' satisfaction. The moderation role is also different for different types of team performance.

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The next sections will provide the theoretical framework and development of hypotheses, followed by research method, findings and discussion.

Theoretical framework and hypotheses

Team member satisfaction and team performance

The relationship between employee satisfaction and team performance has been examined in many studies which offered robust support for their positive relationship (Judge et al., 2001; Li et al., 2009; Mason & Griffin, 2003). Team member satisfaction is normally argued to influence team performance through social exchange theory which emphasizes the reciprocation behavior of employees to benefit their teams or organization when they feel satisfied (Chiu & Chen, 2005; Li et al., 2009).

Others looked at this relationship in the opposite point of view and highlighted the effect of dissatisfaction between team members. They would be more likely to have destructive conflict that hinders interactions and team functioning (Bradley et al., 2013; Nerkar et al., 1996). On the other hand, team member satisfaction can support the effective collaboration of team members (Kong et al., 2015), undo negative consequences of conflict (Fredrickson, 2001) and thus enhance team performance and innovation. The following hypotheses are proposed:

H1. Team member satisfaction positively influences team task performance

H2. Team member satisfaction positively influences team innovative performance

Employee voice, team performance and team member satisfaction

Literature about employee voice and performance is abundant. Various levels of performance have been investigated as consequences of voice from task or job to organizational performance. Job performance is defined as the perceived value of individuals' contributions, carried out over a course, to organization through performing their tasks (Borman & Motowidlo, 1997; Motowidlo et al., 1997). This concept is a popular outcome of employee voice among research both theoretical and empirical. Most of them asserted the positive relationship and consider voice as an additional resource that help stimulate job performance (Fuller et al., 2007; Seibert et al., 2001). Other studies further examined the impact of voice and each component of job performance such as creativity, and in-role performance.

The relationship between voice behavior and group or organizational performance was normally examined through the associations of voice and some dimensions of unit's performance such as group innovation (Morrison et al., 2011; Zhou et al., 2017), productivity (Budd et al., 2010; Wilkinson & Fay, 2011), effectiveness (Detert et al., 2013) and staff retention rates (Guest, 1997).Korsgaard et al. (1995) and Boxall and Purcell (2011) suggested that employees can use their voice to participate in the decision-making process through which better decisions might be made. Voice can also help to improve working environment (Dundon et al., 2004), fairness, trust, positive psychological contract between organization and employee (Clinton & Guest, 2014), employee engagement (Jha et al., 2019), transparency (Andrew & Sofian, 2012; Jha et al., 2019), which indirectly contribute to performance.

H3. Employee voice is positively related to team task performance

Literature regarding the employee voice and innovation/innovative performance mostly approached this relationship as employee voice provides new ideas, suggestions, or opinions about work-related issues (Anand et al., 2007; Lopez-Cabrales et al., 2009). They argued that promoting voice helps to encourage employees to actively think about organizational issues, organizational learning or knowledge sharing would be increased (Bogosian, 2011; Detert & Burris, 2007), different perspectives would be discussed and integrated (Van Dyne & LePine, 1998; Walumbwa et al., 2012), which eventually result in innovations (Rasheed et al., 2017). In addition, employee voice also contributes more directly to innovation by pointing out errors or problems in both formulation and implementation stages (Enz & Schwenk, 1991) and suggesting solutions (Bogosian, 2011).

There are only a few studies that have taken a theoretical view toward this relationship. Rasheed et al. (2017) used resource-based view (RBV) to explain how voice may influence organizational innovation. They argued that organizational performance which includes innovation performance is the result of knowledge, skill, experience and capabilities of employees, which should be unique, rare, imitable and non-substitutable in order to sustain the competitive advantages (Barney & Wright, 1998). Employee voice behavior is one of those unique resources of an organization that takes time to develop with the creation of close personal relationships, psychological engagement and safety. This socially complex and time-consuming process will make it hard for competitors to imitate (Rasheed et al., 2017).

H4. Employee voice is positively related to team innovative performance

The emotional conditions is found to be a very important factor of collaboration (Järvelä et al., 2010; Järvenoja & Järvelä, 2013). Thus, with satisfaction in place, constructive voice would be more likely to be apply in practice, change the unfavorable status quo and improve team performance because people are more open and willingly to accept the new or opposite opinions. Thus, team member satisfaction would help to enhance collaboration (Ganjali & Rezaee, 2016; Kong et al., 2015) and the impacts of employee voice. On the other hand, dissatisfied team members restrain the effect of voice. Therefore, the author suggests the following hypotheses:

H5. Team member satisfaction positively moderates the relationship between employee voice and team task performance

H6. Team member satisfaction positively moderates the relationship between employee voice and team innovative performance
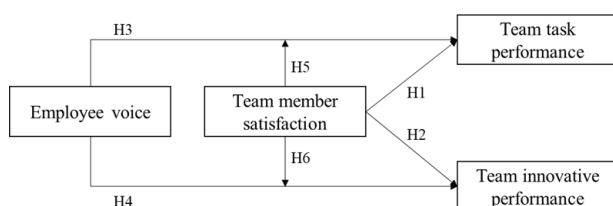
Method

Participants and procedure

This study has the participation of 816 employees and managers working in IT departments of large telecommunication companies in Hanoi and Hochiminh City. More than 76% of them are male which represents the current gender gap in technology industry around the world (Chaudhry et al., 2019; Kinicki & Fugate, 2016; Scott et al., 2017). Most of them are under 45 with 45.5% are under 30, and their average working experience is 7.67 years (SD = 6.3) (see Table 1).

Surveys were administered over the period of two months through online and paper distribution by their HR departments.

Table 1. Sample characteristics

Variable	Frequency	Percentage
Gender		
Male	625	76.6%
Female	187	22.9%
Other	4	0.5%
Age		
Under 30	370	45.3%
30-44	390	47.8%
45-59	56	6.9%
Education		
High school/Intermediate/ Degree of Associate	9	1.1%
Bachelor (of Science)	694	85.0%
Master/MBA	110	13.5%
PhD	3	0.4%
Experience		
Under 5 years	322	39.5%
5-10 years	296	36.3%
More than 10 years	198	24.3%
Job role		
Team member	688	84.3%
Manager	128	15.7%

Measures

All variables were measured with 5-point Likert scales ranging from 1 (Strongly disagree) to 5 (Strongly agree).

Employee voice was measured by a five-item scale (α = .84) adapted from Van Dyne and LePine (1998). Employees were asked to evaluate their own voice behavior. Sample items are "I make recommendations concerning issues that affect the

organization" and "I get involved in issues that affect the quality of work life here".

Team member satisfaction was assessed by a four-item scale (α = .918) adapted from (Gladstein, 1984) and Nguyen et al. (2008). Sample items include "I am satisfied with my present colleagues/ team members" and "I am satisfied with my team task(s)".

Team task performance was rated by team members on a five-item scale (α = .908) adapted from Zellmer-Bruhn and Gibson (2006), Akhtar et al. (2019) and Liden et al. (2006). Sample items are "My team always accomplishes its objectives/ KPI" and "My teamwork performance always encounters the expectations of manager".

Team innovative performance was also assessed by team members using a seven-item scale (α = .923) adapted from different studies (Açıkgöz & Günsel, 2011; González-Romá et al., 2009; Janssen, 2000). Sample items are "My team frequently initiated new procedures and methods" and "In my team, the utility of innovative ideas is almost always evaluated".

Findings

Confirmatory factor analysis

A confirmatory factor analysis (CFA) was conducted to investigate the reliability and convergent validity of all the measurements. The measurement model shows good fit (χ^2 (183) = 781.898; χ^2/df = 4.273; TLI = .941; CFI = .949; RMSEA = 0.06; SRMR = .019) (Hu & Bentler, 1999) and convergent validity with all indicators show significant loadings ($p < .01$) on their intended constructs. All constructs have the composite reliability higher than .8 and the average variance extracted (AVE) higher than .5, showing good reliability of the constructs (Fornell & Larcker, 1981). Discriminant validity is satisfied with all AVE values are higher than the squared correlations between each pair of constructs (Fornell & Larcker, 1981)as shown in Table 2.

Table 2. Reliability and validity

	EV	TMS	TTP	TIP	Composite Reliability
EV	*0.52*				0.84
TMS	0.04	*0.74*			0.92
TTP	0.11	0.49	*0.66*		0.91
TIP	0.19	0.31	0.47	*0.63*	0.92

Note: Numbers bolded and italicized in the diagonal are the AVE. Other numbers are correlation squared between variables.

Hypothesis testing

Table 3 illustrates means, standard deviations, and correlations of the variables. Table 3 presents the results of regression analyses with team task performance (model 1 to 3) and team innovative performance (model 4 to 6) as two different dependent variables. Model 1 and 4 include only the control variables. Employee voice and team member satisfaction were later introduced (model 2 and 5), and lastly the interaction terms were added (model 3 and 6). The mean-centers of individual variables were generated for the regression analyses, therefore, there is no risk of multicollinearity with the variance inflation factor (VIF) values are all under 1.1.

Table 3. Means, SDs and correlations

		Mean	SD	1	2	3	4	5	6
1	Gender	.24	.438						
2	Age	1.62	.612	-.023					
3	Education	1.54	.835	-.021	.126**				
4	EV	3.31	.691	-.025	.032	-.023			
5	TMS	3.93	.598	.007	-.009	.012	.143**		
6	TTP	3.87	.541	.017	-.031	.039	.256**	.602**	
7	TIP	3.69	.633	.005	-.074*	-.004	.319**	.458**	.591**

Note: N=816 for all variables.

* p < .05; ** p < .01

Both employee voice and team member satisfaction are found to be antecedents of team task performance (M3: β_{EV} = .142, β_{TMS} = .516, p <0.01) and team innovative performance (M6: β_{EV} = .242, β_{TMS} = .442, p <0.01), thus, H1, H2, H3 and H4 are supported. The moderating effect of team member satisfaction is also hypothesized (H5 and H6) that the relationship between employee voice and team task/innovative performance respectively would be enhanced by higher level of members' satisfaction. However, only H5 is supported (M3: β = .067, p <0.05). Members' satisfaction only increases the positive impact of employee voice on team task performance, while that on team innovative performance stays unaffected.

Table 4. Regression models

Variables	Team task performance			Team innovative performance		
	M1	M2	M3	M4	M5	M6
Control variables						
Sex	-.022	-.022	-.021	-.005	-.011	-.010
Age	.032	.032	.033	.078*	.083**	.083**
Education	-.028	-.026	-.026	-.004	-.005	-.005
Main variables						
Employee voice (EV)		.138**	.142**		.240**	.242**
Team member satisfaction (TMS)		.522**	.516**		.445**	.442**
EV x TMS			.067*			.035
R²	.003	.395	.399	.006	.282	.283
F	.851	105.947**	89.427**	1.515	63.578**	53.098**

Note: N=816. Unstandardized regression coefficients are reported.

* p < .05; ** p < .01

Discussion

The findings of this study contribute to the literature in two important ways. First, it discovered the role of employee voice on different types of team performance among IT product development units, which normally requires high level of innovation. The findings are in line with previous literature that voice help enhancing performance of working team, emphasizing the importance of employee proactivity in exchanging opinions, pointing out shortages and errors, raising new solutions and ideas, etc. in the quality of teams' performance not only to the operational tasks but also to innovative-required tasks.

Second, team member satisfaction is another important antecedent of team task and innovative performance. Beside the direct relationships, team member satisfaction is also found to moderate the relationship between employee voice and team task performance but not team innovative performance. This means satisfaction does accelerate the role of employee voice on team performance but only to those simple operational-related jobs. Team member satisfaction might boost team interaction, information sharing and collaboration which are all key ingredients

for better task performance. Nevertheless, it might require other factors to generate genuine innovations than just team member satisfaction and collaboration.

These findings also offer practical implications for management. Designing suitable employee voice mechanisms should be paid more attention to utilize most of employee inputs which can be the organization's competitive advantage (Rasheed et al., 2017). This is especially important in eastern culture such as Vietnam, which possesses those characteristics hampering employee voice like large power distance, collectivism, face-saving, relationship-keeping and respect for elders (Heider, 1958; Hoang et al., 2023; Park & Kim, 2016). In addition, as team member satisfaction can have both direct and indirect effects on team performance, managers should consider those elements that support team member satisfaction such as team composition design, emotional intelligent, having team conflict resolved quickly, etc.

Limitations and future research

One limitation of this study is the use of self-perception measurement for team performances. More objective measurement methods can improve the reliability of the study's results. This can be a challenge for future studies to design objective measurements for performance that is relevant with their chosen research contexts.

Not with standing, some research on the effect of voice on team or organization performance witnessed negative results (Burris, 2012; Klaas & DeNisi, 1989). Not all managers are persuaded with the above benefits of voice. Some of them do prefer less voice and have suppressing behavior because they view employee voice as unhelpful and promoting individual instead of collective interest (Ashford et al., 2009). Too much voice might lead to negative outcomes owing to overwhelming and unable to reach consensus view as well as time consuming in examining new ideas instead of performing tasks. Future research can test the non-linear relationship between employee voice and team performance which might reveal the optimal point at which the impacts of voice will be reversed.

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COMPLETING THE ACCOUNTING INFORMATION SYSTEM IN PUBLIC HOSPITALS

PhD. Nguyen Van Hau*

Abstract: *Public hospitals in recent years have been increasingly developed to meet the goal of medical examination and treatment for people and perform a number of other political tasks. However, in the context of changing the management mechanism to gradually move to an autonomous mechanism, it has posed many challenges for public hospitals, requiring hospital administrators to change their thinking in the management process. management and administration of the hospital. An appropriately organized accounting information system that provides effective information will be one of the effective tools in financial management, management and effective use of hospital resources. From that fact, the article wants to reflect on the current situation of information systems in hospitals, thereby proposing solutions to perfect the hospital information system in the most appropriate way to meet the needs of users of accounting information.*

• Keywords: *public hospital, accounting information system.*

Tóm tắt: *Các bệnh viện công lập trong những năm gần đây ngày càng phát triển đáp ứng mục tiêu khám chữa bệnh cho nhân dân và thực hiện một số nhiệm vụ chính trị khác. Tuy nhiên, trong bối cảnh chuyển đổi cơ chế quản lý chuyển dần sang cơ chế tự chủ đã đặt ra cho các bệnh viện công nhiều thách thức, đòi hỏi ban giám đốc bệnh viện phải thay đổi tư duy trong quá trình quản lý và điều hành bệnh viện. Hệ thống thông tin kế toán được tổ chức phù hợp, cung cấp thông tin hiệu quả sẽ là một trong những công cụ hữu hiệu trong quản lý tài chính, quản lý và sử dụng hiệu quả các nguồn lực của bệnh viện. Từ thực tế đó, bài viết muốn phản ánh thực trạng hệ thống thông tin trong bệnh viện, từ đó đề xuất giải pháp hoàn thiện hệ thống thông tin bệnh viện một cách phù hợp nhất, đáp ứng nhu cầu của người sử dụng thông tin kế toán.*

• Từ khóa: *bệnh viện công, hệ thống thông tin kế toán.*

1. Introduction

Public hospitals are functional units established to perform tasks related to medical examination and treatment as well as training, research and development of medical activities, contributing to improving living standards for the citizen. Public hospitals are administrative and non-business units owned by the State, using all or part of capital from the State budget. In the past time, the management work at the public hospital to ensure the assigned goals and tasks, as well as ensure the efficiency in using the State budget has been effectively implemented. However, according to Decree 60/2021/ND-CP dated June 21, 2021 on the financial autonomy mechanism of public non-business units, hospitals are proactive in terms of financial resources, expertise and staff, which poses challenges for public hospitals in management activities. In order to ensure both medical examination and treatment tasks but still ensure the existence and development of the hospital in the future, the management work at hospitals needs to be changed and improved.

The accounting information system is an important and timely source of information for hospital administration. Building and completing an accounting information system to ensure that hospitals have a source of information that can be transmitted smoothly between departments is a necessary requirement for public hospitals in the process of transition to autonomous management.

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2. Accounting information system in public hospitals

2.1. The process of collecting accounting information at public hospitals

The hospital's means of collecting accounting information are accounting vouchers and related accompanying documents to reflect and record transactions and economic transactions that occur with the support of tools, such as computer systems, accounting software, etc. through methods such as accounting voucher method, recording method for making vouchers, data synthesis. The information is collected from relevant departments in the hospital such as departments and divisions and gathered together to the accounting department for processing. Specifically, the diagram of the accounting information collection department of the information system at the hospital is as follows:

Figure 1: Accounting information collection department in public hospitals
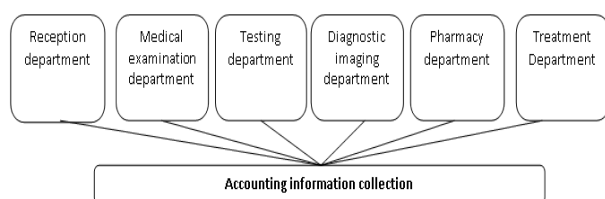
Source: Vu Thi Thanh Thuy (2017), Cost management accounting in public hospitals under the Ministry of Health in Hanoi

About the content and form of accounting vouchers: The hospital strictly follows the content and method of making and signing vouchers according to the provisions of the accounting law. Decree No. 174/2016/ND-CP dated December 30, 2016 of the Government and relevant legal documents.

About the document form system: The hospital is applying according to the list and voucher form of the administrative and non-business accounting regime issued under the Circular No. 107/2017/TT-BTC dated October 10, 2017 of the Government. Minister of Finance

In general, the process of information collection at public hospitals only stops to collect information for financial accounting, there is no information for the collection, processing and provision for management accounting.

2.2. The actual situation of building code, processing and analyzing accounting information at the Hospital

2.2.1. Actual situation of encoding accounting information

To be able to integrate and unify in the same hospital information system, it is important to standardize data through the building of scientific and synchronous codes, uniformly used for the whole patient. institute.

Currently, public hospitals are applying hospital management software that integrates many management modules such as hospital fee management, pharmacy warehouse management, material inventory management..., accounting software: Misa mimosa. Net, e-invoice software VNPT, HR management software VNPT...

Hospitals have organized networking for the accounting software system at the collection and payment departments of the accounting department, connecting the network of the shipping department at the pharmacy department with the Finance and Accounting Department for ease of inspection and management.

Employees's code are built by the administrative and information technology department. Each employee, when admitted to work at the unit, will be provided by the information technology department with a username and password to use to log in to the hospital management software, according to which the medical staff code at the application position will usually be the order of that employee on the hospital management software.

2.2.2. Status of processing and analyzing accounting information

Based on the specific cycles of medical examination and treatment activities in hospitals, information processing can be performed differently.

Processing and analyzing accounting information in the examination and treatment cycle.

Each patient who comes for examination and treatment, when incurring costs, creates an information in the accounting information

system. Therefore, every time a patient comes, it is necessary to register for the purpose of entering, managing and storing the patient's administrative information. The medical examination and treatment department manages medical examination, clinical indications, diagnosis… The information about patients and incurred expenses related to medical examination and treatment activities are fully and accurately accounted for in the total management software. hospital body. Expenses incurred in each department are recorded and responsible for accurately and completely.

Processing and analyzing accounting information in the hospital charge cycle

Accounting software used to meet the requirements of monitoring hospital fee collection activities. The hospital fee accountant can track the total cost of medicines, medical supplies, tests and technical services performed at each patient's ward through the patient's code. Through sharing information through the hospital's intranet, accountants can generate a list of hospital bill payments for each patient.

Processing and analyzing accounting information in the supply cycle

The supply cycle is most concerned with the supply of drugs and medical supplies for professional use, while the supply cycle includes the procurement of office equipment and supplies. Therefore, the drug supply cycle needs to be complete and timely, ensuring the quality of the Pharmacy department, which is one of the important tasks that strongly affects the quality of medical examination and treatment at the hospital. Periodically at the end of the year, the pharmacy department conducts statistics on the drug demand for treatment of the faculties in the following year. In the middle of January every year, when Health Ministry conducts the bidding for drugs, the list of drugs and winning suppliers will be transferred to the units under Health Ministry. The Faculty of Pharmacy is based on the list of drugs, the winning supplier and the estimated demand for used drugs to order and sign a contract with the supplier. This is the information management process from purchase to payment including the following

functions: Management of purchase requisitions, management of orders, invoices, payment and accounting for purchase and payment transactions.

The processing and provision of information at the hospital is mainly done by means of a system of accounts and related accounting books. The new system of accounts and accounting books only stops working mainly for financial accounting, management accounting has not been attention. The processing of accounting information for management accounting in hospitals only stops at the stage of making estimates. However, making estimates only stops at a fixed estimate, there is no flexible estimate depending on the actual situation and conditions of medical examination and treatment, so the estimation is not really close to the reality of the hospital, leading to Limited sources of information for decision making

2.2.3. Status of providing accounting information

Means of providing accounting information: Providing accounting information through accounting reports. Accounting information in the Hospital is presented specifically on the accounting reports

Providing information through the financial reporting system

The financial reporting system at public hospitals is currently applied according to Circular No. 107/2017/TT-BTC dated October 10, 2017 of the Ministry of Finance. This reporting system has been simpler in terms of forms, content and methods of preparation, which has facilitated the organization of the hospital's financial settlement: Balance sheet arising, Statement of results of operations. Statement of cash flows, statement of finalization of operating expenses, detailed report from the state budget and remaining deductible fees, Notes to financial statements, Notes to the decision accounting, reconciliation table of budget estimates at the treasury, report on the increase and decrease of fixed assets.

Management accounting reports

In addition to the financial statements system used at the unit to serve the settlement work of the unit. Public hospitals also use other reports to serve

the administration and performance evaluation of the hospital. These reports are compiled directly on the internal software of the unit, divided into many different modules with different reporting systems in detail: Report on pharmaceutical invoices, Report on usage norms, Inventory report, drug use report, inventory report, inpatient drug report, outpatient drug report, inventory import and export report by reason... These reports are used by departments for the purpose of monitoring each object of management of their department, and at the same time reporting to the leadership of the unit when required in the management work. In addition, on a weekly, monthly, and quarterly basis, the Planning - General Department prepares reports on operation results, reports on performance of the unit's medical examination and treatment targets to provide the most general information. operation status of the whole unit to the management board as well as the departments to make appropriate and timely adjustments in medical examination and treatment activities.

Although there are internal reports at hospitals, these reports have not yet analyzed the difference between the implementation situation and the estimates and norms, not of the trend analysis nature to serve as a basis. Hospital administrators make decisions related to cost control as well as decisions about the selection of partners to supply drugs, medical equipment, or hospital resource development.

In general, the accounting information system at public hospitals has basically done a good job of providing information from a financial accounting perspective, providing information for management accountants still has many limitations in both the process of collecting, analyzing, processing and providing information leads to a lack of information for internal administration in public hospitals.

3. Solutions for completing the accounting information system in public hospitals

First, complete the process of collecting accounting information

The appropriate accounting information collection system helps the process of processing and providing information to be highly efficient. Therefore, it is necessary for public hospitals to

complete this content. Documents need to be classified and divided into separate warehouses, warehouses for regular receipts and expenditures, warehouses for payment documents for patients with health insurance, warehouses for payment documents for patients and hospital fees, and must be numbered. sequentially or according to monthly, quarterly, yearly reports... Keeping vouchers on such shelves and in such warehouses will ensure the search, inspection or retrieval of documents for use. . In addition to the prescribed documents, hospitals can design their own voucher templates for the collection of management accounting information and at the same time diversify sources of information collection both internally and externally. In addition to the past information about arising operations, there should be future-oriented information such as information related to technology investment for medical examination and treatment activities, information about hospitals of the same rank above. areas, private hospitals so that the hospital can adjust its operations in a timely manner, thereby best serving the medical examination and treatment requirements of the people and increasing the hospital's revenue.

Second, perfect the coding, processing and analysis of accounting information.

Coding accounting information plays an important role in processing accounting data. Coding, if done scientifically, will help managers quickly and easily access data, avoid confusion between similar information objects and help synthesize, classify, check, compare and Making reports more convenient. Besides, the encryption of accounting information can be integrated with management accounting

Third, complete the process of processing and analyzing accounting information

The analysis and processing of information, in addition to the systematization on detailed and general accounts for financial accounting, needs to perform information analysis to serve the requirements of management accounting in Vietnam. hospitals. Analysis of information for determining the price of medical examination and treatment services, analysis of information on cost differences and information related to investment

in medical machinery and equipment for medical examination and treatment at hospitals institute.

Fourth, complete the process of providing accounting information

In addition to the current accounting reporting system that is serving the financial and accounting work, hospitals need to develop a number of separate management reports such as reports on the results of implementation of planned targets, status reports, etc. However, these reports do not provide sufficient information for planning, estimating and administration, especially the procurement of equipment, especially equipment and materials medical private. Therefore, in order to effectively manage the unit, it is recommended to develop some estimate reports such as: Plan for procurement of specialized and non-specialist equipment; report on the cost plan for medical examination and treatment services; revenue estimate report, profit estimate report... These reports are tools and the basis for hospital administrators to make decisions related to their areas of responsibility.

Fifth, technical means of accounting information system

To establish a smooth and continuous information system quickly and in a timely manner, public hospitals need to research and invest in a management software system integrated with medical examination and accounting software to ensure time-saving treatment from collecting information to processing and providing information to functional departments in the hospital. Depending on the characteristics and size of each hospital, the investment in hardware and software systems with appropriate features will ensure the requirements for processing and providing accounting information.

Sixth, internal control of accounting information

In order for the information system to work effectively, hospitals need to implement internal control over the accounting information system, the control process is carried out from the hospital departments to the data entry process information and provide information to users. Hospitals need an internal control department in which controlling many activities and controlling accounting information is one of the control activities, the control of accounting information includes control of input data. Input, control information processing and output data control is the process of providing information to ensure that the information delivered to the users of the information is accurate and most appropriate.

In public hospitals, the current accounting information system only focuses on financial accounting information system, management accounting information has not been focused, in the current conditions when the mechanism is changed. For financial management, management accounting information for management requirements in public hospitals is increasingly necessary, so it is necessary to improve the accounting information system at all stages to ensure analysis and processing and providing information on both financial accounting information and management accounting to ensure that the information system meets the maximum requirements of accounting information users inside and outside the public hospital, thereby contributing to helping hospitals both perform their duties and social responsibilities of providing medical examination and treatment for people, but also stand firm and develop in the current context of autonomy.

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EXPORT VOLATILITY STEMMING FROM FDI GROWTH AND CO_2 - EMPIRICAL EVIDENCE FROM SOME ASIAN COUNTRIES AND SUGGESTIONS FOR VIETNAM

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Abstract: *Foreign Direct Investment (FDI) has always been considered an important financial resource to effectively support economic development, especially in developing countries. By facilitating access to large international market, FDI makes a significant positive contribution to the host country's exports. In fact, the reality of both positive and negative impact of FDI on export in recent years has been confirmed by many studies. Inheriting previous studies, this research is conducted to evaluate the influenced of FDI and on export in some Asian countries. To access these impacts, generalized method of moments - GMM is applied. Input is panel data in 2000-2016 period of some Asian countries, collected from WB statistics. The results showed that FDI had positive impacts upon the growth rate of export both immediately as well as at lag one. This conclusion has a lot of benefits in planning the national economic policies relating to export - oriented policies in Vietnam and Asian countries as well.*

• Keywords: *FDI, export, export growth, CO_2 emission, GMM model.*

Tóm tắt: *Đầu tư trực tiếp nước ngoài (FDI) luôn được coi là nguồn lực tài chính quan trọng hỗ trợ đắc lực cho phát triển kinh tế, đặc biệt là ở các nước đang phát triển. Bằng cách tạo điều kiện tiếp cận thị trường quốc tế rộng lớn, FDI đóng góp tích cực đáng kể vào xuất khẩu của nước chủ nhà. Trên thực tế, tác động tích cực và tiêu cực của FDI đối với xuất khẩu trong thời gian qua đã được nhiều nghiên cứu khẳng định. Thừa kế những nghiên cứu đi trước, khảo sát này được thực hiện để đánh giá ảnh hưởng của FDI và xuất khẩu ở một số nước châu Á. Mô hình GMM với số liệu đầu vào là dữ liệu bảng giai đoạn 2000-2016 của một số nước châu Á được thu thập từ thống kê của WB. Kết quả cho thấy, FDI có tác động tích cực đến tốc độ tăng trưởng xuất khẩu ở cả thời gian hiện tại và độ trễ 1 năm. Trên cơ sở các đánh giá về mức độ tác động, nhóm tác giả đề xuất một số khuyến nghị có liên quan đến việc hoạch định các chính sách FDI và chính sách xuất khẩu ở Việt Nam và một số nước châu Á.*

• Từ khóa: *FDI, xuất khẩu, tăng trưởng xuất khẩu, CO_2, mô hình GMM.*

1. Introduction

For recent decades, FDI is recognized as one of the most important factors stimulating economic development, in which, exporting is one of the most notable impacts. Besides increasing capital for the whole economy, technology transfer and job opportunity, one of the most important positive effects for FDI recipient nations is stimulating export (Gui-Diby, 2014). In 2018, South-east Asia received a record level of investment, up 3% to $149 billion (UNTACD, 2019). Robust investment from Asian economies and strong intra-ASEAN investments supported FDI growth in the subregion. The growth was driven by strong investment mainly in Singapore, Indonesia, Viet Nam and Thailand. Manufacturing and services, particularly finance, retail and wholesale trade, including the digital economy, continued to underpin inflows to the subregion (UNTACD, 2019). Some research pointed out the impact

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of FDI on economic growth differed from countries: 17% was the quantity effect of FDI on Malaysian economic growth (Mun et al, 2007); FDI contributed 16% for economic growth in Vietnam (Nguyen Van Duy et al, 2014).

FDI has both direct and indirect effect on host country's exports. The direct effects refer to exports by foreign affiliates themselves. The indirect effect includes spillover effect of MNCs on local firms' export activities (UNCTAD, 2002).

(a) Exports through processing and assembling: Many of the developing countries increase its exports of labor intensive and technology intensive products by assembling and processing of intermediate and unfinished products imported from home country. For example, China became a dominant exporter of labor-intensive products (toys, shoes, clothes, and sporting goods) and some technology-intensive products (machinery and equipment, including electronic circuits, automatic data-processing machines, and mobile phones) (UNCTAD, 2002). Generally, these exports are organized by MNCs within vertically integrated international production network (Zhang and Markusen, 1999).

(b) Exports through converting import-substituting industries: In many of the import substituting products like home appliances and automobiles products, FDI combines its advanced technology with the available cheap labor of the developing countries and produces and exports the products at internationally competitive prices.

(c) Exports of new labor-intensive final products: By providing links to final buyers in different countries including the home country, FDI helps in increasing exports of labor and technology intensive final products of the host countries (Zhang,2005).

(d) Exports of locally processed raw materials: Because of the business contacts abroad, marketing skills, and superior technology, both in product and in processes, and greater general know-how, MNCs may have better export potential than indigenous firms in the processing of locally produced raw materials and exporting the same. This is especially true in the early stage of development when the country lacked the assets. (Zhang, 2005)

FDI also enhances the developing countries (host country's) manufacturing exports through spillover effects on local firms' exporting activities. (Zhang (2005)

(a) Learning and imitating of domestic firms from foreign firms: Local firms benefit themselves by watching, learning and imitating the export activities of the foreign affiliates and by making use of the infrastructure of transport, communications and financial activities.

(b) Instilling competition and efficiency: The second spillover effect involves the influence of FDI on the competitiveness of domestic firm's exports and the diffusion of new technologies. By bringing their advanced product-process technology, management, and marketing competence, MNCs may increase competition in the markets and force local firms to adopt more efficient methods.

(c) Linkage between foreign and local firms: The third spillovers are related to the linkage between foreign and local firms. If export-oriented foreign subsidiaries increase their purchase of inputs from local firms as the subsidiary matures, the exports of the country increases (UNCTAD, 2001 and 2002).

2. Research models and methods

2.1. Research models

Based on the research models of Omri et al. (2015), the authors extracted from the model of research variables to assess the impact of CO_2 on export growth. At the same time, combining the research of Tang and Tan (2015), Nguyen Van Duy et al (2014), Nguyen Ngoc Dat et al (2016), the author continued to use the variable FDI to assess the impact of FDI at lag time (1 year and 2 years). The author's research model is illustrated as follows:

Research Model. Impact of FDI and CO_2 emission on export growth rate
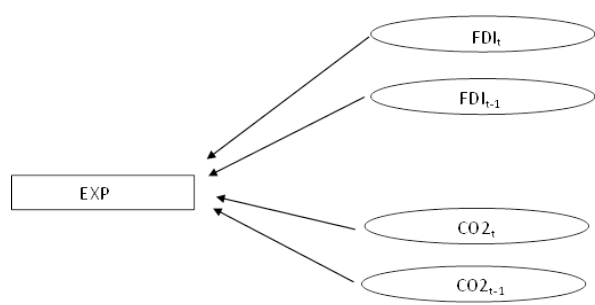
Source: Authors

The independent and dependent variables are shown in Table 1:

Table 1. Variables in research model

Variables	Explanation	Expectation	References
Dependent variable: EXP - Growth rate of Export turnover			
Independent Variables include:			
FDI_t	FDI growth ratio at time t	+	Tang et al, 2015 Nguyen Van Duy et al, 2013 Nguyen Ngoc Dat et al, 2016
FDI_{t-1}	FDI growth ratio at time t-1	+	Tang et al, 2015 Nguyen Van Duy et al, 2013 Nguyen Ngoc Dat et al, 2016
$CO2_t$	CO_2 growth ratio at time t	-	Omri et al, 2015 Nguyen Ngoc Dat et al, 2016
$CO2_{t-1}$	CO_2 growth ratio at time t-1	-	Omri et al, 2015 Nguyen Ngoc Dat et al, 2016

2.2. Research methods

Database: The data for the study is from 2000 to 2016 (17 continuous years respectively) for 6 Southeast Asian countries (spatial), so the panel data model will be used for the research. The assumption used for analysis with the number of observations will be 17*6=102. Data of research variables are collected mainly on World Bank data (FDI, CO2 emission and export turnover).

Analysis method: The GMM (Generalized Method of Moments) model is used with instrumental variables to overcome the

endogenous phenomenon in the model (Hansen, 1982). With characteristics related to relatively long time series data (17 years), before applying regression analysis, the authors performed the stationarity test for the research variables.

According to Gujarati (2003), a time series is stationary when the mean, variance, and covariance (at different lags) remain constant even if the series is always determined. The stationarity test (or unit test) was introduced by Levin et al. (2002) and Im et al (2003) with the ADF verification test (Augmented Dickey-Fuller) with the following test:

(1) $\quad \Delta Y_t = \alpha_0 + \beta * Y_{t-1} + \sum_{j=1}^{k} \delta * \Delta Y_{t-1} + \varepsilon_t$

(2) $\quad \Delta Y_t = \alpha_0 + \emptyset * t + \beta * Y_{t-1} + \sum_{j=1}^{k} \delta * \Delta Y_{t-1} + \varepsilon_t$

In which:

$\Delta Y_t = Y_t - Y_{t-1}$

Y_t is the research data series

k: delay time lag

ε_t: random error

The first and second equations differ only in the coefficient ratio (ϕ) representing the time trending factor (equation 2) or no time trending factor (equation 1).

Test hypothesis:

H_0: $\beta = 0$ (Y_t is a non-stationary data series)

H_1: $\beta < 0$ (Y_t is a stationary data series)

Model's reliability:

Testing for sustainable GMM model bases on two criteria: Firstly, Sargan Test AR(2) needs to have p-value greater than 0.05 (Arellano & Bond, 1991). Secondly, p-value of Hansen test is also greater than 0.05 (Sargan, 1958; Hansen, 1982).

3. Research results

3.1. Data description

There are 6 countries in South East Asia selected to be included in the model to assess the impact of FDI and CO_2 emissions on export growth, including: Brunei, Singapore, Malaysia,

Thailand, Philippines, and Vietnam for 17-year period from 2000 to 2016.

Average Export growth rate of the six Southeast Asian countries in the period from 2000 to 2016 reached 8.71%, of which the highest was 57.20% in 2000 in Brunei and the lowest was -42.11% in 2015 still in Brunei (Chart 1). Vietnam was recorded with the highest average export growth rate at about 16.90% while the lowest was in Malaysia at 5.16% over the period (Chart 1). Interestingly, while Vietnam recorded a stable export growth rate during the studied period, Brunei, in contrast, showed a fluctuated rate in its export statistics.

**Chart 1. Export growth rate in some Asian countries 2000 - 2016**

Source: Collected by authors from WB data

During the same period, the average growth rate of total CO_2 emissions of the countries reached 3.19%, of which Singapore had the highest emission growth rate of 72.12% in 2008, right after the 2007 year with the lowest emission growth rate of -38%. Chart 2 showed the most fluctuated trend in Singapore and Brunei in studied period. Other four countries

indicated more stable trend in the same time. Vietnam recorded the highest average growth rate of total CO_2 emissions at 7.68% during 2000 - 2016 time range.

Chart 2. CO_2 emission growth rate in some Asian countries in 2000 - 2016
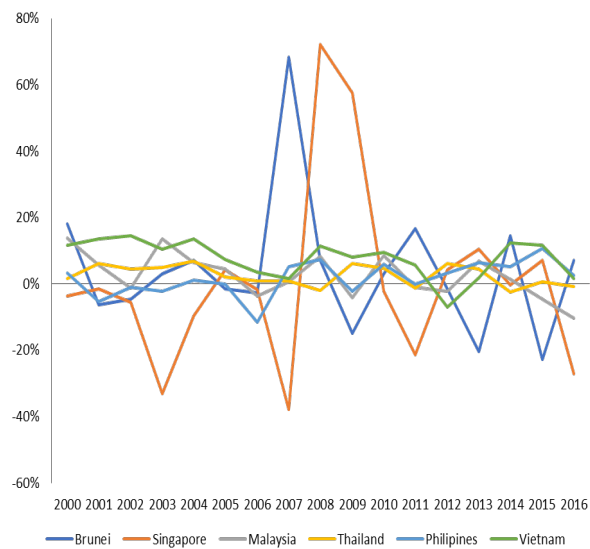
Source: Collected by authors from WB data

Regarding foreign direct investment: the average value of the whole period reached 10.32 billion US Dollar for the six studied countries. In terms of growth rate, the country with the largest amount of FDI investment growth rate belonged to Malaysia with an average of 669%. From 2000 to 2016, average FDI growth rate of surveyed countries was 131.63%.

Table 2. Research data description

Variable	Number of statistic	Average	Standard deviation	Min	Max
Exp	102	10.33	0.14	0.06	70.72
CO2	102	3.19	0.15	-38	72.12
FDI	102	131.63	9.77	-98.85	9800

Source: Authors' estimation

3.2. Data stationarity test

To avoid spurious regression in data related to time series, before performing analytical techniques, it is necessary to ensure stationarity (Gujarati, 2003).

Table 3. Stationarity test result

Variable	ADF stat	p-value
Exp	-6.8331	0.00**
CO2	0.8547	0.7622
FDI	-0.7605	0.4600
1st order difference equation		
D_{CO2}	-6.5790	0.00**
D_{FDI}	-2.7009	0.00**

Source: Authors' estimation

By examining ADF statistics and calculating p-value, it can be seen that: while export growth for the countries is a stationary series, the series of CO2 and FDI do not stop but stop at the first difference (Table 3).

3.3. GMM regression results

Table 4. GMM regression result

VARIABLES	REM	FEM	GMM	GMM-chosen
EXPt-1			0.449** (0.1714)	0.230** (0.0868)
EXPt-1			-0.067 (0.0720)	
D_{FDI}	0.412*** (0.0306)	0.345*** (0.0613)	0.374*** (0.0791)	0.734*** (0.0510)
D_{CO2}	1.021*** (0.245)	1.062*** (0.233)	0.638*** (0.186)	0.620 (0.711)
D_{FDIt-1}	0.194*** (0.0979)	0.287*** (0.0370)	0.246*** (0.0752)	0.331*** (0.0603)
D_{CO2t-1}	-0.133 (0.263)	-0.362 (0.311)	-0.471 (0.304)	-0.168*** (0.0791)
Constant	4.603*** (0.265)	4.556*** (0.683)	4.343*** (0.507)	2.447*** (0.539)
Sargan test				0.061258
AR (2)				0.0677

** p<0.01, ** p<0.05, * p<0.1

Source: Authors' estimation

The panel data model was analyzed with Fixed effect model (FEM), Random effect model (REM) and Generalized method of moments (GMM).

It was found that EXP_{t-1} was significant with GMM. Two tests for the GMM model: AR (2) had a p-value greater than 0.05 and the p-value of the Sargan test was equal to 0.0612 (greater than 0.05), showing that the GMM model was reliable.

Relative equation can be extracted as follow:

$$EXP = 2.447 + 0.230*EXP_{t-1} + 0.734*D.FDI + 0.331*D.FDI_{t-1} - 0.168*D.CO2_{t-1}$$

The research results showed that FDI created a positive effect on export growth rate in both periods: same time and after 1 year. While the CO2 emission factor only had a negative impact on export growth after 1 year. It cannot be found any proof that CO_2 created immediate impact on export growth rate.

4. Discussion and policy suggestion

In terms of CO_2 emission, the data show that Asian countries have stable levels of CO_2 emissions (metric tons), (except for Singapore and Malaysia in 2006-2008 period). In general, five out of six Asian countries recorded a reduce trend in CO_2 emission in its economy (but not Philippines). This result can be an proof for green economy development inn South East Asia with low-carbon economic orientation.

For Vietnam, data for CO_2 is always recorded at higher level than other studied countries. It shows that among other Asian countries, Vietnam is importing industries that use more fossil energy (thermal power...), with technology using fossil fuels. At the same time, this result also shows that the use of clean energy in Vietnam is not as efficient as other countries in the region. Owning the advantage of holding in the middle of abundant fossil resources, it is this advantage that makes the use of this energy source to be fully utilized (Nguyen Ngoc Dat et al, 2016). This fact has raised the question for

promotion of clean energy development which is really considered urgent recently.

The rate of CO_2 emissions created a negative impact on export growth rate. This result suggests that green growth will have a long-term impact on the economy of countries, especially for those with export-oriented economy in Asia. At the same time, the study also confirms more about how using a lot of fossil energy (coal, gas) or heavy industries will make the export go down in the future. At the same time, CO_2 emissions also have an impact after 1 year, showing that after the amount of CO_2 is released into the environment, it will only affect the economy after 1 year, but it can not be seen an immediate impact.

In terms of FDI, research results show that FDI has an impact on export growth immediately and after 1 year. This is shown that: FDI investment in countries promote to stronger development in export in Asia area; This study also provides a very clear function for export growth that cannot exclude FDI.

In conclusion, Asian countries should have policies to attract FDI to stimulate export growth because this capital source not only has a positive impact on development in the same financial year, but also has the ability to stimulate growth for at least one year thereafter. In addition, to increase export growth in the future, governments should also reconsider the use of fossil fuels with the aim of promoting sustainable export activities at all costs. Thus, investing in energy-intensive industries will also not be a wise choice for sustainable export-oriented economic development./.

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INTERNATIONAL EXPERIENCES IN PREVENTING TAX BASE EROSION

MSc. Nguyen Thuy Trang*

Abstract: *Tax base, tax base erosion and tax base erosion prevention are topics that have received a lot of attention recently in Vietnam. By synthesizing the experiences of some countries in the world in preventing tax base erosion, the author gives some lessons for Vietnam in order to promote the fight against tax base erosion in Vietnam. Through international experiences, to be able to effectively prevent tax base erosion, it is necessary to: Improve tax policy in line with international practices; Reform the tax system towards tightening regulations; Improve tax policy to enhance tax transparency; Have severe sanctions and Improve tax officers in quantity and quality.*

Tax base erosion is the decline of the tax base due to the act of taking advantage of the differences and loopholes in the tax policy of taxpayers to shift the tax base from the source country/territory to other countries/territories with lower or zero tax rates. In order to prevent tax base erosion effectively, a number of countries around the world have carried out the following activities. These are valuable experiences that Vietnam can learn from to strengthen the tax base erosion prevention.

1. Improving tax policy in line with international practices

One of the reasons for the behavior of eroding the tax base is the difference in tax policies between countries. Therefore, in order to limit the behavior of eroding the tax base, countries need to consider the development of tax policies, especially CIT (CIT) policies to ensure that they are consistent with international practices and have no difference with other countries.

Therefore, after many years of discussion with hundreds of negotiations, the EU and G7 members finally came to an agreement to apply the minimum CIT rate of 15%. This will be an important premise for G20 and OECD members to easily agree on the minimum tax rate of CIT.

With the global minimum CIT rate, a corporation, multinational company will be taxed 15% on profits generated in countries with a minimum effective tax rate (ETR). During the tax period, if a subsidiary's ETR is less than the global minimum tax rate, the parent company must pay "additional tax" on the corresponding portion of the subsidiary's income taxed with tax rate less than the global minimum rate for the country in which it is located (often referred to as the parent country or country of residence).

2. Reforming the tax system towards tightening regulations

The European Parliament called on member states to adopt the General Anti-Abuse Rule (GAAR) of 2012, or the action program to Combat Tax Base Erosion and Profit Shift (GAAR). Base Erosion and Profit Shifting (BEPS) was introduced by OECD and G20 countries in 2013. BEPS offers 15 action groups to address aspects related to corporate tax evasion. These groups of actions have been implemented and translated into regulation in the Anti-tax Avoidance Directive (ATAD) and applied in EU member states from January 2019. In addition, the OECD has established a Joint Forum for Cooperation in the Implementation of BEPS Measures with the participation of 129 countries, including both OECD and G20 member and non-

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member countries. The main purpose of BEPS and ATAD is to deal with inconsistencies in tax regulations between the two institutions through which businesses can exploit to evade taxes. In general, policies, whether applied individually within countries or applied collectively to a group of countries, can be divided into five main groups as follows.

The first is the Controlled Foreign Corporation rule (CFC rule). This rule is intended to prevent the transfer of profits of multinational companies to branches in countries with lower tax rate or no tax, to achieve tax evasion and avoidance. The CFC rule has been applied since the 1950s in the US, then in Germany, Canada, France and the UK respectively in the 1970s and 1980s. In the US, the foreign branch in which the American shareholder has more than 50% control Controlling companies or shares, or foreign corporations with American shareholders owning at least 10% of the shares, when generated income is taxable. Taxable income includes both active and passive forms. In EU member states, from 2019, companies can still move profits, but this profit will still have to fulfill tax obligations in the EU if shareholders from the EU hold 50% of the voting rights/capital, or the corporate profit tax paid is less than the difference between the corporate tax rate required by EU member state regulations and the corporate tax rate actually paid.

The second is a regulation aimed at eliminating the effects of hybrid mismatch arrangements. Hybrid mismatch arrangements are used by entities/companies to exploit tax differences between two or more jurisdictions to avoid double taxation. BEPS recommends that countries can either refuse to deduct the payers' taxes or count these payments as ordinary income for the recipients. Under these recommendations, the UK, Australia and New Zealand have enacted regulations that are consistent with the general BEPS regulations. In the EU Member States, under ATAD, in the case of double deduction, the deduction is only applicable in the country in which the payment was made.

The third is the regulation on intellectual property relocation tax (Exit taxation). The main purpose of this measure is to prevent companies from evading taxes through the strategic location of intellectual property rights (Strategic Location of Intellectual Properties). Companies located in the EU can develop new intellectual products/products here and move to low or no tax countries before the product is perfected. This allows companies to pay lower tax rates to EU governments. However, the relocation tax regulation introduced in 2019 in the EU allows EU member states to tax the value of intellectual property before it is transferred out of the EU. This reduces the incentive for multinational companies to move intellectual property abroad. In addition, EU countries and the UK also have a policy to encourage businesses to invest in intellectual property in their countries, called the Intellectual Property Box Regime (IP box). When businesses conduct R&D activities here, they will enjoy preferential tax rates. However, this tax rate is applicable only if companies conduct substantial R&D activities in these countries, and must have actual expenditures incurred and contribute profits to the country.

The fourth is the regulation on interest limitation. When applied in the EU, this regulation helps member countries prevent international debt shifting (International Debt Shifting) of multinational companies. Since interest expenses are often tax deductible in the EU, some companies have arranged "fake" loans among their subsidiaries in the direction of companies in low-tax countries acting as lenders. Meanwhile, companies in high-tax countries will be borrowers. Interest restriction regulations put a limit on the amount of net interest a company can deduct from taxable income, based on a company's percentage of profits. This rule is similar to the thin capitalization rules that have been in place in Canada and France since the 1970s, and in Australia, the United Kingdom and the United States since 1980s.

The fifth is the General Anti-Abuse Rule (GAAR). GAAR is used as a tool to prevent tax evasion in an unpredictable form. In EU countries, GAAR allows EU member states to deal with artificial tax arrangements if they cannot be justified by economic reasons, and if other rules are not viable to detect these arrangements.

In the UK, GAAR was first introduced in 2013. Accordingly, if businesses align their taxes to abuse tax regulations, the UK tax authorities can increase the amount of tax liability that businesses must turn in. In 2015, the government introduced a penalty of 60% of the tax payable. In Australia, the 2016 revised GAAR regulation provides for a new penalty of double the pre-amendment level, applicable to large international entities (with an income in excess of A\$1 billion per year).

3. Improving tax policy to enhance tax transparency

One of the shortcomings of the current tax system is the lack of information about tax regimes between countries. Multinational companies do not have to declare their profits or have tax obligations in the countries in which they operate, so they can more easily shift earnings in a more tax-friendly direction. In addition, due to the lack of information linkage between countries, multinational companies can take advantage of bilateral tax treaties to devise schemes to evade tax obligations.

The lack of reliable data on CIT, especially of multinational companies, is one of the biggest limitations to the activities of tax administrations. To overcome this problem, action 13 of BEPS provides an annual Country-by-Country report (CbC) template for multinational enterprises. All large multinational enterprises are required to produce country-by-country reports with aggregated data on the distribution of income, profits, taxes and economic activities between the tax jurisdictions in which it operates business. To date, more than 80 jurisdictions have laws that apply CbC reporting obligations. More than 2,200 relationships are made to exchange CbC reports between jurisdictions to determine transfer prices. This implies that the information gap related to large multinational enterprises is gradually being closed.

The UK government has included the CbC reporting regulation in its tax strategy to increase tax transparency and applied since 2016. Specifically, the UK tax authorities require transparency in profit and tax information across countries, thereby identifying the heterogeneity between reported and taxable profits and levels of economic activity. In addition, tax authorities also require large companies to disclose their tax plans.

In the EU region, the European Commission recommends that large multinational companies disclose the income tax they pay within the European Union in individual countries. In addition, businesses are also required to disclose the amount of tax they pay for business that takes place outside the European Union. This requirement applies to any multinational company operating in the EU market, having a long-term presence and having a turnover in excess of EUR 75 million.

4. Having severe sanctions

Strictly complying with the law is always difficult, so there is a need for heavy sanctions, which are clearly and transparently prescribed and must be implemented strictly. At the same time, it is also necessary to have regulations to reduce fines for enterprises who voluntarily declare and reduce costs in the process of investigation and audit at enterprises. Some specific experiences from countries such as:

- In the US, the Anti-Transfer Pricing Law provides for a penalty of 20% for the case of significant errors due to the transfer price exceeding 200% of the market price. For material violations, the penalty is 40% for transfer pricing in excess of 400% of the determined market price. In addition, there is an additional penalty of 20% or 40% of the arrears tax if the additional income due to transfer pricing exceeds a certain amount of 5 million USD or 20 million USD.

- In Australia, the Income Tax Law stipulates that if the company is found to be transferring pricing, the company will be fined 25% of the tax payable. If it is proven that there is a deliberate act of transferring prices to evade tax, the applicable fine is 50%. If there is a deliberate act of concealing or obstructing the investigation of the tax authorities, the fine may be increased by 20%. Since 2004, the Australian Income Tax Law has added a provision to apply a base interest rate plus a 3% fee to calculate the amount of tax arrears due to anti-transfer pricing. Australia has a policy of reducing the penalty amount by 20%

for cases where taxpayers automatically declare after an audit notice and reducing the penalty amount by up to 80% for cases of voluntarily declaring before an audit notice.

- In China, the Tax Administration Law stipulates that transfer pricing to evade taxes can be fined, and if serious violations can be criminally prosecuted. From 2008, tax arrears due to transfer pricing are also subject to interest at the bank's basic interest rate plus 5%. If the enterprise can provide relevant documents and information that proves it was not intentional, this additional 5% penalty can be reduced or completely eliminated. Enterprises that do not comply with the State's regulations on declaration of transfer prices will be inspected for the implementation of transfer prices.

5. Improving tax officers in quantity and quality

Transfer pricing and anti-transfer pricing are special jobs, including foreign elements, requiring high professional expertise, so it is necessary to organize a dedicated force on anti-transfer pricing, being strong in both quantity and quality. Some experiences of other countries are as follows:

- In the US, a team of tax agents dedicated to anti-transfer pricing is recruited to thousands of people. In 2009, the tax agency recruited 1,200 additional employees; in 2010 recruited and added 800 more employees to strengthen the department of reviewing and monitoring transfer prices. The audit and inspection of transfer pricing focuses on five groups of industries: communications; technology; the media; retail, food and pharmaceutical industries; healthcare industry group.

- In Australia, since 1992, tax authorities at all levels have established a specialized unit to prevent transfer pricing on the basis of bilateral agreements signed with governments of other countries, including regulations on transfer pricing. When there are signs of violations, tax authorities will rely on written bilateral agreements with partners and tax legal framework to resolve. Every year, anti-transfer pricing inspection usually focuses on objects such as: Government privileges, financial loans, intra-company loans, supply fees, intangible assets. As a result, companies are restructuring the system, companies report losses for a long time. Each year, anti-transfer pricing inspection focuses on a certain group of industries such as mining, energy, automobiles, pharmaceuticals, distributors, banks, and insurance.

- In Japan, the tax authority considers the transfer pricing situation in a different way, focusing on examining and evaluating the activities of parent companies in Japan such as Sony, Mazda, Takela, Mitsubishi... Anti-transfer pricing inspection is based on case studies, targeting management costs, intangible assets and services. In order to limit the risk of transfer prices, Japan has signed agreements with other countries to jointly closely inspect the business activities of the parent company in Japan and its subsidiaries abroad.

- In China, tax authorities focus on transfer pricing inspection on companies that have transactions with low tax places or tax havens. The inspection focused on high tax risk industries such as apparel, electronics, telecommunications, food, beverage, retail, auto industry, construction related service industry, infrastructure and foreign invested companies. Currently, the tax authority is recruiting more university graduates of information technology and related disciplines to supplement the anti-transfer pricing forces.

- In Malaysia, the transfer pricing inspection is conducted at the General Department of Taxation and is organized into four specialized departments for each area: Policy and Control Department, Compliance and Transfer Pricing Division, and Payment Department and APA.

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